17th DISTANCE LIBRARY SERVICES CONFERENCE

PROCEEDINGS

Sponsored by Central Michigan University Libraries and Global Campus Programs
PREFACE

The Seventeenth Distance Library Services Conference Proceedings is comprised of manuscripts from experts in the field of distance librarianship. Selected through a juried abstracts process by the Conference’s twenty-member Program Advisory Board, these papers cover many types of innovative resources and services. From open educational resources to usability studies, these authors have leveraged new technologies to continually expand library services and resources to distance users. Not content to simply refine or create new initiatives, many of these authors have also analyzed and assessed their impact within distance user communities. As a whole, these works represent the broad spectrum of programs and new directions recently undertaken by librarians in service to remote and online users.

Rebecca Hill Renirie, Central Michigan University

Michelle Keba, Palm Beach Atlantic University

Co-Editors
ACKNOWLEDGEMENTS

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Thank you to the Central Michigan University Libraries and CMU’s Global Campus Programs for their continuing sponsorship of this respected national gathering.

Thanks also to Thad Dickinson and Timothy Peters, Conference Co-Coordinators, for all the work they have done during the last two years to make this event a success. And thank you to Rebecca Renirie of CMU, and Michelle Keba of Palm Beach Atlantic University, who acted as the Co-Editors of these Proceedings.

Recognition must also be given to the members of the Conference Program Advisory Board for giving of their time and expertise in the name of evaluating the submitted proposals and selecting the presentations, poster sessions, and workshops that became part of the Seventeenth Distance Library Services Conference.

Appreciation is also extended to the employees of CMU Libraries outside of Global Campus Programs who worked hard to provide essential support to the organizers of this event. A special thanks is given to Eric Cronstrom, Web Developer and Programmer; Kari Chrenka, Graphic Designer; and Amy Powell in Business Services for all of their hard work and assistance.

And finally, we would like to recognize and thank the members of the Global Campus Library Services Department at CMU for their efforts and contributions to the Conference: Monica Craig, Thad Dickinson, Carly Gee, Julie LaDell-Thomas, Timothy Peters, Rebecca Renirie, and Jennifer Rundels.
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Kicking ASsessment: Using Information Fluency Assessment to Expand Librarian Roles, Engage in High-Impact Practices, and Create Sustained Contact with Online Learners

Katherine Adams  
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Abstract

Iowa Wesleyan University (IW) has historically struggled with both assessment and supporting online students. Newly-appointed librarians and an impending re-accreditation visit prompted an increase in involvement and presence with assessment. In an attempt to expand the library’s influence on campus, librarians took on a nontraditional role in the institutional implementation of LiveText, an assessment software. Librarians at IW have played an active and integral role in not only the initial roll-out of this software, but also in training and continuing support for students and faculty. Because of its importance to institutional learning outcomes, information fluency (IF) is being recognized as a high-impact practice across disciplines, and based on the results of this case study, librarians will pursue the creation of a required online IF course for online learners.

Introduction

Iowa Wesleyan University (formerly known as Iowa Wesleyan College) is a private, small, liberal arts college affiliated with the Methodist church with approximately 650 full- and part-time students. The university currently offers traditional undergraduate degrees and has recently added a graduate certificate program available online with plans to add additional graduate courses in the near future. A recent restructuring of the university, which resulted in the elimination of 16 of 31 programs and 22 of 52 faculty positions, has significantly increased the number of courses taught by adjunct professors.

As part of the aforementioned restructuring, the academic library on campus, J. Raymond Chadwick Library, also lost 1.5 staff positions. The current staff and faculty at the library consists of one full-time staff member in charge of circulation and historical collections, one full-time library director, and two full-time reference and instruction librarians. Both reference librarians started in July of 2013, having just completed their library science degrees. Being new to the university and the profession has offered both challenges and unique perspectives on the role of the library and information literacy on campus.

An upcoming renewal of the Higher Learning Commission (HLC) accreditation of the university prompted an overhaul of the institutional learning outcomes, curriculum maps, and campus-wide assessment policies. In the past, institutional assessment was haphazard and inconsistent. To address this issue, LiveText, an assessment management and reporting
application, was implemented across campus in 2014. In 2015, the use of LiveText for gathering and reporting assessment data was extended to the Adult and Graduate Studies (AGS) program, which houses all of the online programs at Iowa Wesleyan University (IW). The addition of information literacy as an institutional learning outcome (ILO) and the active and integral role of the reference librarians in the implementation of LiveText have changed the perception of the librarians’ place in teaching and assessment overall. This legitimization of librarians as true faculty peers with a major role to play in teaching information literacy prompted the drafting of a rationale and proposal for an online, credit-bearing, stand-alone information literacy course.

**Literature Review**

In examining literature relating to five high-impact practices – capstone experiences, learning communities, service learning and community-based learning, undergraduate research, and writing-intensive courses – and looking at the extent to which they relate to or integrate information literacy competencies, Riehle and Weiner (2013) found that all disciplines were working toward the same learning outcomes regardless of the label that they gave to “information literacy.” While disciplines may have preferred jargon referring to “oral and written communication skills” or “digital literacy,” as Gertrude Stein writes, “a rose is a rose is a rose.” Information literacy is deeply ingrained in all five of the high-impact practices, and yet there remain several stumbling blocks which prevent the recognition of this commonality, and the role of librarians in teaching this skill.

Leckie and Fullerton (1999) illuminate some of these stumbling blocks, which include faculty pedagogical discourses and the impact they have on the perception of librarians’ role in academia. They explain that pedagogical discourses foster individualistic and discipline-centric cultures and attitudes. While the severity of this individualistic attitude varies between disciplines, the very process of becoming a recognized scholar in the field – the Ph.D. process – emphasizes what the individual can accomplish or do (Leckie & Fullerton, 1999). This differs from the pedagogical discourse of librarians and the perceived role of librarians in academia because:

- faculty are participating in discourses that serve to protect their disciplines, preserve their own disciplinary expertise and academic freedom, and uphold self-motivated, individualistic learning. Librarians are employing pedagogical discourses related to meeting user needs, teaching important generic skills and providing efficient service. (Leckie & Fullerton, 1999, p. 7)

What is the result of this difference in pedagogical discourses? As Badke (2005) explains, faculty tend to think “in terms of content, and specifically content within their own disciplines, rather than in terms of process” (p. 66), which is how librarians tend to think. Badke (2005) goes on to identify one result of this disconnect by likening academic librarians to Rodney Dangerfield; explaining that “they can’t get no respect” (p. 64). As humorous as his comparison is, the implications are sobering, particularly for the oft-extolled solution to every problem in the library world: collaboration. As Badke (2005) explains, “the fact is, and the vast literature confirms it, effective collaboration simply is not the norm… [and yet] optimism reigns eternal, despite the clear evidence that the gulf [between faculty and librarians] continues intact” (p. 68). Badke (2005) demonstrates this through examinations of collaboration techniques and
approaches and their pitfalls, such as “Librarian as Friendship Evangelist” (p. 68); “Librarian as Tactician” (p. 69); and even “Collaboration as a Motherhood Issue” (p. 67).

Compounding the collaboration issues is the Kruger-Dunning effect, from which both faculty and students suffer. In their 1999 article, Kruger and Dunning provide evidence showing the unfortunate fact that:

when people are incompetent in the strategies they adopt to achieve success and satisfaction, they suffer a dual burden: Not only do they reach erroneous conclusions and make unfortunate choices, but their incompetence robs them of the ability to realize it.

(p. 1121)

This has significant implications for information literacy skills in both students and faculty. While most librarians will readily agree that student information literacy skills are lacking, Badke (2005) points out that a survey of librarians also agreed that faculty are unaware of library resources, going so far as to say that “Faculty are regarded as emperors to themselves, eccentric and lacking understanding of most anything outside of their narrow circles of interest” (p. 65).

Given that information literacy is an integral part of every discipline (despite any synonymous title it may be given) and given also that collaboration with faculty is far from the panacea that it is always imagined to be, the argument for a credit-bearing information literacy class led by librarians gains credence. An additional advocate is Owusu-Ansah (2007), who echoes Badke’s opinions of “the gospel of collaboration” (p. 417) and promotes libraries offering credit-bearing classes to achieve legitimization and further impact. Arguing against typical librarian interactions such as one-shot sessions and one-time visits from classes to find specific resources, Owusu-Ansah (2007) warns that “with limited instructional scope and latitude comes limited impact and recognition within the academy” (p. 425).

It is in light of all the above information that Chadwick librarians set about the activities described in this case study and formulated the course proposal included here as well. Many other institutions and librarians have embarked down this path and had success; however, there are many considerations one must take into account.

For example, in her survey of members of the Association of College and Research Libraries (ACRL) Information Literacy Instruction listserv (ILI-L) whose institutions offer a credit-bearing information literacy course, Burke (2012) looks at how librarians have accounted for practical aspects of this activity. She mentions disappointment in her survey results at the lack of formalized learning outcomes, practical examples of assessments, and retention data relating to credit-bearing information literacy classes from respondents. In addressing the gaps identified by Burke (2012), Chadwick librarians sought to legitimize their status as tenure-track faculty, provide more structure to assessment, play an active role in retention and persistence, and provide data highlighting the library’s high-impact practices to institutional stakeholders.
Case Study

LiveText

As mentioned previously, LiveText was implemented campus-wide in 2014. Previously, the Teacher Education Program had been using LiveText to organize and report on their program learning outcomes for the Department of Education accreditation for the past 10 years. Despite their familiarity with this application, their own program-level accreditation visit prevented them from taking an active role in the campus-wide implementation. Chadwick librarians filled this void and took active roles on the LiveText Implementation Team instead. Their roles began simply as “task force members” and eventually grew to one librarian becoming the co-chair for the group, before finally ending as the LiveText Campus Coordinator. Additionally, another Chadwick librarian took part in a HLC assessment workshop in order to better understand what assessment data HLC would specifically look for during their visit. The steady progression in responsibility and understanding of institutional assessment needs offered Chadwick librarians a more complete understanding of the ultimate goals for the use of LiveText at IW. Librarians capitalized on their familiarity with LiveText to begin longitudinal information literacy data collection and analysis. To do so, the librarians created a multiple-choice Information Fluency Proficiency Exam, which was administered to the Day (face-to-face) students in the freshman seminar course Wesleyan Seminar (WS 100), first in 2014 and again in 2015.

The Information Literacy Assessment

Previously, Chadwick Library assessment reporting for information literacy mirrored assessment reporting across campus. When assessment was done, results were not analyzed and data was not shared. In light of the upcoming HLC visit, and considering Burke’s (2012) reminder that libraries need to take their accounting of learning outcomes more seriously, Chadwick librarians wanted to take full advantage of LiveText in fulfilling this charge. Due to the reorganization, the student-to-librarian ratio at IW is very high. Even when limiting this ratio to freshmen for assessment purposes, a multiple-choice assessment seemed to be the most efficient method of gathering results. Librarians considered other successful models of multiple-choice information literacy assessments, such as Project SAILS (Standardized Assessment of Information Literacy Skills). Unfortunately, the cost of this assessment was prohibitive, and thus librarians created their own information literacy assessment, which can be accessed at the following link: https://goo.gl/hqAxeg. The answer key with corresponding Association of American Colleges and Universities’ (AAC&U) Information Literacy VALUE Rubric (Association of American Colleges and Universities [AAC&U], 2010) standards can be found in the Appendix.

The Information Fluency Proficiency Exam created by Chadwick librarians was based on a combination of the Project SAILS test and the Bay Area Community Colleges Information Competency Assessment Project. As mentioned, each question aligns with a standard from the AAC&U Information Literacy VALUE Rubric (AAC&U, 2010). This rubric was chosen instead of the ACRL Information Literacy Competency Standards for Higher Education in order to match the results with institutional assessment of information literacy: Iowa Wesleyan is using AAC&U VALUE Rubrics for all of the ILOs. Therefore, when information literacy was added
to the ILOs, it made sense to keep the rubric uniform, especially given the similarity between the AAC&U standards and the ACRL competencies/threshold concepts.

Methods and Results

The impetus for the case study began with the English Program at IW. Faculty in this program recognize the high impact of information literacy integration in their courses and buck the typical differences in pedagogical discourses that have been identified as problematic. In particular, faculty welcome librarians as peer teachers, are present for information literacy instruction, and reinforce the importance of information literacy skills with their students. In 2013, Chadwick librarians and English faculty successfully collaborated on the creation of 4 units of information literacy content over the course of 8 library visits for ENG 105, College Composition and Research.

In 2014, one of the Chadwick librarians was asked to teach a section of the freshman seminar course, Wesleyan Seminar. The librarian agreed and, encouraged by the positive reception of the ENG 105 information literacy units, approached the faculty member in charge of Wesleyan Seminar about adding an information literacy component to the lab portion of the class. As a result, several main themes from the ENG 105 course were brought over to the Wesleyan Seminar labs, and the ENG 105 units were modified to build upon the labs in a more in-depth manner.

Thus, librarians were able to administer the Information Fluency Proficiency Exam to all freshman students in Wesleyan Seminar in 2014 during the first Wesleyan Seminar lab. Sixty-six results were collected that year, and 109 results were collected again in 2015 (see Figures 1 and 2). In order to expedite the input of the exam results into LiveText, students filled out the answers to the exam on a scantron. After machine scoring, the exam results were input individually into the rubrics in LiveText according to the number of correct responses as shown in Figure 3.

Prompted by the success with information literacy assessment of Day students, as well as a prior established relationship with one online adjunct instructor, librarians sought next to assess Adult and Graduate Studies (AGS), or online students. Previously, no librarian interaction had occurred with AGS students with the exception of the adjunct previously mentioned. Assessment of AGS students was also severely lacking on both institutional and program levels. Considering that moving forward, information literacy will be assessed on an institutional level in several of these online classes with no interaction from librarians in the instruction of information literacy skills, librarians were concerned. Chadwick librarians initially set about assessing where AGS students were in their information literacy skills with the expectation that the resulting data would show higher proficiency in the classes that actively engaged with librarians, which would support the integration of information literacy instruction in AGS courses.
Figure 1. Assessment results from freshman students in Wesleyan Seminar, the freshman seminar class. This figure shows the assessment results for each of the criteria from the AAC&U Information Literacy rubric collected in 2014-15 in LiveText from Day (face-to-face) students.

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<th>Stdev</th>
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<td>2</td>
<td>1.199</td>
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<tr>
<td>Access the Needed Information...</td>
<td>2.188</td>
<td>2</td>
<td>0.743</td>
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<tr>
<td>Evaluate Information and its Sources Critically...</td>
<td>2.280</td>
<td>2</td>
<td>0.706</td>
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<tr>
<td>Use Information Effectively to Accomplish a Specific Purpose...</td>
<td>0.00</td>
<td>0</td>
<td>0.00</td>
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<tr>
<td>Access and Use Information Ethically and Legally...</td>
<td>2.349</td>
<td>2</td>
<td>1.160</td>
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Figure 2. Mean, mode, and standard deviation for students in the freshman seminar class, Wesleyan Seminar, from 2014-2015. This figure shows the mean, mode, and standard deviation values for each of the criteria from the AAC&U Information Literacy rubric in 2014-15 in LiveText from Day (face-to-face) freshman students.
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<td>2</td>
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</table>

*Figure 3.* Chart showing the standards assessed in the Information Fluency Proficiency Exam and the corresponding assigned score value.

After getting approval from the Vice President for Academic Affairs and the Institutional Review Board, Chadwick librarians set about comparing the information literacy competency levels of the students in the courses that, with the aforementioned adjunct instructor, had an established library presence (PHIL 215 and WS 300) with two online courses that had no library presence (BA 312 and PSYC 361). The two instructors of classes with no established library presence were asked to administer the Information Fluency Proficiency Exam during the first online term of the Fall semester. One of the instructors flatly rejected participation (PSYC 361), while the other agreed (BA 312). Despite only having one course to compare against PHIL 215 and WS 300, librarians decided to go for it. Unfortunately, no student data was submitted from BA 312. This could be because the instructor for the course did not assign any point value to the exam, whereas the instructor for PHIL 215 and WS 300 did. Whatever the reason, the librarians’ situation remains the same: there only exists data for AGS courses where there is an established librarian-instructor relationship.

The data from PHIL 215 and WS 300 can be found in Figures 4 and 5. To collect this data, students were asked to download the Information Fluency Proficiency Exam from either the corresponding LibGuide or the assignment within LiveText. Students then highlighted their answers to the multiple choice test and uploaded the document to LiveText. The exam was then hand-graded by Chadwick librarians and results were entered into the assessment rubric following the same procedure as the Day students.
**Figure 4.** Assessment results from AGS (online) students in PHIL 215 and WS 300. This figure shows the assessment results for each of the criteria from the AAC&U Information Literacy rubric collected thus far in LiveText from AGS (online) students.

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Mean</th>
<th>Mode</th>
<th>Stdev</th>
</tr>
</thead>
<tbody>
<tr>
<td>Determine the Extent of Information Needed...</td>
<td>3.10</td>
<td>4</td>
<td>1.07</td>
</tr>
<tr>
<td>Access the Needed Information...</td>
<td>2.76</td>
<td>2</td>
<td>0.75</td>
</tr>
<tr>
<td>Evaluate Information and its Sources Critically...</td>
<td>2.62</td>
<td>2</td>
<td>0.65</td>
</tr>
<tr>
<td>Use Information Effectively to Accomplish a Specific Purpose...</td>
<td>0.00</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td>Access and Use Information Ethically and Legally...</td>
<td>3.14</td>
<td>4</td>
<td>1.13</td>
</tr>
</tbody>
</table>

**Figure 5.** Mean, mode, and standard deviation for AGS (online) students in PHIL 215 and WS 300. This figure shows the mean, mode, and standard deviation values for each of the criteria from the AAC&U Information Literacy rubric thus far in LiveText from AGS (online) students.

**Conclusion**

For this case study, Chadwick librarians attempted to account for all of the deficiencies identified by Burke (2012) in her respondent results in order to demonstrate with data how information literacy – a high-impact practice – is affecting retention and persistence at IW. For example, Burke (2012) points out that “if it can be established that library credit-bearing classes
improve retention, this would indeed be a powerful tool for making the case that these classes be required across the board in the university curriculum” (p. 169). By transferring the original information literacy units from the ENG 105 course over to the Wesleyan Seminar course, Chadwick librarians now go into more nuanced topics in the content for ENG 105 information literacy units.

Chadwick librarians also attempted to account for and avoid the pitfalls of differences in pedagogical discourses between faculty and librarians as outlined by Leckie and Fullerton (1999), as well as the collaboration pitfalls and deficiencies as outlined by Badke (2005). Despite three fairly successful collaborations with ENG 105 instructors, an online adjunct, and a freshman seminar faculty member, collaboration across the rest of the campus is largely unsuccessful and low-impact. Most interactions with faculty and students are for one-shot sessions, and are scheduled to take place when faculty are out of town at conferences. Chadwick librarians have attempted to mitigate this problem and the differences in pedagogical discourses mentioned in the literature review through the activities described in this case study.

By teaching a section of Wesleyan Seminar each Fall semester, Chadwick librarians are attempting to shed the Rodney Dangerfield lament, and be seen as peers by IW faculty. This goal is also bolstered by the active and instrumental role that Chadwick librarians have played and continue to play in the campus-wide roll-out and implementation of LiveText and overall assessment on campus.

In integrating information literacy topics into the lab component of Wesleyan Seminar and administering the Information Fluency Proficiency Exam to all freshmen students for the past two years, Chadwick librarians have not only begun collecting data that can be used for linking retention and information literacy, but have also laid the foundations for an independent, credit-bearing information literacy course. By establishing the instructional relationship with Day students, Chadwick librarians are now poised to establish an instructional relationship with AGS students. Because Chadwick librarians have a deep understanding of the assessment-gathering and reporting tool used at IW, librarians are better able to collect and report on data that demonstrates concretely not only the value of information literacy in retention and persistence, but also the essential role librarians and the library play in academia.

Moving forward, Chadwick librarians will keep the lessons learned from this case study in mind. First and foremost, good assessment is key to addressing the issues raised here. For example, demonstrating the efficacy of high-impact practices such as information literacy is much easier when there is assessment data to back it up. Second, assessment is the language of faculty and administration, and if librarians can learn to speak it, overcoming differences in pedagogical discourses becomes much easier. For example, assessment helps legitimize librarians’ expertise and codifies the value of the library in academia. Third, collaboration does not always work; sometimes faculty simply refuse to collaborate. Institutional need for assessment data removes this choice. Finally, assessment in the most basic sense can inform librarians about where students’ skill levels are currently, and where instruction could be more focused in the future.

Chadwick librarians intend to propose a new credit-bearing online course in information literacy, available here: [https://goo.gl/ZC25WG](https://goo.gl/ZC25WG). The accompanying syllabus is available here:
The course outline and content would be based on McClure, Cooke, & Carlin’s (2011) online tutorials known collectively as “The Search for the Skunk Ape.” These tutorials would serve as the basis of the Chadwick librarians’ course because they closely mirror the topics and ordering already being used in information literacy labs and units in ENG 105 and Wesleyan Seminar. The use of video tutorials for core content would be ideal because they could be easily accessed by both Day and AGS students. Incorporating additional elements into the curriculum that positively affect student motivation will also be important for both Day and AGS students. Such elements could include some of the active engagement techniques described by Jacobson and Xu (2002), which build upon John M. Keller’s ARCS model of motivational design.

This case study will hopefully serve as an example of non-traditional roles or opportunities available to librarians from which both face-to-face and distance learners can benefit. Chadwick librarians recognize that the proposed course and the data collected thus far are still works in progress, and they look forward to the information that future assessment data will provide.
References


Badke, W. B. (2005). Can't get no respect: Helping faculty to understand the educational power of information literacy. The Reference Librarian, 43(89-90), 63-80.


Appendix

ANSWER KEY
Information Fluency Proficiency Exam

Some portions of the exam are attributed to Bay Area (CA) Community Colleges Information Competency Assessment Project.

Correct answer followed by AAC&U Standard from Information Literacy Rubric in brackets.
(AAC&U, 2010)

1. E [1]
2. B [1]
10. E [2]
11. C [2]
12. C [3]
13. D [3]
14. D [3]
15. B [3]
17. B [3]
Abstract

Five years ago the Association of College and Research Libraries published “The Value of Academic Libraries” report, spurring academic libraries to action concerning assessment. Communicating library value is especially important when reaching distance learning populations outside the walls of the library. By employing marketing and branding strategies combined with the library’s inherent characteristic of compassionate service, the library can use its powers for good to communicate value and gain advocacy for the library. This article discusses one distance learning librarian’s experience building campus partnerships by assessing library services, and using assessment to build advocacy for the library within the institutional distance learning community.

Introduction

Five years ago the Association of College and Research Libraries (ACRL) published “The Value of Academic Libraries” report (Oakleaf, 2010), or VAL report, spurring academic libraries to action concerning assessment. Since then, much has been written on the concepts of aligning campus needs and goals with library services, expertise, and resources, and documenting library impact with assessment. The next step in the process, communicating library impact, is perhaps the most crucial but often the most forgotten step. A library must communicate its assessment evidence with its institutional stakeholders in order to influence those stakeholders and decision-makers, and improve services and resources. This step demonstrates critical transparency and commitment to the institution and its goals, demonstrates a commitment to assessment and improvement, and ultimately builds trust in the library.

Communicating library value and impact becomes even more important when reaching distance learning populations outside the walls of the physical library. It is made difficult because the learners and teachers are not physically located near the library, and if these populations barely know of the library’s existence, it becomes more of a challenge. Despite these challenges, librarians can build advocacy by crafting stories about library value in relation to the services that online populations use the most. By collecting assessment evidence and using data to tell a relatable story, librarians can build advocacy outside the library walls.

In March of 2015, the author conducted a needs assessment of the distance learning faculty at a large public university in order to learn more about the distance population, focus
distance library services, and build a foundation for communicating the value of the library to distance faculty. Strategies were deployed for branding services and communicating the value of library services to various stakeholders. Communicating assessment results is different from communicating library value; it is moving from mere marketing and stating facts to starting a conversation with the stakeholder. Gaining the advocacy librarians crave involves vulnerability, transparency, and most of all, good, solid relationship-building.

This article examines one librarian’s experience using assessment data to build messages and services targeted to a distance learning population. The author will discuss using assessment as a strategy to building relationships with stakeholders in and outside the library in order to communicate library value. The paper will also discuss specific marketing principles such as branding as they relate to distance library services, and how libraries can use their powers for good in order to promote the library and its services to its patrons.

**Background**

On January 1, 2015, Kennesaw State University (Kennesaw, Georgia) and Southern Polytechnic State University (Marietta, Georgia) officially consolidated into one comprehensive university system. As a result, the Horace W. Sturgis Library and the Performing Arts Library on the Kennesaw Campus, the L.V. Johnson Library on the Marietta Campus, and other related research centers came together to form the Kennesaw State University Library System. This consolidation prompted a discussion about the libraries’ role in distance learning across the University.

There are 950 certified online instructors at Kennesaw State University (KSU). A total of 225 instructors taught online in the fall of 2014, and 262 taught online courses in the spring of 2015. A combined total of 683 online classes were taught in the 2014–2015 academic year, with 2,453 students enrolled.

The different libraries had been involved in various ways with distance learning for some time, but never undertook an assessment to determine how distance learning faculty members are using library services and resources in online courses. The KSU Libraries used the data from a needs assessment survey to make recommendations to administration about consolidating and standardizing distance services, and actions to take for the future. The goal of the survey was to start a conversation about how the library and distance instructors can nurture their relationship, working collaboratively toward student and faculty success.

**Method**

The needs assessment survey was conducted in March, 2015. The participants were distance teaching faculty who teach 100% online and hybrid (face-to-face with an online component) courses. KSU Libraries serve hybrid faculty and students both online and in-person, but faculty often teach a combination of fully and partially online courses, so a distinction was not made between these two groups. KSU Libraries was particularly interested in learning about this population because they have never been surveyed about their use of library services, and the library system purchases, creates, and otherwise expends much time and effort on online services
and resources for users who may be off-campus. The KSU Distance Learning Center distributed the survey and two marketing emails to all certified online faculty on both the Kennesaw and Marietta Campuses.

Participants were asked to complete a short, nine-question survey about the library resources they use in their online courses, and how they use those resources. The survey was designed using Qualtrics provided by KSU, and a link was sent to participants via email. The responses were anonymous, and no identifying information other than the participants’ department was collected. The survey questions were created from a literature review of other distance learning surveys and edited and revised by three librarians for customization and consistency. The data was collected, coded, and analyzed through Qualtrics. See the Appendix for the full survey.

Findings

The assessment was sent to all 950 certified online instructors. Out of those 950, 107 surveys were completed for an 11% response rate. Comparatively, the combined number of teaching faculty—487 total for the 2014–2015 academic year—indicates a 22% response rate. Responses came from nine different colleges. Of the questionnaires that were started, almost all were fully completed; however, some questions may not have been appropriate for all participants and were left unanswered. Thus, each question is considered individually.

The survey asked distance learning faculty what services they utilized in their online courses, if they require their students to use library services or resources, the types of resources they expect their students to use to complete assignments, and how the students are expected to access required readings or texts for the course. The librarians were also interested in the barriers faculty perceived when incorporating library services into their courses, and asked for suggestions for improving services. The answers to these questions allowed the librarians to determine the visibility and ubiquity of library services and resources within online courses. The librarians also determined faculty perceptions of the library, their perceptions of library services, and their perceptions of students’ research capabilities.

The answers to the questions confirmed the hypotheses several of the librarians had about distance learning. First, 49% of instructors indicated they were unaware of library services and supports offered to online courses, and another 38% had not considered using the library for support, thus explaining why instructors do not use library services or direct their students to the library (see Figure 1). Distance faculty members also had preconceived notions about their students’ research skills, with 16% assuming their students already have the skills they need, and 28% indicating students simply don’t need research skills for a particular class (see Table 1). If there is an information literacy or research component to the course, 19% of instructors often act as the librarian in their courses, teaching information literacy skills to their students. Over half (54%) indicated they do not require their distance students to use library resources in their class (see Figure 2), and the majority of responses indicate that instructors do not expect their students to access resources via the library. The resources instructors require their students to read for online courses are most likely textbooks, or readings uploaded by the instructor to the learning management system (LMS) (see Figure 3).
Figure 1. Barriers to using library resources in an online course (Question 4). Total response: 78/90.
Table 1

*How Students Acquire Research Skills (Question 8)*

<table>
<thead>
<tr>
<th>Response</th>
<th>Response %</th>
</tr>
</thead>
<tbody>
<tr>
<td>In-class orientation by library faculty</td>
<td>4</td>
</tr>
<tr>
<td>I teach research skills to my students</td>
<td>17</td>
</tr>
<tr>
<td>I believe students will ask a librarian for help if needed</td>
<td>5</td>
</tr>
<tr>
<td>I direct students to contact a librarian for help</td>
<td>12</td>
</tr>
<tr>
<td>Students do not need special research skills for my classes</td>
<td>25</td>
</tr>
<tr>
<td>I assume they learn these skills in other classes</td>
<td>14</td>
</tr>
<tr>
<td>Other (please specify)</td>
<td>11</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>88/90</strong></td>
</tr>
</tbody>
</table>

*Figure 2*. Required use of library services, expertise, and resources (SERs) in online courses (Question 5). Total response: 87/90.
The write-in responses to question nine (23% response rate), “Are there services not currently offered by KSU libraries that could facilitate your distance teaching?”, fall into five different categories, with the most obvious and overarching theme being improvement of marketing. Throughout the survey it was discernible that faculty were not aware of library services, expertise, or resources. In the answers to question nine, respondents express this explicitly and implicitly. The requests for links to specific resources in the campus LMS, various types of instruction, video tutorials, and an open education repository (OER) were clear indicators for lack of communication about these existing services. There were other suggestions indicating that librarians need to create services or resources specifically for distance learning courses, including online library orientation, information literacy tutorials, information literacy instruction for faculty members, and a library widget to embed into courses.

Figure 3. Faculty expectations for students accessing required resources (Question 7). Total response: 90/90.
Discussion

Actions

Communicating value involves the strategic planning and marking of library services, expertise, and resources (SERs) to our stakeholders. This needs assessment profoundly affected distance learning services at KSU Libraries by giving the librarians direction for services, and a foundation for strategic planning and marketing. As a result of the needs assessment, services and resources were able to be prioritized and standardized. Because of consolidation, library services and service levels varied greatly. For example, the Sturgis Library did not offer embedded librarianship due to the large size of the campus, while the Johnson Library did offer this program due to the small size of that campus. Post-consolidation, it was not possible for one distance learning librarian to embed in courses and provide the same level of service to the entire University. Thus, this program was disbanded, and other services were marketed in its place. The assessment revealed that faculty from the Marietta Campus valued the embedded librarian program, and they were disappointed it was taken away; however, they were also unaware that the library offered tools such as Research Guides. These were actively promoted as an alternative to the embedded librarian program for a way to bring the library into the online classroom.

Several faculty, both within and outside of the survey, inquired about building a library widget for the campus LMS (Brightspace by D2L). This was also a holdover program from Johnson Library, but one that the new library system determined it could offer post-consolidation. After examining the widget for scalability and adaptability, the Head of Virtual Services, the Distance Learning Librarian, and the Heads of Research and Instruction designed a new widget appropriate for the newly combined campuses. Standardizing services allowed for the librarians to be more consistent with service delivery, marketing, and branding.

While the survey allowed the Distance Learning Librarian to determine crucial services to be implemented immediately, it also guided long-term strategic planning and marketing of SERs for the Distance Learning Division of the Research and Instructional Services department. The Distance Learning Librarian took the quantitative and qualitative data into consideration and used it to plan various new service offerings. Keeping in mind scalability, purpose, and existing service models, services such as creating video tutorials became well thought out and executed. This type of service will have a huge effect on universal service offerings at KSU Libraries, including being able to embed library resources directly into online courses, flipping face-to-face instruction sessions, and improving library visits to freshman experience courses.

Another effect of the survey was strategic marketing. A major concern for the libraries is scalability of services. The library has 29 librarians and a FTE of 30,000+ students, and around eight percent of those students are online. The library also has undergraduate and graduate liaison librarian programs wherein each librarian is assigned to one to three departments on campus and liaises with those faculty and students, including with the online programs. The Distance Learning Librarian did not want to promote and promise more than the librarians could deliver, so marketing needed to be strategic and purposeful. In order to achieve this objective, the Distance Learning Librarian worked with internal stakeholders (both subject liaison
librarians and library administration) to compose clear messages about distance SERs and their delivery. Once consistent communication was established internally, the Distance Learning Librarian turned the focus to external communications in the form of emails, Research Guides, and in meetings with external stakeholders.

Tools

The act of communicating with stakeholders about their needs and desires demonstrates that the library is fully committed to accountability, transparency and collaboration (Albert, 2014). In order to build trust and interest in library services, librarians must be able to communicate assessment results openly and honestly, and articulate the actions taken as a result of the assessment. The needs assessment conducted with the distance learning faculty at KSU opened up a dialog with the faculty and allowed the Distance Learning Librarian to start building relationships and a brand. Librarian attitudes toward marketing or self-promotion are mostly positive, but negative connotations of becoming “too corporate” still exist (Parker, Kaufman-Scarborough, & Parker, 2007). This may be a backlash to a larger feeling within higher education that colleges and universities appear to be using a profit-driven model of operation. The question is, can we communicate our value and instill in our patrons brand-love like a corporation, but still keep our soul and stick to our values as a non-profit, educational institution?

The answer is yes. Librarians have a background in providing compassionate service to patrons; however, that doesn’t mean libraries should not also be in the business of self-promotion. Communicating value is not a four-letter word. Non-profit marketing and branding is the marketing of services instead of goods, with the ingrained knowledge that we exist for our “customers” and not ourselves. That doesn’t mean our customers inherently know or see our value; instead, we must market ourselves and communicate our value to them. We have the ability to use our powers for good to create trust and loyalty, and build deeper support for the library. It is this goodwill that will build and institutionalize the library’s “brand”.

Relationships or relationship-building are at the heart of communicating value, and libraries are recognizing the importance of creating a brand and using it to “build deep relationships with their customers” (Singh, 2004, p. 93). Gall (2010) uses economic jargon to illustrate the idea that a transaction between a “buyer” and “seller” does not “end when the money changes hands. Rather, it is beneficial for both buyer and seller to develop a long-term relationship which provides support and help to the buyer and, it is hoped, a return customer who will spend more money with the seller” (p. 631). It works much the same in libraries: an interaction with a student, faculty, or staff member should not end once he or she passes through the library doors, closes a website, or when the meeting ends. Rather, we hope to develop long-term, mutually beneficial, and collaborative relationships with patrons, especially faculty whose turnover rate is not the same as students. People are more likely to put trust, energy, time, and money into brands they love (Starr, 2013). For example, a 2013 article by Haigh discusses a faculty member’s potential to influence student use of the library if they encourage students to do so. By building up our brand and creating feelings of loyalty, instructors may be our biggest allies in getting the students in the physical and virtual doors of the library (Haigh, 2013).
The Distance Learning Librarian took these ideas and applied them to distance learning SERs. It is important that libraries have “structures, resources, plans, and processes [...] in place” to continually engage with their users about their individual needs, expectations, and successes using the library (Lakos & Phipps, 2004, p. 353). These are lessons applicable to the entire library, involving intentional movement toward communicating value.

**Branding.** When branding distance library services, the Distance Learning Librarian began with a strategy that involved thinking long-term, understanding the audience, and designing impactful messages. First, all SERs were designed or redesigned to have consistent labeling in terms of name, and marketing materials were planned and designed with consistent colors, font type, font sizes, and so on, in order to maintain consistent look and feel. Colors and fonts were also chosen based on the university’s existing materials in order to maintain brand consistency as a branch of the university. For example, the Distance Learning Librarian created a video tutorial plan outlining specific stylization of video tutorials, the goal being that when a student or faculty member watches a video they feel a strong connotation of the libraries’ image. However, branding is more than the look and the feel of the service; it is making the user or library patron *feel* something. This is where communicating impact comes into play. How is the library SER having an impact on the user, and how does it make them feel? How do we want the patron to feel during and after library use?

One way to communicate value is to ensure the library understands its audience, and that messages targeted to that audience have an emotional impact. To illustrate how this works, the Distance Learning Librarian designed stakeholder profiles of targeted markets for distance library services, identifying the most important characteristics associated with each stakeholder. Each target market segment is divided into demographic variables, lifestyle characteristics, values, attitudes, specific needs, and goals, among other things. For example, in Table 2, the distance learning faculty were divided into two separate groups – those who teach fully online, and those who teach hybrid courses. The lifestyle and value variables of each group may be different, and they may be using different services. Thus, the marketing messages targeted to each group would be different. By building stakeholder profiles and targeting those stakeholders with specific messages relating to their stated needs and desires, the library was able to control the reach of the marketing messages.

**Communication.** No two stakeholders are created the same, including online teaching faculty, and thus they should not be communicated with in the same way. Communicating value and influencing how the stakeholder feels about the brand should be done in such a way that is most appealing to the stakeholder. A blanket message to a variety of stakeholders may not achieve the intended impact, or could possibly attract more demand than the libraries could handle. By controlling who sees the message, and using stakeholder language to explicitly discuss the SERs the library is prepared to offer, the library is able to build a relationship with a specific, targeted market based off of a mutually beneficial association.
Table 2

*Sample Stakeholder Profiles*

<table>
<thead>
<tr>
<th>Demographic variables</th>
<th>Lifestyle</th>
<th>Values</th>
<th>Attitudes</th>
<th>Specific Needs – What we think</th>
<th>Messages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distance Faculty: Online-Only; usually adjunct</td>
<td>Fast-paced; “online”; maybe on or off campus; working from home</td>
<td>Efficiency; speed; convenience; privacy; ease of access; personalization</td>
<td>Online learning is just as good as F2F; may know about library instruction, but don’t know how to incorporate that online</td>
<td>Efficient online access to journals; assistance in Brightspace; research help; library orientation for class</td>
<td>Based on our experience creating research guides, we have the ability to provide customized online research assistance resulting in a better outcome in student products.</td>
</tr>
<tr>
<td>Distance Faculty: Hybrid courses (F2F with online component); possibly adjunct</td>
<td>May have office on campus; teaching on campus or from home</td>
<td>Convenience; speed; in-person interactions</td>
<td>May know about library resources, incorporate instruction into F2F, but don’t know how to do that online</td>
<td>Access to library resources both online &amp; F2F; library orientation for class;, ILI</td>
<td>Based on our experience providing information literacy instruction, we have the ability to demonstrate how to evaluate online resources resulting in a better outcome of student products.</td>
</tr>
</tbody>
</table>
Creating messages using the CUPSS method (Confidence, Unique, Personalized, Self-Interest, Simple) is one way to share meaningful stories and demonstrate how the library is impacting the institutional community (see Figure 4). First, in order to exhibit confidence when making claims about services to stakeholders, the library should always back up its claims with evidence. This leaves little doubt in the stakeholder’s mind that the library will do what it says it’s going to do. Again, remember that all stakeholders are not the same. The Provost is very different from the student, so they should not receive the same messages. Personalize the message for the stakeholder, and use language and communication techniques they are most comfortable with. Appeal to the stakeholder’s self-interest with the message, including specific attitudes, values, and desires; in order to get a stakeholder to care about the library, share a story with the stakeholder about how the library works for them. Finally, simplify the message so they get a clear, full picture of the impact of the library on their lives.

Megan Oakleaf gives us an excellent example of this from her Academic Library Value: Impact Starter Kit, Activity 49 (2012). Here is a sample message:

*The Library System offers personalized research guides for courses each semester. This contributes to student learning and research productivity by giving the students scholarly resources in one, easy to find location. If we create a guide for your course, you may see an increase in the quality of your student papers, especially in the types of resources your students use. I would love to work with you to help improve your students’ research output, and collaborate on a guide that fits your needs.*

<table>
<thead>
<tr>
<th>Confidence</th>
<th>• Back up value messages with evidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unique</td>
<td>• The message is unique to each stakeholder</td>
</tr>
<tr>
<td>Personalized</td>
<td>• Use the stakeholders' language and preferred communication method</td>
</tr>
<tr>
<td>Self-Interest</td>
<td>• Appeal to the stakeholders' needs and desires</td>
</tr>
<tr>
<td>Simple</td>
<td>• Keep it simple and focused!</td>
</tr>
</tbody>
</table>

*Figure 4. Creating value messages using CUPSS.*
The content, timing, and design of the message should also be considered. For example, immediately following the completion of the needs assessment, the Distance Learning Librarian analyzed the data and created several reports, one for each stakeholder, including library administration and distance learning faculty. By highlighting the goals, results, and actions taken as a result of the assessment, customized to each target audience, the library demonstrated its commitment to the stakeholder. Other communications were informed by this assessment as well. For example, the content that was included in an email message to online faculty at beginning of the semester included information about the library for syllabi, information about the new library widget available in the LMS, links to Research Guides, and a brief mention of services to come.

**Integrity.** Finally, the concept of integrity should be mentioned – consistent communication and doing what the library says it’s going to do are of the utmost importance (Gall, 2010). In building successful relationships with stakeholders, the library must honor its word, as does anyone who wishes to build trust in a relationship. The librarians at KSU were worried about not being able to fulfill promises made when communicating value. It is important to communicate value and actions, but one must also set boundaries and explicitly say what one is *not* going to do. This involves the deliberate choice to offer various types of services, but say no to other types of services. When a request was made for SERs that could not be honored, an alternative was offered, and usually graciously accepted. Stakeholders appreciated transparent communication about what the library could and could not do. The Distance Learning Librarian communicated with other librarians about what she would or would not do, she included this in her communications with stakeholders, and communicated this on public-facing web resources. This evoked feelings of trust, transparency, and commitment to excellence that is the KSU Libraries’ brand.

**Conclusion**

Building a brand takes time, effort, and commitment, and the activities and concepts described in this article are ways to lay a solid foundation. Part of building a successful brand means successfully communicating library value in a way that is impactful, feels good to the stakeholder, and invokes a mutually beneficial relationship. Distance learning faculty and students have the propensity to become left out in the cold and forgotten about in the library world; however, they also have the potential to be the most impacted by the library, as SERs are predominantly found in the digital realm. This population seems to be the most in need of communicating library impact and value, but is also the most obvious group on which to focus branding efforts, especially as online programs continue to gain popularity on higher education campuses. As we near the end of the fifth year since the VAL report was first published, an important idea has emerged: putting a human face on the data and leveraging it to truly build relationships with stakeholders. The KSU Libraries were able to leverage an assessment to start building credibility within the institutional community, and use the data to market valuable SERs. In order to build the advocacy libraries crave, librarians now realize that they must go beyond the library walls, communicate their value, and establish themselves as a worthwhile brand.
References


Appendix

Distance Learning Faculty Needs Assessment Survey*

Q1: For which department(s) do you teach?

Q2: How many unique Distance Learning courses have you taught?

Q3: Which of the following library services have you used for your Distance Learning Courses? Choose all that apply.
   a. Tutorials
   b. Electronic Reserves
   c. Research Guides
   d. Embedded Librarian – Discussion Board
   e. Embedded Librarian – Video(s)
   f. Embedded Librarian – Content Upload
   g. Embedded Librarian – Co-Teacher
   h. Link to library webpage
   i. Email a librarian
   j. Library chat box
   k. Other (Please specify)

Q4: What barriers do you perceive limit your use of library services and resources? Choose all that apply.
   a. Copyright clearance
   b. Lack of online materials (i.e.: textbooks, journals, articles)
   c. Library does not provide materials my students need
   d. I had not considered using the library for support
   e. Procedures to use the library are too complicated for students
   f. Procedures to use the library are too complicated for me
   g. I am not aware of library services to support Distance Learning
   h. My students lack the technological skills or equipment to use the library effectively from a distance
   i. My students have access to libraries in the communities in which they live
   j. Other (Please Explain.)

Q5: Do you require your distance students to use library resources or services? Yes or No? If yes, for what type of assignment?

Q6: What type of resources do you expect students to use for assignments? Choose all that apply.
   Websites
   Textbooks
   Electronic (Scholarly) journal articles
   Electronic (Non-scholarly) articles
   Ebooks
Q7: Where do you expect students to get their research skills?
   a. In-class orientation by library faculty
   b. I teach library skills to my students
   c. I believe students will ask a librarian for help if needed
   d. I direct students to contact a librarian for help
   e. Students don’t need special library skills for my classes
   f. Other (please specify)

Q8: How do you expect students to access required readings? Choose all that apply.
   a. Textbooks purchased by students
   b. Course packs purchased by students
   c. Print materials purchased by students
   d. Electronic Reserves
   e. Electronic journal access or document delivery via the library (not reserves)
   f. Electronic readings uploaded to the online course via the instructor
   g. Figuring out how to get the materials is a part of the students self-education
   h. Open Access Education Resources (not through the library)
   i. There are no required readings for my class(es)
   j. Other (please specify)

Q9: Are there services not currently offered by KSU libraries that could facilitate your distance teaching? Please elaborate.

*Survey instrument adapted from Kvenild and Bowles-Terry (2011)*
10-Second Demos: Boiling Asynchronous Online Instruction Down to the Essentials with GIF Graphics

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Abstract
Connecting with text-weary students can be a challenge in the online instructional environment. Librarians have often developed screencast videos and integrated screenshots into online learning objects to teach students basic research skills. An alternative technology, graphical interchange format (GIF), may prove to be an excellent blend of the two media. GIF technology allows librarians to reach visual learners by producing continuously looping animated images. Librarians at two academic libraries recently incorporated GIFs into online learning modules and research guides to experiment with the technology and its accessibility. This article will explore GIF technology's place in the current landscape of online library research instruction. The authors will provide their recommended best practices for incorporating GIFs as online learning objects with a spotlight on accessibility. The authors will expound upon their discoveries in working with the technology and describe the advantages and challenges of using such a technology to demonstrate research skills.

Introduction
Finding the right online instruction method may be a challenge for those trying to teach information literacy skills to text-weary students. Not only do librarians and other information literacy instructors have to consider student learning needs and their own learning objectives, they must also consider simple logistics from time management to software availability to hosting options. With all of these considerations in mind, instructors often turn to two common visual media, namely, screencasting videos and screenshot images, to visually enhance asynchronous online instruction. Both of these technologies, however, have their limitations. In an effort to explore other visually dynamic media, two librarians found new uses for an older file format of online image technology.

1 The author was affiliated with the University of Louisville (Kentucky) at the time of data collection for this project.
GIF, pronounced “jif”, stands for graphical interchange format (Nicholson, 1998). GIF is one of the leading image file formats, along with TIF, JPEG, and PNG, that are commonly used on HTML-coded web pages. This graphics format was developed in 1987 by CompuServe, one of the early pioneers of commercial online services in the United States in the 1980s (CompuServe Incorporated, 1987). According to CompuServe (1987), GIFs were the “standard for defining generalized color raster images” that “allows high-quality, high-resolution graphics to be displayed on a variety of graphics hardware and is intended as an exchange and display mechanism for graphics images” (p. 3). GIF was “designed to support current and future image technology” and “serve as a basis for future CompuServe graphics products” (p. 3). While GIFs are most notably identified with image formats, another utilization for such files is animation.

GIF technology allows one to transform a series of images or a video clip into an animated image file, a capability which has led to the technology’s increased popularity online. Animated GIFs are prevalent online in social media, in traditional web publishing venues, and in online advertising (Williams, 2013). Common animated GIF examples often capture brief moments from a movie, television show, sporting event, or other recorded media and may include humorous captions or graphics. As Thompson (2013) notes, “There are GIFs of Star Trek’s Picard facepalming, of Dwight from The Office dancing, of one penguin shoving another into the water. There’s Tom Cruise laughing, sports-play flameouts, tons of porn” (para. 1). The ease with which people can create an animated GIF allows anyone with access to a computer or smartphone to utilize this technology as a form of communication (Williams, 2013), including librarians and other information literacy instructors.

GIF technology allows instructors to produce animated images of screen-captured research tasks. Instead of capturing basic research tasks in a three-minute screencast video or in a long series of screenshots, one may use animated GIFs to chunk research instruction into discrete actions while presenting those actions in motion. The technology has been around for over two decades, but library literature on the use of GIFs in research instruction is sparse. This article will explore GIF technology’s potential place in the current landscape of online library research instruction. The authors, both early adopters of this technology at their libraries, will discuss their recommended practices for utilizing GIFs in library instruction. The authors will also expound upon their discoveries in working with the technology, including addressing GIF and web accessibility practices, and will discuss the advantages and challenges of using such a technology to demonstrate research skills.

Why Animated GIFs?

For years, librarians have developed video tutorials and integrated screenshots into online learning objects to teach students the finer points of research. Both of these technologies, however, have their limitations. Mestre (2012b) conducted usability tests comparing video tutorials and static web page tutorials with screenshots, looking at their effectiveness and efficiency, and the students’ satisfaction with the two types. Students showed a marked preference for the web page with screenshots type of instruction because it allowed them to jump to different steps in the research process more easily than videos would. Mestre (2012b) remarked, "Breaking down instruction tutorials into manageable sections (modules), while remaining linear and allowing for the step-by-step acquisition of skills, prevents the user from
becoming overwhelmed with information” (p. 262). Students also performed better when recreating the research process after using the static web page tutorial with screenshots than they did after using the video screencasts (Mestre, 2012b). The advantage of using screenshots in instruction rests largely in the ease in which students may navigate the instructional content and jump to different steps in the process because the steps are broken up visually on the page.

Screenshots, however, have not always proven to be the most effective instructional tool. Craig and Friehs (2013) compared video screencasting tutorials, text plus screenshots tutorials, and live instruction, and tested students’ research performance after viewing the three instructional types. The results of this study showed the opposite of the Mestre (2012b) study. Students performed better on research tests after viewing screencast videos than after either the text plus screenshot tutorials or live instruction (Craig & Friehs, 2013). It is to be noted that the videos included dynamic visual cues, callouts, and audio commentary. Craig and Friehs speculated that video reduces cognitive load by pairing visual information with audio information, but the study does not fully explore what exactly in video tutorials makes them more effective (2013).

Ultimately, the two studies showed conflicting results, leading the authors to question which media is the best for asynchronous online instruction. A video tutorial will show a database in action, but it may not address what students need in a timely manner. Students, after all, may get impatient with even a one-minute video. In contrast, a screenshot will get to the point quickly, but cannot capture the actions of a user fully interacting with a database search. To bridge these two media, the authors explored GIF images as a means to show dynamic instruction in short, chunked bursts. Library literature on the topic, as noted earlier, is scarce.

The authors could find only one article on the topic of GIFs in library instruction. Suhr (2014) discussed the basics of using GIFs in library instruction on the blog In the Library with the Lead Pipe, and highlighted the advantages of using GIFs in place of video or static screenshots. In his discussion, Suhr reflects on the dual possibility when using GIFs to display a dynamic process that illustrates the connections between steps and to build in natural breaking points that allow students to jump to different steps as needed. Animated GIFs present a new alternative, or companion, to screencasting and screenshots.

Even though the practice of using GIF animation has limited coverage in the library literature, the appeal of this technology has garnered attention and instructional usage in the discipline of biology. Slish (2000), a biology instructor, used GIF animation to produce cartoons that demonstrate biological concepts for students. The author noted that “of the many ways of learning, interpreting visual information is a major means of acquiring understanding. As such, an integral part of teaching is displaying information for the students to see” (p. 94). Further, the students were receptive to this type of technology, particularly because the medium as shown on the “World Wide Web makes them accessible to the students and allows them to be played repeatedly at their leisure, until they understand the concepts” (p. 94). Stith (2004), a cell biology instructor, discussed that despite the GIF technology having limited abilities in comparison to FLASH technology, the value of the animation, the ease of development of GIF animation, and the skills developed while teaching other students have led some cell biology instructors to make the development of a simple GIF animation into a required exercise. The
GIF practices as noted in the biology literature further validated the decision by one of the co-authors of this article to use GIF animation in the teaching of biology information-seeking practices for a science information literacy module project.

Creating Animated GIFs

The animated GIF creation process is relatively simple, depending mostly on one’s familiarity with the necessary software and screen-capturing best practices. Many of the GIF-making applications are easy to use and include the same tools people use for other screen-capturing media. The following will explore both software options and recommended practices for creating GIFs.

GIF-Making Applications

A review of the basic technical details involved in the creation process may assist new users in choosing the right software for their purposes. GIF animations are a “series of GIF files saved as one large file” (Editors of the American Heritage Dictionaries, 2006, p. 11) that are made up of “compilations of individual images designed to play sequentially on a Web browser (Slish, 2000, p. 94). These types of GIFs “provide short animations that typically repeat as long as the GIF is being displayed” (Editors of the American Heritage Dictionaries, 2006, p. 11). According to Counts (2000), GIF building software that produces animation involves a process of importing digital images, placing them in the desired sequence, and designating frame rate, loops, etc. At the end of the conversion file process, “Animated GIFs… can be saved as stand alone movies played in a web browser” that can be used as “creative and expressive reasons and as a practical and inexpensive way to learn about animation or to show the movie to others” (Counts, 2000, p. 358). For a more detailed breakdown of the GIF-making process consult the cited works (Counts, 2000; Slish, 2000).

Many GIF-making software applications are image based, focusing on the still-images-to animated-GIF conversion as described above. There are, however, a number of GIF-making applications that are video based, focusing on the video-to-animated-GIF conversion. These options highlight one of many considerations one may have when choosing the right GIF-making application. Other considerations include current availability of the software at one’s institution, price of the software, system requirements for running the software, and so forth. Software like TechSmith’s Camtasia and Jing, Adobe Photoshop, Adobe Premiere and free websites like GIFMaker.me and MakeaGIF.com are notable GIF building tools. Individuals interested in converting web-published videos into animated GIFs may use the free Google Chrome extension MakeGIF Video Capture. Both authors used Camtasia to create animated GIFs, though one author used a combination of Jing and Camtasia to capture the screen and create GIFs.

Recommended Practices

When creating an animated GIF, some best practices found in creating screencast videos and screenshot images also apply. One must consider image quality, file size, and even mise-en-scène. Utilizing animated GIFs requires a few additional considerations. In building online
instruction objects, the authors settled on a number of recommended practices when creating animated GIFs.

1. **Ten Seconds.** Limit the running time of the animated GIF to about ten seconds. Although there’s flexibility within the medium to make GIFs run as long as needed, the authors tried to capture one or two simple actions in an individual animated GIF. These actions usually take about ten seconds or so. One does not need to be exact with the timing. GIFs running as long as 20 seconds were not out of the ordinary. Remember that information and actions may be more helpful when broken up into discrete chunks. The file sizes also remain at a manageable level when the GIFs are short.

2. **Area Selection.** Include only the amount of screen necessary to demonstrate the action and make it easy for the student to locate where the action takes place. GIF files become larger based on the amount of screen one captures and the length of time the animation runs. If it is necessary to capture the whole screen, then by all means do so. When one needs only to capture a portion of the screen, however, then limit the capture to a smaller area to help reduce the file size. When capturing a smaller area, be sure to include enough of the screen so the students can easily identify where the action is taking place on the screen.

3. **Callouts.** Use callouts to draw the student’s attention to relevant actions. With just a few seconds to demonstrate an action, using callouts (e.g., arrows, boxes, highlights, etc.) may be beneficial. If a particular action is not obvious, callouts may direct the students to relevant areas of the screen.

4. **Title Cards.** Use title cards to clearly indicate the beginning or end of the GIF’s animated loop. When students are working through a tutorial they may not see an animated GIF when it first loads and begins its loop. In this case, they may come across the GIF while it is mid-loop. In order to minimize confusion, using a title card at the start or end of the loop may clarify when the loop begins or ends. Using title cards may be particularly helpful when demonstrating more than one action in a GIF.

5. **Defer Image Loading.** Defer image loading as an alternative to using title cards. Though images usually load onto a web page when the student first opens the page, Javascript allows one to prevent images from loading immediately. Using Javascript to either defer loading or lazy load an image will prevent the student from coming across an image mid-loop. To learn more about defer loading, one may review Sexton (2015). To learn more about the lazy load option, one may review Ryabov and Kaner (2015).

6. **Only One GIF on the Screen.** Limit the number of animated GIFs visible on the screen. Having multiple animated GIFs running on the screen at one time may be somewhat distracting for students. Though common use of animated GIFs on the Internet do display multiple GIFs together, and students may therefore be used to seeing many animated GIFs on a screen, in the context of library instruction it may not work as well. Unlike many of the uses of multiple animated GIFs online which depict familiar movie or television clips, library instruction may present information new to the
students. Multiple animated GIFs may be distracting when the students are attempting not only to see the actions displayed in the GIF, but also to understand the context in which the action is happening. If the students are more familiar with academic research and using databases, then multiple GIFs on the screen may be a more viable option.

7. **Looping**. Loop the animation indefinitely. When creating an animated GIF, some applications will give the creator the option to play the animation once or to play the animation on an infinite loop. Without looping, the student would need to refresh the page or interact with the image in some way in order to see the animation again. Looping the animation allows the students to see the GIF in motion without effort.

**Incorporating GIFs into Online Learning Objects**

The work of creating and making learning objects accessible to online learners is a common practice within distance librarianship in the 21st century. Beyond the usage of content hosting websites like LibGuides and SoftChalk, it is also the unique types of learning objects embedded on these sites that enable distance librarians to make greater usage of their ability to communicate with and provide instruction to online learners. Wiley (2000) defines learning objects as “small (relative to the size of an entire course) instructional components that can be reused a number of times in different learning contexts” (p. 2). Instructional modules, tutorials, research guides, and images are examples of learning objects (Mestre, 2012a). The authors will discuss the process of incorporating another type of learning object, GIFs, into these two tools by highlighting their work in building online instruction utilizing GIFs.

**LibGuides**

LibGuides is a content management system for libraries to host research guides, tutorials, and other online services. At Morehead State University, one of the authors inherited a simple “How to Do Library Research” LibGuide when she started her employment there. This guide originally took a step-by-step approach to presenting the academic research process, but it only reviewed the theoretical side of the process and was very text-heavy. The guide included very little practical information on utilizing databases, the Library’s website, or its services. In an effort to include this practical information, the author restructured the guide to include visual step-by-step instructions in finding particular types of sources and searching on general topics (see Figure 1). These new pages used a combination of text, screenshots, and animated GIFs to convey visually the necessary research steps. Each page of instruction provided a step-by-step breakdown of basic research tasks (e.g., finding ebooks or choosing the right database). Individual steps included simple text instructions and either a screenshot or animated GIF visually conveying the same information as the text (see Figure 2). Though the original theoretical content is still available in the guide, the larger part of the guide provides the more practical instruction.
At the University of Louisville, the other author created two GIF-animated graphics in 2014. The first GIF, which is linked and shown in Figure 3, is a looping video embedded on an Endnote LibGuide (Porter, 2014a). EndNote is a desktop and online citation management software that manages and organizes bibliographic information including providing a library database to store citations, and it formats citations based on the output style preference such as APA, MLA, and Chicago. The video shows how to freely download the software from the University of Louisville’s iTech Xpress website for students, faculty and staff. The online guide provides supplemental instructional material on how to use the software based on content that is taught during the in-person workshops held on campus (each 1.5 hours long). The animated GIF, which is located on the “Download EndNote” tab, was created to visually capture the four-step process that is explained in the textual instructions. From an instructional perspective, the video streamlined the time that it took the author in the opening minutes of the session to show attendees how and where to download the software. This was made possible because the instructional labs where the workshops are taught come equipped with desktop computers that facilitate attendees following along with the demonstration and performing independent actions on the computer. Therefore, the author was able to both talk through the download process as the 30-second video played on a consistent loop and walk around the room to assist attendees with questions.
SoftChalk

SoftChalk is an e-learning content authoring platform used to create online lessons by incorporating text, images, video, and interactive activities like quizzes and jigsaw puzzles. At the University of Louisville, one of the authors designed a Biology 104 science information literacy online learning module with four embedded animated GIFs. Biology 104 is an undergraduate, face-to-face, general studies laboratory course. The following research question, which is connected with a specific assignment in the course, was used as an example to teach students library research and science information literacy skills: “Does the measles, mumps, and rubella vaccine cause autism?” As shown in Figure 4, the module design focused on teaching
the parts of the search process: defining a research question, selecting search tools, searching for articles, analyzing sources, and review.

The GIFs illustrated the visual searching aspect of the search process. Only one GIF is visually shown on the demo page and it shows results found from performing a keyword search using the terms “autism” and “MMR vaccine” in the EBSCO Academic database. The remaining three GIFs are linked on the sidebar of the same Demo page to the LibGuide that contains videos (as shown in Figure 5) and in the citation (Porter, 2014b). Each GIF specifically demos how to locate scholarly, full text articles, the abstract, and the citation information of a source related to the topic in EBSCO Academic. The GIFs were created first by screen-capturing each video and then converting the files into GIF format using Camtasia.

Advantages and Challenges

The GIF-making process that the authors undertook led to specific takeaways with regard to the advantages and challenges of incorporating GIFs into LibGuides and SoftChalk. The advantages are that GIF technology is one of the most exciting online resources the authors have utilized. There is a fascinating online curb appeal added when this technology is embedded within library web pages. The process of embedding GIFs within each platform was easy. It required retrieving the file on the computer and inserting the file as an image which played smoothly. Also, neither platform required an external player or software to be downloaded to play the GIFs.

Figure 3. EndNote GIF.
The Search Process

Searching for scientific journal and magazine articles in a library database is not always a clear, linear path. For instance, you may find articles quickly. Other times searching takes longer. The difference in your having more experiences like the first example, is being intentional about the approach you use to find information.

Parts of the Search Process

The search process covers these areas:
- Define your topic and generate keywords
- Select search tools
- Search for information
- Analyze sources
- Review information collected

The circular image to the right symbolizes that this process is continuous. This means whenever you research information put this approach into action. The next sections will illustrate the function of each part.

Figure 4. SoftChalk search process.

More Videos

The video links below show you how to:
1. Locate full-text, available articles
2. Locate the Abstract
3. Find the site link

Search EBSCO Academic

You have learned about defining the research question, generating keywords, and selecting search tools. Now we will demo how to search for articles in EBSCO using the video loop below.

Keep in mind that databases do not function like Google. Putting numerous keywords on one line or in question form is not recommended. The way you talk (i.e., keywords used) to a database requires a different approach because it is concentrating on finding sources in the library.

Sidebar spotlight: More of these short EBSCO videos are linked on the sidebar.

Figure 5. Science information literacy GIF.
Some of the challenges included the trial and error aspect of the GIF-making process. As early adopters of the technology, in the beginning there was much time spent in learning how to reduce the area space when screen-capturing the video prior to the file conversion. This aspect, which the authors addressed earlier in the article, is a key part of reducing the largeness of the GIF file. This creates problems with SoftChalk lessons taking an interminably long time for the lesson to load completely. Further, in LibGuides, large GIFs pose inclusion issues if the file storage capacity of the license agreement exceeds the 5MB or 10MB capacity.

Web Accessibility for Individuals with Disabilities and GIFs

Web accessibility as it pertains to individuals with disabilities is defined by the World Wide Web Consortium Web Accessibility Initiative (Henry, 2005) as meaning “that people with disabilities can perceive, understand, navigate, and interact with the Web, and that they can contribute to the Web. Web accessibility encompasses all disabilities that affect access to the Web, including visual, auditory, physical, speech, cognitive, and neurological disabilities” (as cited in Szarejko, 2006, para. 3). The state of Kentucky, which is the location of the institutions where both authors incorporated GIFs, is one of twenty-four states that enacted Web accessibility legislation; specifically, Section 508 of the Rehabilitation Act (Providenti & Zai, 2007). Section 508 requires “federal agencies to make their electronic and information technology (EIT) accessible to people with disabilities” (U.S. General Services Administration, n.d.). These are significant points because disabled groups are a growing population in Kentucky (Providenti & Zai, 2007; Waldrop & Stern, 2003). For example, “nearly one in four people in Kentucky, 24 per cent, report some form of disability according to the 2000 US Census (Providenti & Zai (2007, p. 479). Further, Providenti & Zai noted that “out of an estimated 167, 185 Kentucky students age 18 to 34 enrolled in a college or graduate school, 10, 929 people, or 6.5 per cent of the university population in Kentucky, reported some form of disability” (2007, p. 479).

The inclusion of web graphics like GIFs represent web authoring elements that enhance web page aesthetics. Yet, arguments against the usage of web graphics in the early years of the millennium is that the format is not the most optimal means for making information accessible to users with disabilities. Burgstahler, Corrigan, and McCarter (2004) noted that "online courses can inadvertently erect barriers for students and instructors with disabilities" including using “graphics images [that] may be meaningless to someone who is blind" (p. 234). Strasburg (2000) noted "...an increasingly sophisticated Internet, one rich with graphics, multimedia clips and compressed text, has meant a less accessible Internet for the disabled" (p. B3).

While the above sentiments about web design remain applicable in the present day, over the last decade the development of web accessibility guidelines developed by the World Wide Web Consortium, along with the Americans with Disabilities Act (ADA), have prioritized equal access for individuals with disabilities (U.S. Department of Justice and Civil Rights Division, n.d.). Web accessibility is all about web authors walking in the shoes of the person with a disability and learning about their experiences. The authors recommend doing two things when incorporating GIFs. First, consider the following questions from the Web Accessibility Initiative's (2012) page on “How People with Disabilities Use the Web”: “How do people who cannot move their arms use your website? What about people who cannot see well or at all?... [What about] people who have difficulty hearing or understanding, or have other accessibility

**GIF Web Accessibility Practices**

The following are four web accessibility practices to use when embedding GIFs into library web pages. These practices, some of which are accompanied by illustrations, enable individuals using assistive technology like screen-readers, voice-activated software, and Braille applications to accurately read and navigate on their computers.

1. **Alternate Text (alt text).** Alternate text is a short description of an image that is hidden from view but can be read aloud by screen readers. These descriptions “are displayed when the image title” of an HTML title tag is used and “is also displayed by most browsers when the graphic is pointed to with a mouse or other pointing device” (Morley & Parker, 2014, p. 413). Figure 6 shows an example of alternate text when inserting an image in SoftChalk. Figure 7 shows how to add the alt text attribute when writing HTML coding for images.

2. **Descriptive Text and Captions.** Add descriptive text and captions around images to clearly help online users discern what the image is showing and/or to indicate the required action needed. An example of this is provided in Figure 8, which instructs the user to click on the articles tab to access the materials.

3. **Disability Resource Centers.** Consult these centers that are affiliated with the institution or central to the surrounding local community. These centers have staff that work with individuals with disabilities. Both of the authors’ institutions have such designated centers: Disability Services at Morehead State University (2015) and the Disability Resource Center at the University of Louisville (2015).

4. **Text-Only Documents.** Create text-only Word and PDF documents to supplement web pages that contain multimedia content. These documents are easy to link on LibGuides, learning management systems like Blackboard, and attach via email. Text alternative documents are also a convenient option for online users that prefer to print pages instead of reading from a computer screen. The University of Louisville Delphi Center for Teaching and Learning provides linked instructions on creating accessible Microsoft Word and PDF files and writing effective alternate text descriptions (n.d.a, n.d.b, n.d.c).

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**Figure 6.** SoftChalk alt text box.
Conclusion

Animated GIFs are a great way to add dynamic visual learning objects to online research instruction while still keeping information short and to the point. The nature of animated GIFs as an infinitely looping animation allows users to see a task performed over and over without the need to interact with the content. Although this lack of interaction prevents an individual GIF from being an active learning object on a web page, it does not prevent instructors from building in more active learning into their tutorials through other means. In contrast, animated GIFs do allow instructors to both show and tell. Pairing the animated GIFs with text, instructors not only make the information more accessible to students with disabilities, but also engage students both textually and visually.

The authors have created GIFs for the purpose of incorporating visual learning objects that assisted students in synchronous and asynchronous learning settings. In the past, the authors supported distance education learners by routinely writing lengthy textual directions and step-by-step instructions to guide students in the information-seeking process. Identifying ways to integrate visual representations of the process alongside the textual descriptions became a necessity and an attempt to lead students in becoming independent learners. Consideration was given to the fact that written descriptions alone may make a given instructional task appear daunting. Incorporating GIFs adds an element of practicality that illustrates the straightforwardness of tasks, from performing searches in a database to downloading software.

Ultimately, the integration of GIFs on a wider scale throughout the field will open up avenues for distance librarians to learn how to assess this medium’s impact on student learning in the online environment.
References


Mapping Uncharted Territory: Launching an Online Embedded Librarian Program

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Abstract
Developing a strategy for embedding librarians in online courses can be challenging, but it is essential to demonstrate to accrediting agencies how libraries serve online students. A well-thought-out plan can be scalable and sustainable for rapidly growing online programs and can satisfy accreditation standards. This paper examines how one small, liberal arts college developed a plan of action for an online embedded librarian program, including both the conceptual and practical aspects of launching the program: aligning library instruction with course and program learning outcomes, brainstorming strategies for embedded library instruction, and communicating the value of such a program to online teaching faculty.

Introduction
This paper illustrates how a small, private liberal arts university launched an online embedded librarian program for its rapidly growing online degree offerings. It discusses the initial process of “mapping” the curriculum, selecting strategic courses in online degree programs for an embedded presence, and tailoring instruction in those courses to fulfill course and program objectives. In particular, this paper focuses on creating a manual that can help the academic library articulate a scalable, sustainable plan for embedded librarianship in online courses. Developing a manual that outlines the overarching objectives of the plan, lists courses for an embedded presence, and discusses how to measure the effectiveness of the plan is helpful to communicate the vision of embedded librarianship to fellow librarians, teaching faculty, and accreditors.

Literature Review
Barbara Dewey issued a clarion call for librarians to work more closely with other departments in her seminal article, “The Embedded Librarian” (2004). Dewey envisioned “a more comprehensive integration of one group [librarians] with another to the extent that the group seeking to integrate is experiencing and observing, as nearly as possible, the daily life of the primary group” (2004, p. 5-6). For instructional librarians in many post-secondary institutions, embedded librarianship has become more than just a buzzword. A November 2015 search for embedded librarianship articles in the Library Literature and Information Science Full-Text Database yielded 197 results (searching “embedded librar*”), with no publication older than 2004. Instructional librarians have developed various methods for integrating library instruction and learning resources, and assessing their value in way not envisioned by older
models of academic librarianship. The term *embedded librarianship* lends itself to multiple meanings and models. Stielow (2014) indicates that this term can refer to liaison activities with academic departments, where a librarian is paired with an academic department for the purpose of collection development, curricular planning, and library instruction. Embedded librarianship can also refer to direct participation of librarians in classroom and the learning management system (LMS). This latter definition most closely resembles what the author of this paper is attempting to accomplish in the online degree programs at his institution.

**Challenges of Implementing an Embedded Librarian Program**

Implementing an online embedded librarian program can be problematic as library use is often not viewed as foundational to online learning by faculty or students. A 2002 study of Pennsylvania State University World Campus (online) students found that only one third of students had ever used online library resources and 62% of faculty did not require students to use library resources or instructional aides (Moyo & Cahoy, 2006). Another challenge is that librarians are not part of the curriculum development process. A series of questionnaires administered by the Council of Independent Colleges and the National Institute for Technology & Liberal Education to 130 institutions between 2004 and 2006 found that librarians were only consulted in curriculum development 59% of the time (Bennett, 2007). Creating classes and degree programs with library services more closely resembles the ideal of “embeddedness” than appending library instruction to an existing course *ex post facto*. Furthermore, librarians might find it difficult to influence the course design process as the faculty culture at many colleges stresses the autonomy of the professor over collaboration with academic support departments. Many faculty resist the notion that librarians should have a teaching function in their online courses (Tumbleson & Burke, 2013; Venecek & Giglio, 2011).

**Levels of Embeddedness**

Despite these challenges, several academic libraries have successfully implemented embedded librarian services in online classes. There are a number of activities that librarians can do to serve online students: host a discussion forum in an online class, record video tutorials, host synchronous online workshops, create a library page within the learning management system, and market their services directly to students via email and links within the LMS course shell. For a full list of potential activities, please consult the Appendix. The levels of embeddedness can be conceived as roughly three tiers of participation. Librarians who wish to implement embedded library services must be mindful of the workload and select activities that align with the amount of time they can invest in such a program (Tumbleson & Burke, 2013). At the very least, librarians can request a link to the library or contact information be placed in the learning management system (York & Vance, 2009). Librarians at Everglades University in Boca Raton, Florida have administrative access to all online classes. They are able to put welcome messages in all online classes, encouraging the use of resources targeted to the course (Bezet, 2013). A second tier of embedded library service is to create tutorials for a specific course or free-standing information literacy tutorials. Some librarians have collaborated with faculty to create tutorials and assessment for which students are assigned a grade (York & Vance, 2009). The highest tier of embedded librarianship involves collaborating with faculty on designing courses and degree programs that incorporate library resources and information
literacy skills. The University of Massachusetts at Dartmouth and the University of Connecticut are two institutions where librarians’ expertise was tapped to create or redesign courses that integrate library services and resources (Lavoie, Rosman, & Sharma, 2011; Sylvain, Mofford, & Riley, 2011).

**Best Practices for Embedded Librarians**

From the trials and errors of librarians over the past 15 years or so, a series of best practices has emerged on how to deliver online embedded librarian services. Tumbleson and Burke (2013) recommend using the ADDIE process (Analyze, Design, Develop, Implement, Evaluate) of instructional design to map out an embedded librarian plan. Many librarians use the ADDIE model or some derivative to plan and implement online embedded services. One of the major concerns in launching an embedded program is the time commitment. Some librarians have found embedded librarianship to be more effective than one-shot instruction sessions and reference desk assistance. In a few cases, librarians have scaled back on traditional outlets for library instruction in favor of an embedded model (Burke & Tumbleson, 2011; Silverman & Williams, 2014). Embedded librarianship is appealing since it puts instruction at the point of need and might reduce the need for face-to-face instruction and reference desk assistance. Another strategy for minimizing the workload is to target classes for an embedded librarian presence that are research-intensive (Tumbleson & Burke, 2013; York & Vance, 2009). Obviously, the information presented by an embedded librarian should be tailored to the level of research required by the course and students’ previous research experience (Tumbleson & Burke, 2013). Another strategy is to create instructional content that can be reused in multiple courses (Burke & Tumbleson, 2011; Sylvain, Mofford, & Riley, 2011). When implementing an embedded librarian program, one needs to clearly communicate the vision of the embedded librarian and expectations of the professor, student, and librarian in an online class (Drewes & Hoffman, 2010; Tumbleson & Burke, 2013; York & Vance, 2009). Once a librarian has implemented an embedded presence, he/she needs to be familiar with the functions of the learning management system and be an active participant in the class (Burke & Tumbleson, 2011; Drewes & Hoffman, 2010; York & Vance, 2009).

**The Online Embedded Program at King University**

Like many private liberal arts colleges, King University has greatly expanded its online degree offering to increase student enrollment. For many years, the rapid adaption of online degree programs was not commensurate with library support in online programs. Prior to 2014, instructional support for online learners was piecemeal. In their spare time, the library staff worked to create course-specific LibGuides, occasionally record video tutorials, and piloted an embedded librarian presence in an undergraduate nursing program. This was problematic because the regional accrediting body, the Southern Association of Colleges and Schools (SACS) mandates that the “institution ensures that users have access to regular and timely instruction in the use of the library and other learning/information resources” (Southern Association of Colleges and Schools [SACS] Commission on Colleges, 2012, p. 31). Given the rapid increase in online degree offerings, the existing library staff could not offer that “regular and timely instruction” to students. To fill this gap, the university hired a full-time Online Instruction Librarian. This person was tasked with creating a comprehensive library
instructional strategy for online students that included an embedded program. The newly appointed Online Instruction Librarian consulted with his library colleagues to assess existing embedded efforts and brainstorm a comprehensive plan for online embedded librarianship. While the online embedded program was a substantial part of this position, this librarian also had to perform traditional librarian duties such as collection development, deliver one-shot instruction sessions, and staff the reference desk.

Planning for Success

The Online Instruction Librarian spent his first few months gathering as much information as possible about online degree programs from library colleagues and faculty members. The library director set up meetings with program coordinators to discern the needs of online students. These meetings generally involved the librarians giving a brief “elevator speech” about the vision of an embedded librarian program, selecting research-intensive courses in that degree program for a targeted librarian presence, and determining what skills and concepts should be covered in each course in that major. The first of these meetings occurred with library staff and the program coordinator of the undergraduate nursing program. Targeting the RN-BSN program was a natural choice because the library had a strong collegial relationship with this department. Nursing faculty routinely invited instructional librarians in their courses to teach research and citation skills. During this meeting, the nursing program coordinator and librarians negotiated the creation of tutorials for two research-intensive classes. These two classes (NURS 3310: Foundations of Nursing, and NURS3320: Research Methods) were selected for an online embedded librarian presence since (a) librarians routinely instructed face-to-face sessions, (b) the course were required for all RN-BSN students, and (c) these courses had significant research components. As in the face-to-face sections of these courses, the Online Instruction Librarian agreed to create video tutorials and assessments for each class. These tutorials would cover major nursing databases, search strategies, and how to cite information sources in American Psychological Association (APA) style. The assessment would be optional, but the librarians strongly recommended that professors give credit to students for completing them. This data is crucial to prove to accreditors that the library is teaching information literacy skills. The Online Instruction Librarian requested syllabi for these courses and consulted with the King University Academic Catalog to determine how these tutorials would fit into course and curricular learning objectives. In addition, he consulted the Association of College and Research Libraries (ACRL) Standards (2000) and Framework (2015) to determine how these tutorials would align with national information literacy standards.

After consulting with degree program coordinators, the library staff met with the Director of the Learning Commons at King University to discuss the online embedded librarian program. The Learning Commons handles the creation and maintenance of online courses. All online courses at King have a “master” course. A subject matter expert (SME) is contracted by the Learning Commons to design an online course. The SME is considered the course “owner” and must be consulted to make changes to the course. All online course sections use the master course template, using the same structure, assignments, and syllabus. The library staff explained the vision of the embedded program and with the consent of course owners and the Director of the Learning Commons, library tutorials were added to the master course shell of targeted
In this manner, all sections of courses targeted for embedded instruction, like NURS 3310, would have a tutorial embedded in them.

**Implementing the Vision**

The next step was to create video tutorials and assessments for the targeted courses. One of the challenges mentioned in the professional literature was to create tutorials that can be reused in multiple courses (Burke & Tumbleson, 2011; Sylvain, Mofford, & Riley, 2011). Another challenge identified in the professional literature was to anticipate new iterations of learning management systems or institutional migrations to a new LMS (Burke & Tumbleson, 2011). For this reason, the Online Instruction Librarian opted to create tutorials and assessments that would be hosted independently of the learning management system. Several tools were considered, such as Adobe Captivate and Camtasia, but in the end, the librarian chose to use several tools that were easier to master. Using a combination of Google Forms, YouTube, and Screencast-o-Matic, the librarian was able to create video tutorials and assessments for these targeted online courses.

Screencast-o-Matic is a free screen capture tool which the Online Instruction Librarian had used in previous employment. Screencast-o-Matic, like many other screencasting tools, is versatile enough to capture desktop applications and live web demonstrations. Once the screencast was recorded, the librarian saved the video file as an .mp4 and uploaded the file to YouTube. YouTube was an obvious choice since the library already had a YouTube account. YouTube is connected to a rich suite of Google tools which the librarian used to create the finished product. One benefit of uploading videos to YouTube rather than the LMS’s server is that YouTube videos can be embedded in other platforms, such as the library website and LibGuides. The librarian then used another Google tool, Google Forms, to create online quizzes for the video tutorials. YouTube videos can be embedded in Google Forms, which was helpful for embedding the screencasts in the quiz. A single Google Form, which contains a video tutorial and a quiz, was created for each targeted class. To see an example of tutorial created using YouTube and Google Forms, please visit [https://docs.google.com/forms/d/1fPfxRUjpPfCU4lu4ayZwbYBN0y-2O4px70066wVJwY/viewform](https://docs.google.com/forms/d/1fPfxRUjpPfCU4lu4ayZwbYBN0y-2O4px70066wVJwY/viewform). To see a screenshot of the tutorial inserted in a course shell, please see Figure 1.

Once the librarian had created tutorials and quizzes for the targeted courses, the program coordinators and other faculty in their department were given a link to the video and quiz. The faculty offered feedback on the video tutorials which the Online Instruction Librarian used to make corrections or clarifications on the video and/or quiz. After faculty review, the librarian contacted the Director of the Learning Commons to insert the Google Form (containing the video and quiz) in the master course shells of the targeted courses. As a result, all sections of these targeted courses now have a permanent tutorial and assessment which a professor can assign for students to watch. By using video tutorials and quizzes with multiple choice and true/false questions, the online embedded librarian program is scalable and sustainable. No matter whether the university offers five or fifty sections of a course with an embedded library component, there is little additional work for the librarian. At the discretion of instructor, the librarian can email him/her the results of their students’ quizzes. Since the results of each quiz are recorded on
Google Sheets, a Google tool akin to an Excel spreadsheet, the librarians can evaluate students’ answers at the end of each academic year. This data is crucial to determine the effectiveness of the video tutorials and demonstrate to accrediting agencies that the librarians are involved in online classes. Automating the embedded program as much as possible overcomes the perennial problem of creating an embedded librarian presence without overloading librarians (Tumbleson & Burke, 2013). Targeting research-intensive and core courses in online degree programs ensures that students have “access to regular and timely instruction” (SACS Commission on Colleges, 2012, p. 31). Students receive instruction at the point of need rather than relying on peers and instructors to provide insufficient research assistance.

**Sharing the Vision**

Professional literature on online embedded librarianship notes that librarians must market the embedded librarian program (Drewes & Hoffman, 2010; Tumbleson & Burke, 2013; York & Vance, 2009). This can take the form of shared institutional committee appointments and curriculum design meetings, email, web pages, professional relationships developed from library-faculty liaison programs, and interpersonal relationships. At King University, the entire library staff is crucial to the success of the embedded librarian program, as embedded librarianship engages the greater academic community with all of these techniques. It is the perspective of this author that marketing is crucial, as faculty are being introduced to a completely new paradigm of library service that deviates from what they expect from libraries. While the King librarians have mostly relied on program coordinators to inform their teaching faculty of the embedded program, the Online Instruction Librarian has engaged faculty directly with mass emails. One of these mass emails targeted online faculty with a catchy infographic (pictured in Figure 2) and a link to the Library Services for Distance Faculty web page (http://www.king.edu/library/distance-education/distance-education-faculty.aspx).

![Figure 1. Screenshot of an embedded library tutorial.](image-url)
Online Embedded Librarian Program

AT KING UNIVERSITY

Traditional Library Instruction vs. Embedded Library Instruction

DEFINITION

Online embedded librarianship moves research assistance outside the library walls and into the learning management system. Instruction is tailored to meet students at their point of need. Let us save you time and effort by allowing us to create a tailored instructional experience for your course!

WHAT WE OFFER

Customized Video Tutorials
We can create a video tutorial that summarizes how to find resources (e.g., articles, books), evaluate them, and cite them, saving you valuable instruction time.

Hosting Research Discussion Forums
We can host a discussion forum in your Blackboard course shell so that students can ask how to find, evaluate, and use info sources ethically.

Online Workshops in Real Time
A librarian can schedule an online, synchronous workshop for your students or several classes in one discipline.

And don’t forget our other services...

Research Help via Online Chat
Subject Guides for Each Discipline
Video Tutorials for Databases

HOW DO I GET STARTED?

Contact Seth Allen, Online Instruction Librarian, if you would like to take advantage of these services or others. We can assist with online, face-to-face, and hybrid courses.

Seth Allen, MLIS
Online Instruction Librarian
sallen@king.edu
423-692-6388

Figure 2. Online Embedded Librarian Program infographic.
York and Vance (2009) suggest recruiting a support team of other librarians and LMS administrators to lighten the load of delivering an online embedded librarian program. At the request of his supervisor, the Online Instruction Librarian created a manual outlining the goals, structure, and logistics of the online embedded librarian program. This manual was created under the assumption that the duties of online embedded librarianship would eventually exceed the workload of one person. The manual explains the program in detail so that other librarians can participate in online embedded duties and provide continuity between the various librarians involved in the project. The manual includes ideas gleaned from professional literature on evaluating the effectiveness of an embedded librarian program and tips for keeping the workload manageable. Finally, this manual coordinates the online embedded program with the overall library assessment plan. An important component of the manual is the “curriculum mapping” that ties courses in specific online programs to learning objectives and national information literacy standards. An example of this curriculum mapping can be found in Table 1. A very tentative draft of this manual can be viewed online at https://drive.google.com/open?id=0B6a7362_NRwbk1CM0loa1RiZFE. This manual will be revised as this nascent embedded librarian program matures and tutorials are created for all online degree programs. To date, around three-fourths of online degree programs at King University have an embedded librarian component.

Table 1

_Curriculum Mapping in the RN-BSN Program_

<table>
<thead>
<tr>
<th>COURSE PREFIX/N O.</th>
<th>COURSE TITLE WITH LINK TO TUTORIAL</th>
<th>TUTORIAL LEARNING OBJECTIVES</th>
<th>2000 INFO LIT STANDARD(S) COVERED</th>
<th>2015 FRAMEWORK COVERED</th>
</tr>
</thead>
</table>
| NURS3310          | Foundations of Nursing             | • Become familiar with library resources for nursing students  
|                   |                                   | • Practice searching the CINAHL database using keywords  
|                   |                                   | • Read an article citation and locate a given article in King databases  
|                   |                                   | • Distinguish between popular and peer-reviewed sources | 1,2,3,4               | 1,2,5,6               |
| NURS3320          | Research Methods                   | • Refresh CINAHL search strategies (if needed)  
|                   |                                   | • Use advanced search strategies (ie Boolean, phrase searching) to search Cochrane’s database  
|                   |                                   | • Understand and apply MeSH subject headings to nursing research | 2,3                   | 3, 5                  |
Considerations Moving Forward

As previously mentioned, this online embedded librarian program is in its beginning stages. Neither the Online Instruction Librarian nor the existing professional library staff had experience in implementing a comprehensive online embedded librarian program. Consequently, the process of developing a programmatic embedded program has been largely by trial and error. It should be noted that King University’s online embedded librarian program was designed to minimize detailed librarian involvement in classes. The librarians assumed that King would continue to rapidly expand their online degree offerings and potentially outpace the number of librarians providing support for these classes. It should be noted that not all programs and/or classes are served well by a combination of video tutorials and multiple choice quizzes. One limitation of this type of embedded presence is that a video tutorial can seem canned and impersonal. Another limitation is that quizzes with true/false and multiple choice questions assess lower level domains in Bloom’s taxonomy (i.e. “recall”, “understand”) rather than advanced levels (i.e. “analyze”, “evaluate”). Moving forward, the librarians involved with this program might consider more personalized forms of embeddedness, such as hosting discussion forums in targeted courses and assigning open-ended questions that involve more critical thinking than multiple choice questions. Perhaps these more personalized forms of embedded services can supplement existing tutorials. Another opportunity for improvement is to take part in the redesign of existing online programs and new online degree offerings. College universities often, but not always, include librarians in curriculum planning. Some academic libraries have had a proactive role in course redesign with positive results for tapping librarians’ potential and maximizing students’ acquisition of information literacy skills (Lavoie, Rosman, & Sharma, 2011; Sylvain, Mofford, & Riley, 2011). Overall, the embedded librarian model is relatively new to academic libraries. As more academic librarians implement and refine their methods, the professional discourse should document the long-term implications of this model on the role of academic librarians and student learning. Any modifications to the embedded program at King should be informed by successes (and failures) of embedded librarians at other institutions. Like other innovations in academic library services, online embedded librarianship will require buy-in from faculty and administration and will likely adapt with new technology and changing student expectations.
References


Appendix

Potential Activities for an Embedded Librarian

Taken from Tumbleson and Burke (2013, p.70):

- Encouragement to contact the embedded librarian for further reference assistance
- Links to library databases and other information resources within the course
- Library tab or link to the library website appears in the LMS for all courses
- Tutorials, either embedded or linked, in the course
- Information on research concepts (i.e., scholarly vs. popular periodicals, plagiarism, citing sources)
- Suggested research strategies for course assignments
- Instant messaging or chat widgets in the course
- Interactive sessions with classes using web conferencing software (Adobe Connect, Elluminate, Wimba, WebEx, etc.)
- Synchronous chats with groups of students
Active Learning with Interactive Videos: Creating Student-Guided Learning Materials

Ariana Baker  
Coastal Carolina University

Abstract  
Distance learning programs across the country continue to grow and evolve. In order to support these programs, librarians are often expected to convert face-to-face classes and reference sessions to the online environment. Due to the necessity of explaining information literacy concepts and demonstrating the access and use of library resources, videos are often used to teach these online sessions. However, most librarians are not video production experts. We are either self-taught or taught by other amateurs, and as a result we tend to repeatedly use the same few tools and techniques. Fortunately, there are many tools librarians can use to make videos more engaging and interactive. This paper discusses interactive elements such as embedded assessments, hotspots, audio/video lectures, audio/video discussions, and analytics. It also evaluates a variety of tools based on cost, ease of use, availability, accessibility, and analytics.

Introduction  
Coastal Carolina University is a mid-sized liberal arts institution located in Conway, South Carolina. Reference and Instruction librarians teach face-to-face one-shot instruction sessions and online credit courses that teach students research strategies. In addition, they create streaming videos that explain the resources and services available in the library. It is expected that these videos will be used across the curriculum by faculty who refer students to the library’s video webpage or embed the videos in their learning management system (LMS).

LIBR 103 (Research Strategies for Transfer Students) was developed to help students who are new to Coastal to learn about library resources and research skills. The course runs for six weeks in both the spring and fall semesters. Each module consists of instructor-created videos, a quiz based on those videos, and a professional video or article that students are expected to discuss in online discussion forums. While the format works well, the assignments (and specifically the videos) are always being modified and improved.

Other library videos, created for distribution across the curriculum, are usually shared via Screencast or YouTube links. These videos are required in some classes and simply recommended in others. Aside from number of views, no data has been available to let librarians know how well we are reaching the students or if students are learning the necessary skills. The integration of interactive elements in these videos can improve analysis of learning outcomes as well as keep students engaged.
Literature Review

Streaming videos are a great place to begin when trying to teach information literacy concepts in an online environment, but “passively observing a video is not cognitively engaging and challenging” (Cherrett, Wills, Price, Maynard, & Dror, 2009, p. 1124), and as a result most videos do not effectively teach students the material. Interactive elements change the very nature of online videos, transforming them from passive to active learning materials. According to Leeder (2000), this interactivity is “characterized by terms like ‘browse,’ ‘investigate,’ ‘explore,’ ‘choose,’ and ‘do.’ Responsibility is shifted towards the user” (p. 222). Adding interactive elements to videos challenges students and “has the potential to inform, engage, enlighten and entertain” (Leeder, 2000, p. 224). Middlecamp (2005) believes these features are vital components of the learning process. She wrote, “If students do not engage, they are unlikely to learn. And if we do not engage, we are unlikely to engage our students” (Middlecamp, 2005, p. 17).

There are different types of interactive elements, with quiz questions among the easiest and most popular features that can be added to streaming videos. Cherrett, Wills, Price, Maynard, and Dror (2009) describe the integration of open response questions to their videos. After students submitted their responses, the video displayed the correct answer with both text and image explanation. When asked for their impressions, the majority of students stated that the interactive videos were extremely beneficial (Cherrett et al., 2009). MacKenzie and Ballard (2015) described an online course that was revised to include the textbook publishers’ interactive elements. Not surprisingly, they found that the students’ increased engagement with the material led to improved exam results and concluded, “These types of online supplements hold promise for students who are not performing well in the course” (MacKenzie and Ballard, 2015, p. 266). Improved test scores and better focus were also evidenced by Szpunar, Khan, and Schacter (2013), who confirmed that “interpolating an online lecture with testing can help students to quickly and efficiently extract lecture content by reducing the occurrence of mind wandering, increasing the frequency of note taking, and facilitating learning” (p. 6316).

As online learning becomes more widespread, librarians must continually seek ways to update and improve online learning materials. As we do so, we must focus on creating quality videos that promote student engagement and participation. The use of interactive learning materials can help librarians achieve both of these goals. Fortunately, there are many programs that make it easy to add these interactive elements. This paper will discuss and review some of the interactive elements and programs that are available.

Interactive Video Elements

Interactive video products allow instructors to upload their own videos or find public videos on YouTube, Vimeo and other video sharing sites. Interactive elements, such as assessments, hotspots, audio conversations, and more, can then be added to these videos. Instructors are also often able to view analytics to better understand video usage and identify certain topics students may be having trouble with. The section below discusses some of these features.
Assessments

Quiz questions can be added to videos to increase student engagement. Instead of watching an entire video and then taking a quiz in a different online location, quiz questions can be incorporated into the actual video. The quiz element allows questions to be added anywhere within the video or at the end. In addition, some products enable quiz creators to advance users to a specific location within the video, depending on the student’s correct or incorrect response, which helps students obtain immediate feedback.

Hotspots

Adding hotspots to a video can encourage students to visit a specific website or direct them to another section of the video, in order to further students’ understanding of the topics being discussed. Hotspots can be added at any place within a video. Instructors can set the video to pause when students click on a link, only resuming when students have returned to the video.

Audio/Video Lectures

Some programs allow audio and/or video to be added to existing video, or they can replace the existing audio entirely. These features can be used by instructors to introduce a video made by someone else or to pause a video, clarify a topic with an audio note, and then resume the original video.

Audio/Video Discussions

While the audio/video lecture tools mentioned above are great for instructors, sometimes you may want your students to post audio or video comments to a video. Some products allow students to post audio or video comments, rather than just text, in a discussion forum. These forums can be embedded in LMSs or webpages and can help enhance student-to-student and student-to-professor interactions in online discussion forums.

Analytics

Analytics allow instructors to view assessment results including quiz responses, viewing frequency, viewing time, sections viewed, and more. Many products will display analytics for registered students as well as for students who have logged in anonymously as guests, which is ideal for one-shot assessments.

Interactive Products

Online products are always changing and evolving, and one tool that works well today may disappear or be replaced by something better. However, it is still important to identify some of the interactive tools that are currently available. Those discussed below are by no means a complete list, but they do provide a good starting place for beginning to add different interactive elements to online videos.
EDpuzzle

EDpuzzle is an assessment tool that allows instructors to upload a video from a computer or find a public video from a video hosting website. The video editing process in EDpuzzle takes instructors through various steps, from cropping the video to adding a new audio track (which completely replaces the original audio), to adding audio notes (in addition to the original audio track), and adding assessment questions (open ended or multiple choice) or instructor text comments.

EDpuzzle videos will automatically stop if students open new tabs in the same window, which helps keep students focused on the video being played. However, the videos will not stop if students open a new window. All videos are public, so instructors can use or modify anyone else’s EDpuzzle videos.

- **Cost:** Free.
- **Ease of Use:** This program is very easy to use and requires only a minimum level of technological skill. Each step of the editing process is clearly laid out and accompanied by “Show me how” links that explain how to add each element.
- **Availability:** Instructors can require students to login with an EDpuzzle, Google or Edmodo account or they can make the videos accessible to guests with no login necessary. iOS and Chrome apps are currently available and work on an Android app is in progress. Videos can be embedded in any website or LMS.
- **Accessibility:** Closed captioning is only possible for videos that have that feature enabled on the video sharing site. There is no way for video editors to add captioning or transcripts to EDpuzzle videos.
- **Analytics:** Instructors can view and respond to students’ assessment results in EDpuzzle. They can also view video progress bars for each student, including which sections of the video were watched and how many times each section of a video was watched.

Zaption

Zaption is another product that enables instructors to integrate interactive elements, including text, images, drawings, and quiz questions (open response, multiple choice and multiple answers) with video to create what Zaption refers to as video tours. These elements can display on the video or in a pop-out window beside the video. Instructors can choose how long the elements will stay on the screen and whether the video will continue or stop when the elements are displayed.

- **Cost:** Free and subscription versions are available. The subscription version costs $89 and allows instructors to add numerical and drawn response questions, as well as discussions, replay, and jump options. It also allows multiple videos to be added to a
• **Ease of Use:** New tours are easy to create. Upon creating a new account, a short video tour explains how to use the product and demonstrates the different interactive elements that are available with Zaption. Once a video has been selected by the instructor, elements can be dragged and dropped directly on the video or beside it.

• **Availability:** Students can log in with a Zaption, Facebook, Google or Edmodo account. Guests can view videos without creating an account, but they must still enter a username and password to watch the videos. Apps are available for iPhone and iPad and videos can be embedded in any website or LMS.

• **Accessibility:** Closed captioning can be added by uploading an SRT file. Transcripts can be typed directly into the text element, either onto or beside the video.

• **Analytics:** Instructors can view video analytics including viewing time, quiz responses, date viewed, and total number of views for each student. An overview of average viewing times, number of questions completed, and skips within the video are also included.

**eduCanon**

eduCanon is similar to EDpuzzle and Zaption in that it allows instructors to add quiz questions to videos. While eduCanon does not offer as many interactive elements as those products, it does give instructors the option to both write and record questions and answer choices.

• **Cost:** Free and subscription versions are available. The free version allows three question types: multiple choice, free response, and reflection. Instructors must pay an annual subscription of $89 for additional question types including multiple answer and fill in the blank.

• **Ease of Use:** This program is very easy to use. Unlike with EDpuzzle and Zaption, instructors cannot search for videos in eduCanon. However, it is easy to search other sites and copy and paste the URL into the appropriate field in eduCanon. Once this is done, instructors can crop the video and add quiz questions.

• **Availability:** Instructors can require students to login, if they want responses to be recorded, or they can allow anonymous viewing for guests. In order for students to log in, they must create either an eduCanon or Edmodo account. Videos can be embedded in any website or LMS.

• **Accessibility:** There is no closed-captioning feature in EduCanon. However, questions and answer choices can be easily created in text and audio formats, which might help visually-impaired students.
• **Analytics:** Instructors can view responses for those who logged in to take the quiz. No data is available for anonymous users.

**Camtasia**

Camtasia is a screen-casting tool that allows instructors to create and edit audio and video. Unlike EDPuzzle and Zapion, there is no free version, but the interactive elements are useful for instructors who are already using Camtasia to create and edit videos. These interactive elements include quizzes (multiple choice, true or false, fill in the blank, and short answer) and hotspots (which can jump to a URL or to another place in the video).

• **Cost:** Camtasia is available by subscription only. Instructors can trial Camtasia for free for 30 days but for use after that, they must pay $299 for a license.

• **Ease of Use:** Those who have never before used Camtasia will need to view TechSmith’s “Getting Started” video tutorials to learn how to create and edit screen casts. Once instructors have a general understanding of the program, they will likely find that the quiz feature is easy to use. Unfortunately, it’s only available on PCs, although students with Macs can take the quizzes.

• **Availability:** Students do not need to create accounts to view Camtasia videos or submit quiz responses. Video creators can choose to require students to enter their name and email address or they can allow anonymous responses. Videos can be embedded in any website or LMS.

• **Accessibility:** Closed captions can be added with a speech-to-text feature, copied from a document or entered manually. Instructors can also import SAMI and SRT files. Camtasia meets ADA recommendations for font size, caption alignment and number of words per line.

• **Analytics:** Analytics include each student’s start time, number of questions correct, and portion of the video that was watched. Instructors can also view the class average for the amount of time spent watching a video in relation to students’ correct and incorrect responses.

**Articulate Storyline**

Articulate Storyline allows instructors to create interactive videos and learning scenarios. Interactive elements include a wide array of graded quizzes (true/false, multiple choice, multiple response, fill in the blank, word bank, drag and drop, drop down menus, hotspots), surveys (Likert scale, pick one, pick many, short answer, essay, drag and drop, and drop down menus), freeform quizzes (drag and drop, pick one, pick many, text entry, and hotspot), and even result slides. Instructors can post feedback, shuffle answers, and allow multiple attempts, and can record or upload audio to the questions. In addition, instructors can create triggers to jump to different slides depending on students’ responses. Video (screen casts taken within Storyline, uploaded videos or streaming videos) can be embedded on any slide.
• **Cost**: Articulate Storyline is available by subscription only. Instructors can obtain a free 30-day trial but for use after that, they must pay $1398 for a license, although higher education discounts may be available.

• **Ease of Use**: The look and feel of Storyline is similar to PowerPoint, which makes it easy for beginners to get started. While it is not difficult to create basic text and quiz slides, it can be challenging to create more advanced slides, in part because the number of objects, layers, and triggers that can be embedded in slides can be difficult to keep track of.

• **Availability**: Published Storylines can be embedded in a website or LMS. Storylines can be accessed by anyone with a link to the site and no username or password is required to view them or submit responses. Storylines can be published for Flash, HTML 5, and iOS devices.

• **Accessibility**: Instructors copy and paste transcripts or manually enter them. Transcripts can be viewed in an instructor-created closed-captioning layer, so that the closed captioning appears when a CC or other icon is clicked, or as a transcript on the side of the storyline. Articulate Storyline transcripts are extremely easy to create.

• **Analytics**: Analytics can be viewed in an LMS. Analytics reported to LMSs include question type, student response, correct response, result, and latency (how long it took a student to answer the question). The grading and analysis function will work differently with different LMSs, and it is not a feature that the author has yet been able to trial.

**Flipgrid**

Flipgrid is a video discussion tool that enables instructors to create video or text-based discussion questions, which students can respond to via video. There is no limit to the number of responses each grid can have. However, students can only respond to the instructor’s question. They cannot respond directly to a fellow student’s comments. All video comments are displayed linearly and can be watched independently or as a slide show.

• **Cost**: Flipgrid is available by subscription only. Instructors can trial Flipgrid for 30 days but must then pay an annual subscription of $60, which entitles them to five grids, or classes.

• **Ease of Use**: Grids are easy to set up. Instructors and students must have a webcam and microphone, as well as updated Flash, in order to record and post a video to the forum. Due to these technical requirements, there will likely be more troubleshooting required with Flipgrid than with many other products, so clear instructions will be needed. To respond to a discussion question, students must take a still photograph (with a filter, if desired) and then record and save their comments. Users simply click the cover photo to watch the videos.
• **Availability:** Students need to enter a name and email address before posting but they do not need to create their own Flipgrid accounts. Discussion forums can be either public or private (accessible with a password) and can be linked or embedded in a website or LMS. Flipgrid works with Macs and PCs as well as Android and iOS mobile devices.

• **Accessibility:** Flipgrid does not have a closed-captioning feature, and there is no text option for students to add written responses.

• **Analytics:** Instructors can view the date and time each video comment is added as well as how many views it has had. They can also choose to receive emails whenever a new video is posted to a grid.

**Vialogues**

Vialogues is a free service that allows instructors to create discussion forums around videos or video segments. Videos can be uploaded from a computer, taken from YouTube or Vimeo, or chosen from the existing Vialogues database. Instructors can add multiple choice questions or open ended comments at various stages of a video. These comments briefly turn pink when students get to that video segment, so they are aware there is a question at certain parts of the video. The product does not have a lot of functionality and is no better than adding a video to an LMS discussion forum. However, this may be a good alternative for classes without access to an LMS.

• **Cost:** Free.

• **Ease of Use:** This product is very easy to use. Instructors can easily find videos and post questions, and students simply type into the comment section beneath the video.

• **Availability:** Vialogues can be either public or private. If private, students must create a Vialogues or EdLab account to watch the video and participate in the discussion. Vialogues can be shared via link or embedded in a website or LMS.

• **Accessibility:** Closed captioning is only possible for videos that have that feature enabled on the video sharing site. Video editors cannot manually add captioning or transcripts to Vialogues.

• **Analytics:** Instructors can view basic statistics including how many students answered a question and what the answers were. However, although students can be required to login, their responses are still anonymous.

**VoiceThread**

Instructors can upload video, images, and files to VoiceThread, while students can post comments to the threads via audio (phone, microphone or audio file), video or text. Unlike many other web-based platforms, instructors cannot add videos from video sharing sites such as YouTube. However, MP4s and other files such as PowerPoint slides are easy to upload.
Cost: Free and subscription versions are available. The annual subscription costs $99 for an individual and $2500 for a site license. Instructors can create up to five VoiceThreads with the free account, while the paid version allows unlimited instructor threads plus 50 student accounts that can be added to the instructor’s classes.

Ease of Use: As with Flipgrid, this product’s technical requirements may necessitate a fair degree of troubleshooting. However, students can bypass technological problems by using the text or phone features. To record audio via phone, one simply types their phone number, waits for VoiceThread to call their phone, records their message, and hangs up when they’re finished. The audio comment will automatically upload to the thread.

Availability: Students will need to create their own VoiceThread accounts in order to comment if instructors are using the free version. If instructors have a subscription, students can then login with just a username. The free version only allows files of 25MB or less, which greatly limits the videos that can be uploaded. However, the subscription version allows instructors to upload files of up to 1.5GB. Apps are available for iPhone and iPad and threads can be linked or embedded in any webpage or LMS.

Accessibility: Closed captioning can be added to the original audio/video as well as to all comments. Accepted file types include DFXP, SRT, SAMI, SCC, and SBV.

Analytics: Analytics are only available with the site license. Data available includes total usage per person (in minutes) and as a group.

Conclusion

As online learning becomes more prevalent and educators realize the importance of creating engaging experiences in online classes, interactive tools will likely become more widely used. While some videos may require significant time and planning to create, adding video interactivity is worth the effort. Students will be more engaged in the materials and librarians will be better able to teach concepts and analyze students’ results. The products and elements discussed in this paper are only a sample of what’s available but should provide a good starting place for integrating interactive elements in online videos. While the tools may change, the overall effect on student learning and analysis can only improve.
References


Evolution or Integration: What is the Current State of Library Services for Distance Learners?

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Abstract
Are services that were once intended to be exclusively available to the distance learning population now typically available for all users in a university community? This paper seeks to investigate this question using two different methods. First, an unobtrusive study of 100 library websites was conducted to determine whether these libraries offer distinct services such as delivery of materials, instruction, research guides, or dedicated library personnel for off-campus users, and whether there is any differentiation between services for on- and off-campus populations. Second, two surveys were conducted to gather information from library staff about services and access methods provided to distance learners. Results showed some disconnect between information on library websites versus information reported by library staff members. In addition, there appears to be more integration of services in the area of instruction and reference assistance than in delivery of materials.

The Association of College and Research Libraries (ACRL) issued the Guidelines for Library Services to Extension Students in 1967, as a benchmark for services offered to the growing community of students and faculty away from the main campus. In that early period, service to distance students usually meant travelling to off-site locations, and partnerships with local libraries to provide service and assistance to students face-to-face. While the decades went on and the distance learning programs grew and delivery methods expanded, academic libraries were able to exploit the improving suite of technological tools to provide resources and instruction to students at a distance. As services became more convenient and sophisticated, and distance learning programs continued to grow, there was also a blurring of lines and confusion in the definition of who exactly was a distance learner, and how do libraries set up categories to define which students were entitled to “remote” services. While library services targeted to distance learners were meant to serve those students’ needs at a distance, the same services could be seen as a convenience or a benefit to on-campus students who prefer to access library resources and services remotely.

The past few decades have seen a huge increase in the number of distance education programs offered, as well as in the number of enrolled students. In 2013, more than 70% of degree-granting institutions reported they had distance offerings (Allen & Seaman, 2015). In addition, growth in the number of distance students accounted for 74% of overall higher education enrollment over the past three years (Allen & Seaman, 2015). It seems likely then that
library services during this time would be impacted by these changes in the higher education environment. Academic libraries must adapt to meet the needs of increasing populations of non-traditional students who do not take face-to-face classes on campus.

This research looks at the current state of library and instruction services being offered to distance learners. Through an analysis of library websites, and results of a survey of library staff, distinctions between services offered to on- and off-campus communities are analyzed. What is the extent to which service options are separated between on-campus students and distance learners at a given institution? Have delivery and electronically-accessible instruction migrated to being offered to on-campus students as well as distance learners? Is the current state more of an evolution of library services for distance learners, or an integration of those services to both on-campus and distance learning communities?

**Literature Review**

In 2002, Barron asked the question, “Is there a difference between distance and on-campus students anymore?” (p. 25). This question may even be more relevant today in light of the transformations taking place in higher education. Face-to-face classroom instruction may no longer be the norm for many institutions; rather, a variety of course delivery methods including traditional classrooms, online, off-site, or a hybrid of pedagogical methods are the new standards in higher education. Despite the fact that many students may live on campus, it is still difficult for academic libraries to attract students through their doors to discover the resources and services that their libraries have to offer. Adapting to this new environment can be challenging for academic libraries; as Diaz (2012) states, “the questions for libraries becomes: how will academic libraries adapt to these educational services models and ensure equitable services and support for all students?” (Introduction section, para. 1).

A search of the literature yielded case studies presented by the University of Oklahoma and Florida State University on the transformation of library services that were once exclusively for distance learners and how they were extended to specific on-campus patron groups. Schoonover, Siriwardena, and Jones (2013) found in their analysis of library delivery services that “a common element among all examples is that they developed their delivery services in stages, adding patron groups, requestable materials and drop-off locations incrementally” (p. 202). The University of Oklahoma developed their delivery services based on their experience working with distance users. “Several years were spent improving services to our students overseas. Eventually, this led to an improvement in services for our students on campus and in surrounding communities” (Murphy, Franklin, & Raia, 2008, p. 350). As higher education transforms the learning experience, what becomes important for academic libraries is to develop a suite of services, resources and tools that can be valuable for all users.

A considerable amount of writing on academic libraries focuses on the development of user services. However, a substantial portion of the literature compartmentalizes library services to distance users rather than developing universal services for all patron types. When discussing library services, Zai and Wesley (2013) believe that libraries created competing programs with identical purposes for different audiences, which caused confusion for those seeking library assistance. Rather than duplicating efforts, libraries should consider conserving resources and
staffing by developing effective and sustainable library services that are useful to everyone (Zai & Wesley, 2013). Additionally, Ritterbush (2014) noted that “as distinctions between online and on-campus learning have narrowed, many libraries have distributed the provision of distance services across multiple subject librarians rather than assigning a single distance librarian to this role” (p. 34). Yang (2005) surveyed Association of Research Libraries (ARL) members to determine the extent to which ARL libraries were complying with the ACRL Standards for Distance Learning Library Services. In 2005, Yang found that 63% of ARL libraries provided services to distance users, and only 21% of those libraries had full-time librarians dedicated to services for distance learners; 35% had dedicated librarians to distance education for part of the time, while 44% of the 62 ARL libraries that provided library services to distance education did not have a dedicated librarian. In addition, respondents indicated that “libraries should not separate local users from the distance education users” (Yang, 2005, p. 95).

Academic libraries have developed new and innovative ways to assist their patrons through delivery services, interactive tutorials and guides, online reference, and embedded librarian services in course shells in learning management systems. “While many of the universities might have initially implemented these services as a way to provide a convenient service to on-campus populations, these services have evolved into communication tools that can be used to reach distance populations” (Nielsen, 2014, p. 12). Consequently, as technology has enhanced the library experience for distance learners, on-campus populations have also benefited from these advancements with augmented services that include delivery of library-owned materials and the convenience of the tools and resources available in the virtual environment. While improving library services to distance patrons, Pitts, Coleman, and Bonella (2013) found that implementing web-scale discovery, increasing chat reference hours, improving their web presence, adding online tutorials, digitizing local collections, embedding librarians in learning management systems, purchasing online materials, and expanding interlibrary loan service increased their on-campus students’ awareness and use of library services and resources, providing benefits to this population as well as distance students.

Regardless of patrons’ physical proximity to the library, what is of the utmost importance is that they receive the tools and resources they need. “Whether students are on-campus or off-, distance or distributed, they still need access to information on their terms – what they need, when they need it” (Barron, 2002, p. 28). Similarly, when Schoonover et al. (2013) presented an overview of their Library Express Delivery Service at Florida State University they stated, “it is our conviction that academic libraries must provide access to information that is broader, faster and increasingly more convenient” (p. 202). Providing the same services for all users will simplify the process and provide easier access to the information that academic library users need. Whether services to distance learners have been the catalysts for improved services benefiting on-campus populations or vice versa, what is essential is satisfied users of the services academic libraries provide.

Case Study

Western Michigan University (WMU) is a state-supported research institution located in Kalamazoo, Michigan. WMU has a total enrollment of nearly 24,000 students on the main campus, at regional locations throughout the state of Michigan, and in online programs. At the
undergraduate level, 147 programs are offered. Graduate offerings include 73 master’s programs, and 30 doctoral programs. WMU has offered programs away from the main campus for more than a century. Off-campus programs offerings have increased in recent decades with 12 undergraduate programs, 28 graduate programs, and five certificate programs being offered at regional locations or online.

WMU Libraries have provided library services for off-campus students for decades, initially in partnership with local libraries. Over the years as services to distance learners have expanded, many of these services were found to be desirable by on-campus students as well. As an example, chat reference services were implemented over a decade ago, in part to better serve off-campus users; however, many of the questions received were from students who were physically in one of the library buildings on the main campus. Similarly, delivery services originally only offered to distance learners have been expanded to include certain categories of on-campus users as well. This research was partly motivated to understand whether or not the experience of WMU is typical, or part of a more universal trend in academic libraries.

A chronology of relevant changes in library services at WMU is as follows:

- Fall 1992: WMU Libraries began receiving and filling requests for off-campus students via fax and U.S. mail.
- Fall 1993: Electronic requesting begins, with email requests being downloaded through the OCLC review file.
- 1997: Off-campus Librarians began travelling to regional sites throughout the state to offer face-to-face instruction and drop-in lab sessions in order to provide reference and research consultations for off-campus students.
- Fall 2002: Web-based requesting began when the Resource Sharing department implemented CLIO to manage interlibrary loan requests.
- Spring 2003: ILLiad and Electronic Document Delivery software were implemented to further streamline the request and delivery process for off-campus students.
- Fall 2003: WMU libraries began scanning and desktop delivery of articles in print collections to all faculty members.
- 2004: Chat reference services were implemented.
- Fall 2006: Electronic desktop delivery of articles was offered to students enrolled in the College of Health and Human Services and the College of Engineering, both of which are located a bus ride away from the main campus.
- Winter 2010: LibGuides software was implemented and hundreds of guides were developed for all subjects, as well as many courses and “how to” topics.
• Winter 2011: Intercampus delivery of books to all faculty began.

• Fall 2011: Desktop delivery of scanned articles from print collections was expanded to include all graduate students.

• Spring 2014: Scanning of articles and book chapters from print collections was made available to all WMU students, faculty and staff.

• Winter 2015: The position of Off-Campus Librarian was eliminated and all associated duties were distributed to liaison librarians for each subject area. Library administration announced that in-person library services would no longer be offered away from the main campus.

With the elimination of the Off-Campus Librarian position, and the expansion of delivery and electronic services to more of the overall user population, it becomes difficult to consider the distance learning population as a distinct user group at WMU. Further, under the current organizational structure, liaison librarians are responsible for providing instruction and research services to all students and faculty in their subject areas, whether those populations are attending on-campus or using distance learning modalities.

Methodology

This study explores how academic libraries are serving their distance users compared to on-campus users, in consideration of the changes in higher education delivery and technological innovations. Zai and Wesley (2013) discussed how they mainstreamed embedded librarians across their entire campus based on the success of their implementation of this service for distance education classes. This article resonated with the authors, as WMU Libraries’ provision of services that were once exclusively for distance learners had been extended to the entire campus community, and services which were previously under the purview of the Off-Campus Librarian were distributed among all subject librarians. In order to investigate these issues, a two-pronged approach was employed: the data was collected through website analysis and an email survey of academic library public services staff.

Data was collected through an unobtrusive analysis of the websites of 100 academic libraries selected from the Carnegie Classifications of Institutions of Higher Education. Libraries were selected using the Custom Listings tool under the Size and Setting classification and selecting L4/R (Large four-year primarily residential), which yielded 103 libraries, and L4/NR (Large four-year, primarily non-residential), which yielded 134 libraries (Indiana University, 2015). If institutions listed more than one campus, satellite campuses were removed so that only the main campus was represented on the list. A group of 45 libraries was selected randomly from each list, and then WMU’s 10 peer institutions based on the Carnegie Classifications identified were added to the sample.

The data collected included each institution’s Carnegie Classifications from each category as well as basic demographic information located at the institution’s main website. Subsequently, each institution’s library website was analyzed to establish the following: a web
page devoted to distance learning, the URL of that page, under what category the page was located, and the title of the page. Additionally, an attempt was made to locate a dedicated staff person(s) for distance learning, their title(s), and the size of the library staff. A review was completed to note the types of services the libraries offered, such as: subject/class guides, reference, instruction, borrowing materials, delivery of materials (physical delivery of books or electronic delivery of materials scanned from print collections), remote access information, electronic resources, and any other services like tutorials. Finally, an attempt was made to determine if the institution offered any face-to-face services to distance learners such as instruction, research support, or drop-in labs, and if they offered any distinct services that were exclusively for distance learners that included delivery of materials, instruction, or research support.

In addition to obtaining data from the website analysis, an email survey was conducted in order to both confirm the results of the website review, as well as to determine if services offered differed from what was being presented on the website. The survey, presented in the Appendix, was sent to these selected libraries to substantiate the information collected. In order to survey the relevant staff person(s) and to increase participation, the survey may have been sent to more than one staff member at each institution. Although not required, each participant was asked to identify their library so that their survey responses could be matched up against the website analyses. Out of the 34 responses to this question, two responses were received from the same library and one response was from a participant who chose not to identify their institution. Generally, the questions asked were similar to the types of data that were collected in the website analysis, with the exception of whether the libraries market their services to distance learners and, if so, how they market these services. In addition, the survey was sent to the Off-Campus Library Services List (OFFCAMP-L) so that results could be compared between the 100 libraries selected and the general list of libraries that have self-identified themselves as libraries that provide services to distance learners.

**Results**

The sample of 100 institutions used in this study included 81 public institutions, 11 private non-profit, and eight private for-profit. Size of institution ranged from a low of 11,000 students to over 50,000 students. Forty-eight schools had an enrollment profile in the “high undergraduate” category. This was followed by 21 schools in the “majority undergraduate” category, and 16 in the “very high undergraduate” category. Four of the institutions in the sample offer graduate programs only, while another four are exclusively undergraduate.

The library websites investigated showed that 57 of the 100 schools did have a page dedicated to information for distance learners. There was no such page for distance learners on 40 of the examined websites. This information could not be determined for three of the institutions in the sample, since they required an institutional log-in and were not available to visitors. While more than half of the institutions in the sample did have a dedicated page for distance learners, only 29 institutions listed an individual staff member as being the primary contact for the distance learning population.
The vast majority of institutions do provide subject guides, reference services, instruction, borrowing of materials, and remote access to electronic resources (see Table 1 for a detailed breakdown of services offered). Only half of the institutions in the sample provided delivery of materials. This category included electronic delivery of materials as well as physical delivery to any category of patrons, i.e. faculty, or students who live more than a certain number of miles away from the main campus.

In looking at services targeted to distance learning communities, the website analysis showed very little evidence of these services being offered in any face-to-face delivery format. In the categories of instruction and support, this study included any evidence that these services were offered in a virtual, synchronous method, such as through Skype or Adobe Connect (see Table 2 for a detailed breakdown of services specifically offered for distance learners).

Table 1

*Website Analysis: Evidence of Services Offered*

<table>
<thead>
<tr>
<th>Service</th>
<th>Yes</th>
<th>No</th>
<th>Undetermined</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subject guides</td>
<td>95</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Reference</td>
<td>98</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Instruction</td>
<td>93</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>Borrowing materials</td>
<td>94</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Delivery of materials</td>
<td>50</td>
<td>47</td>
<td>3</td>
</tr>
<tr>
<td>Remote access information</td>
<td>77</td>
<td>20</td>
<td>3</td>
</tr>
<tr>
<td>Electronic resources</td>
<td>98</td>
<td>0</td>
<td>2</td>
</tr>
</tbody>
</table>

Table 2

*Website Analysis: Evidence of Services Offered Face-to-Face*

<table>
<thead>
<tr>
<th>Service</th>
<th>Yes</th>
<th>No</th>
<th>Undetermined</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instruction</td>
<td>34</td>
<td>63</td>
<td>3</td>
</tr>
<tr>
<td>Research support</td>
<td>28</td>
<td>69</td>
<td>3</td>
</tr>
<tr>
<td>Drop-in labs</td>
<td>0</td>
<td>97</td>
<td>3</td>
</tr>
</tbody>
</table>
Finally, the website analysis tried to determine if there was a distinction of services between what is offered on-campus versus what is targeted to the distance learning population. Delivery of materials exclusively for distance learning students and faculty appears to be the case at close to half of the institutions in the sample (see Table 3 for results in the area of distinction of services).

The email survey sought to obtain additional information from the institutions in the sample, as well as to confirm or refute the findings of the unobtrusive analysis of websites. All of the 38 responses indicated that the institution did offer distance learning programs. In addition, all of the respondents indicated that they provide library services to distance learners (see Table 4 for details of survey results concerning specific services offered). Asked whether or not there was a difference in services between on- and off-campus populations, 17 (44.7%) responded yes, while 21 (55.3%) responded no. Survey recipients were also asked if they provide face-to-face services to distance learners. A slight majority, 19 (53%), indicated they did not offer in-person services, while 17 (47%) indicated that they did provide service in-person to the distance learning population. The majority of respondents, 22 (58%), responded that they did not have a dedicated staff member for distance learners, while 16 (42%) responded that there was a staff member at their library designated in that role. Finally, the survey asked whether or not they marketed library services to the distance education community. Most institutions, 26 (72%), responded that they are involved in marketing library services to distance learners.

As described previously, the survey was also sent out to the OFFCAMP list. These results were very similar. A slightly larger majority indicated they provide face-to-face services for distance learners: 65%, as opposed to the 47% in the first survey. Also, 56% indicated they had a dedicated staff member for the distance learning community, as opposed to 42% in the first survey. Finally, libraries in the OFFCAMP group reported more activity in marketing their services to distance learners: 81% as opposed to the 72% in the first survey. These results are not surprising considering that most subscribers to the OFFCAMP list are likely to come from institutions more heavily involved in distance learning library services.

Table 3

<table>
<thead>
<tr>
<th>Service</th>
<th>Yes</th>
<th>No</th>
<th>Undetermined</th>
</tr>
</thead>
<tbody>
<tr>
<td>Delivery of materials</td>
<td>46</td>
<td>49</td>
<td>5</td>
</tr>
<tr>
<td>Instruction</td>
<td>9</td>
<td>86</td>
<td>5</td>
</tr>
<tr>
<td>Research support</td>
<td>5</td>
<td>90</td>
<td>5</td>
</tr>
</tbody>
</table>
Table 4

Survey Results: Services Provided to Distance Education Community

<table>
<thead>
<tr>
<th>Service</th>
<th>Carnegie Institutions</th>
<th>Off-Campus Institutions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Book delivery</td>
<td>89%</td>
<td>84%</td>
</tr>
<tr>
<td>Electronic resources</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Instruction</td>
<td>74%</td>
<td>97%</td>
</tr>
<tr>
<td>Reference</td>
<td>97%</td>
<td>100%</td>
</tr>
<tr>
<td>Subject guides</td>
<td>97%</td>
<td>94%</td>
</tr>
<tr>
<td>Tutorials</td>
<td>82%</td>
<td>94%</td>
</tr>
<tr>
<td>Borrowing materials</td>
<td>87%</td>
<td>87%</td>
</tr>
<tr>
<td>Drop-in labs</td>
<td>21%</td>
<td>12%</td>
</tr>
<tr>
<td>Research assistance</td>
<td>89%</td>
<td>97%</td>
</tr>
</tbody>
</table>

Analysis

There appears to be a disconnect between what information about library services available to distance learners is presented on the website, versus what staff members reported concerning the services available at their institution. For example, nearly 90% of survey respondents reported they provide book delivery to distance learners, while the website analysis only found 46 of the 100 institutions provided information about book delivery services available to distance learners. Similarly, the website analysis showed that none of the institutions provided drop-in labs for distance learners, however, eight institutions (21%) reported they do offer drop-in labs. Several respondents used the comments on the survey to indicate that they offered research consultations and instruction sessions via Skype or other virtual means; however, this information was not mentioned on their website. Presumably a student would have to contact a librarian first, and identify themselves as a distance learner, to find out about options for virtual sessions.

There is some evidence that reference and instruction services are streamlined. There appears to be an effort to steer users toward subject guides and “ask a librarian” reference services as the main gateway for these types of assistance. In addition, many of the websites considered in this study provided an extensive list of tutorials and guides as the primary entry point for instruction. The majority of the websites that did have a separate page or section specifically for distance learners provided subject guides and liaisons. And similarly, especially for those institutions without a dedicated librarian or staff member for distance learners, the user is presented with a list of liaison librarians and presumably directed to get in touch with the liaison librarian for their subject, whether they are an on-campus student or distance learner.
Delivery of materials appears to be more prevalent as a service for off-campus users, and is less often found as a service available to the on-campus population. The website analysis showed 50 of 100 institutions in the sample that offered delivery of any type of material to any category of user. Some of the institutions included in this group were those that delivered books to faculty on campus, or scanned articles for desktop delivery to faculty, graduate students, or others. It is likely that delivery of library materials to on-campus users has increased over time; however, the present research did not look at any historical data, so no conclusions can be drawn as to whether or not these services are increasing or decreasing.

This research provides evidence to show that distance library services have been integrated into overall library services. Only slightly over half of these institutions have a web page specifically set up for distance learners. In addition, less than half of the libraries in the sample actually have a dedicated staff member assigned to work with these users. This evidence suggests that a large group of institutions in our survey do not consider distance learners to have specific needs or to require specific staff members to work with them. Finally, when the survey asked whether or not there was a difference between services provided to on-campus versus distance users, 21 respondents (55%) said no. This response may not be entirely accurate when compared with the results of the website analysis; however, it does indicate the perception of the respondent. Whether or not there is a distinction between services offered to the two groups, the staff member believes there is no difference and that the two groups are served the same way.

**Recommendations and Conclusion**

There appears to be a need for library staff members to review their websites to determine if they reflect what services and resources are available to distance learners and how those services and resources can be accessed. Differences between the survey results and the website analysis showed that there may be services available, or delivery methods offered, that are not advertised to distance learners.

Although not central to this study, this investigation suggests that there is further work to be done in the area of marketing library services to distance learners. In the original survey, 10 respondents (28%) indicated they do not market library services to distance learners. In the survey sent to OFFCAMP subscribers, six (19%) of the respondents indicated they are not engaged in marketing services to distance learners. These numbers seem troubling, especially when combined with the previously mentioned lack of complete information on library websites. The website is the obvious tool for marketing library information, and likely where distance learners look to connect with services and resources available to them. If services are offered for students, they are being short changed when they are not informed about the availability and access to those services.

It would be valuable to repeat this research in the future in order to determine trends. The current research presents only a snapshot at this time and does not look at historical data. Therefore, the authors cannot say with certainty if services are increasing in their integration or not.
The development of distance learning programs and technological methods for accessing these programs make it possible for more people to access higher education than ever before. In addition, the convenience of these programs appeal to many people’s lifestyles. Technology and convenience factors may be working in a similar manner to make library resources and services more appealing and accessible for a variety of patron types. Moreover, a service delivery philosophy that considers the needs of distance learners can only improve customer service overall, regardless of the location of the library user.
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Appendix
Distance Library Services Survey

Michele Behr and Julie Hayward from Western Michigan University Libraries are conducting research for a presentation at the 2016 Distance Library Services conference. This research project is designed to investigate the extent to which library services for distance education communities have become integrated with services for main campus. Your library has been randomly selected from a group of universities based on the Carnegie Classifications of Institutions of Higher Education for inclusion in this research.

The survey will take 10-15 minutes to complete. Thank you for your participation!

1. Does your institution have distance education programs or have students enrolled in sites off your main campus?
   - Yes
   - No

2. Does your library provide services to distance education students and faculty?
   - Yes
   - No

3. Is there a difference between the services you provide to your on-campus community vs. distance education community?
   - Yes
   - No

4. What services do you provide to your distance education community? Select all that apply.
   - Book Delivery
   - Electronic Resources
   - Instruction
   - Reference
   - Subject/Research Guides
☐ Tutorials
☐ Borrowing Materials
☐ Drop in Labs
☐ Research Assistance
Other (please specify)

5. If you do provide exclusive services to your distance education community; please describe these services.

6. Do you provide face-to-face services to your distance education constituents?
   ☐ Yes
   ☐ No

7. What types of face-to-face services do you provide for distance education users?
8. Do you have dedicated library staff for your distance education users?
   - Yes
   - No

9. If yes, what is their title?

10. Do you market your services to the distance education community?
    - Yes
    - No

11. If yes, in what ways do you market these services?

12. What is the name of your library?
Hook, Line and Canvas: Launching a Professional Development Program to Help Librarians Navigate the Still and Stormy Waters of Online Teaching and Learning

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Abstract
Professional development is critically important for librarians trying to establish an embedded presence in online and hybrid courses. The institutional learning management system (LMS) provides a medium for enhanced visibility of both library resources and librarians as instructional collaborators and curriculum designers. This case study showcases one academic library’s plan for developing an embedded presence in the LMS and scaffolding training and educational opportunities throughout the process. Important considerations and lessons learned from this initiative are also shared as well as future considerations for maintaining an ongoing and successful professional development program.

Background
Librarians have always been an important part of instructional endeavors in higher education. Shifts in professional roles from providers and stewards of collections to educators have positioned those in the profession much more strongly as collaborators with faculty on curriculum design. Librarians’ roles have expanded from putting resources in students’ hands to helping students engage, evaluate and apply information in a rich educational landscape, much of it not even library-curated. Librarians need to be out on the front lines with other faculty developing educational environments instead of merely reacting when assistance is requested. Faculty and librarians both continue to grapple with andragogy and implications of effective instruction design practices on student success, so these partnerships are mutually beneficial. Efforts to be visible and proactive will help faculty develop direct associations between information literacy/critical literacy pedagogy and collaboration with librarians.

Along with (and sometimes parallel to) andragogy shifts in libraries and higher education generally, learning management systems (LMS) have become a prevalent presence in face-to-face, hybrid and fully online courses. Nearly all colleges and universities have at least one LMS and 72% of faculty view them as a “very useful tool for student learning” (Dahlstrom & Bichsel, 2014, p. 23). Evolving since their introduction in the 1990s (Dahlstrom, Brooks, & Bichsel, 2014), the LMS’s functionality and ability to engage learners in a variety of ways has also resulted in a myriad of opportunities for librarians to integrate resources, services, information literacy instruction, and themselves as instructors or collaborators in the classroom.
With this new opportunity, however, comes the additional responsibility of producing, delivering and curating content in online courses as well as the challenge of staying current in the ever-shifting landscape of educational technologies and pedagogical practices that comprise online instruction. In order to meet this challenge, it is critical that libraries support ongoing and in-depth professional development opportunities for their staff. There are many references in the literature about the importance of professional development and recommendations of best practices for embedded librarians teaching online or at a distance. Lacking however are case examples of libraries that have actually designed a significant professional development program to help librarians better participate in online teaching and learning. This case study will explore one library's work to create and implement a multi-faceted, multi-phase program and discuss lessons learned from this process.

**Literature Review**

Institutional priorities to offer courses in hybrid or online formats have created new opportunities for librarians to provide service and instruction and to step up as leaders. Early distance learning models suggested replicating traditional in-person services as equivalent online services, but the *blended librarian* concept calls on the profession to become much more engaged with other campus colleagues. Although librarians have offered leadership and skills related to evolving technology, the blended librarian model pushes librarians to develop expertise in the areas of pedagogy and instructional design and seize opportunities to be innovators and change agents (Bell & Shank, 2004; Sinclair, 2009). To gain these skills sets librarians also need to engage in identity stretch by learning from and collaborating with instructional designers and instructional technology (Corrall, 2010; Ritchie, 2011).

These new directions need to be addressed both in library school curricula and in ongoing professional practice. Librarians should be attentive to the changes in local campus environments and ready to help build and implement new initiatives. Beyond their initial library school education, blended librarians have an even more acute need for ongoing skill and professional development (Corrall, 2010). Fabbro (2013) suggests an even more diverse team composition that includes “course author, course coordinator, copyright coordinator, librarian, learning designer, and sometimes visual designer” to engage in course development (p. 66). This shift requires that librarians become more integrated into the learning design process, helping faculty and their students reach course goals in a diverse range of environments (Sinclair, 2009).

Opportunities also bring challenges for creating a blended librarian model (or services to distance/hybrid learners), including:

- Gap between library school preparation and new approaches to teaching through technology (Brzozowski, 2015)
- Time constraints (Cassner & Adams, 2006)
- Lack of administrative and financial support (Cassner & Adams, 2006)
• Scalability/sustainability (Burke & Tumbleson, 2013; Fabbro, 2013)

• Level of expertise in pedagogy/andragogy and instructional design theory (Bell & Shank, 2004)

• Facility with course management systems and tutorial/learning object creation tools (Cassner & Adams, 2006)

• Collaboration and communication challenges with faculty, including adjuncts (Jurkowski, 2003).

These barriers are important to address so they do not result in librarian reluctance to invest in the opportunities at their campus or feel overwhelmed even if they are willing and interested.

There are many professional development and training strategies to help librarians confidently steer the ship in the form of focused conferences, professional development events and publications. The distance education model itself means that webinars, virtual workshops and online tutorials offer resources for development that do not rely on geographical proximity or resources for travel. They have the added benefit of allowing librarians to experience online learning from a student perspective (Boden & Stubbings, 2008). Local campus resources might include other experienced librarians and campus instructional designers.

In addition to library-specific resources and activities, professional development opportunities created for faculty could be of great service to librarians as well, positioning them for success in the broader conversation (Tumbleson & Burke, 2013). Distance librarians report the need to focus on increased knowledge of technology skills, instructional design, online tutorial development, and how to work with course management software and integrate library resources (Cassner & Adams, 2006). Other important professional development activities at the library level include mentoring and informal training from experienced librarians, a shared sense of responsibility to be actively involved in creating learning resources, debriefing experiences, and enhancing each other’s skills (Burke & Tumbleson, 2013).

In addition to the professional development work librarians might do to prepare themselves, there are opportunities to engage in outreach and marketing that would assist in both finding faculty collaborators and positioning librarians as peer colleagues. Using the following outreach methods (Tumbleson & Burke, 2013), librarians can demonstrate to prospective faculty collaborators that they have the skills and interest to help faculty design activities and assessments that will contribute to student mastery of important class learning outcomes:

• Presentations at departmental meetings

• Workshop presentations at university faculty development events

• Word of mouth

• Social networking
• Posting on library website/blog/newsletter

• Identifying early adopters and other potential partners within departments

• Showcasing successful collaborations to faculty/sharing examples of learning objects (Tumbleson & Burke, 2013).

Investment in professional development for librarians should be a priority as online/hybrid pedagogy and LMS environments continue to evolve, becoming further embedded in higher education. Academic librarianship’s own Distance Learning Standards create a professional expectation that the profession will continue to plan, implement, coordinate and evaluate library resources and services, address the information and skills needs of the distance learning community, and engage in strategic planning (Association of College and Research Libraries [ACRL], 2006). Keengwe and Georgina’s study, applicable to librarians as well, confirms that technology integration training results in faculty feeling more confident about online course creation and teaching (2012). Brown, Dehoney, and Millichap (2015) propose that LMS systems should be followed by next generation digital learning environments (NGDLE) that will move away from the LMS’s walled gardens approach and operate in a wider and more social context for learning. The functional domains of this model will prioritize: (a) interoperability and integration; (b) personalization; (c) analytics, advising and learning assessment; (d) collaboration; and (e) accessibility and universal design (Brown, Dehoney, & Millichap, 2015). Librarians also need to develop and deepen skillsets in other emerging areas that involve significant partnerships with faculty and other campus units such as scholarly communications and data management services (Corrall, 2010).

The Canvas

Starting the Voyage Part I: Building from the Top

Institutional buy-in is critically important to the success of any broader scale professional development effort to embed the library in the online realm. The literature is filled with references to the challenges that librarians face as “outsiders” when attempting to embed research support and instructional resources into online and hybrid classes (Bell & Shank, 2004; Brzozowski, 2015; Burke & Tumbleson, 2013; Cassner & Adams, 2006). Lack of an institutional mandate to highlight both the importance of online learning and collaborative teaching and curriculum design may reduce librarians’ ability to engage effectively with other faculty in the LMS.

Starting the Voyage Part II: Lay of the Land

At Seattle University (SU), a private Jesuit-Catholic liberal arts institution, an institutional initiative had already paved the path for a library professional development effort to create a leadership presence online. The SU Strategic Plan for 2013-2018 (Goal 3, Initiative D) specifically outlines an organized effort to develop and expand both hybrid and fully online academic offerings in response to student demand and in an effort to engage with new
technologies (Seattle University, 2013). The university and various departments took specific steps to help implement this initiative.

First, a Continuing, Online and Professional Education (COPE) unit was created to help faculty learn to use relevant technologies and pedagogical strategies to intentionally design and deliver digitally mediated classes (Seattle University Center for Digital Learning & Innovation [CDLI], n.d.). Their Course Design Program takes faculty through the process of designing online/hybrid courses and programs. In addition, a learning technologist and systems administrator were hired to help with the rollout of Canvas, the new institutional LMS. In 2013 the SU Lemieux Library hired a Lead Librarian for Online Research and Instruction (LLORI) to help library faculty prepare to play a more significant and integrated role in the online realm.

Three factors set a promising foundation for library integration into the unfolding online/hybrid initiative at SU. One was institutional investment in establishing successful digitally mediated courses and programs. A second was the library’s investment in a position dedicated to training in the online environment and outreach to partner units on campus (e.g. COPE and the Canvas team). Finally, librarians are faculty, which adds a certain layer of visibility and credibility to their status as educators on campus.

However, implementing a professional development strategy for more effective online integration was not without its challenges. While SU Administration supported a shift to online learning, traditional face-to-face instruction was the preferred method of teaching at SU and considered most consistent with the Ignatian pedagogical approach. There was faculty concern that moving more instruction to an online/hybrid model could compromise the quality of instruction and student learning. Viewing this as an important strategic move for the institution’s competitiveness, Administration strove to reassure the campus that resources and support would equate online and hybrid offerings that were developed and taught at the same high standard as face-to-face instruction. While the creation of COPE and the Canvas team supported Administration’s commitment to SU quality instruction, the controversy placed additional pressure on anyone seeking a leadership role in this new arena. Also, not unlike classroom faculty, a significant number of SU librarians had never taught online or received any professional training in pedagogical and design best practices for this mode.

Starting the Voyage Part III: Designing a Professional Development Plan

To address some of the challenges mentioned above, the LLORI and Instruction and Assessment Coordinator (hereafter jointly referred to as the authors) designed a two-phase professional development plan. Phase One included two parallel efforts. Effort A was training of all library faculty on use of Canvas as well as basic principles of instructional design and pedagogical practice for online teaching and learning. This effort would conclude with a project or plan to demonstrate librarians’ ability to apply skills taught in the training. Effort B would be promotion of library resources and services available to instructors in Canvas. Effort B will be detailed more under The Line and The Hook section.

Phase Two of the professional development plan involved next steps for building a leadership presence in Canvas and other forms of digitally mediated instruction. The goal here
was to build on the library’s existing instructional efforts to advocate for information literacy and library resources as an integral part of the overall (virtual and face-to-face) curriculum. Implementation of this phase was expected to occur over several years.

To frame and justify the overall plan, the authors drew on the Association of College and Research Libraries (ACRL) Distance Learning Standards (2006), in particular the Access Entitlement Principle (that all learners – onsite or at a distance – deserve equal access to library resources and services) and the Personnel section, stating that distance learning libraries should have appropriate personnel available to serve the needs of online learners. According to the Standards, “appropriate personnel” should include “additional professional and/or support personnel with the capacity and training to identify informational and skills needs of distance learning library users…” (ACRL, 2006, Personnel section, para. 3). While the SU student population included (and still includes) very few fully distance students, these guidelines are applicable to all learners engaged in online or hybrid classes.

Effort A of Phase One, Canvas training and project design, was implemented in regular library instruction meetings during Winter and Spring Quarters 2014. The training series kicked off with a Canvas Basics workshop taught by a Canvas Learning Technologist to familiarize librarians with the LMS interface and features. Subsequent training sessions focused on specific categories of features or individual features with multiple/complex uses (e.g. Communication tools such as Chat, Conferences, and Inbox; Collaboration tools such as Google docs and Etherpad) to make the learning experience more digestible (see Appendix A for the Canvas Training Calendar). Training sessions were designed to be collaborative with assessment scaffolded throughout via individual and group feedback options. Participants broke into small groups to explore assigned features and were asked to record their impressions about usefulness of Canvas features for library instruction, reference, and outreach on a collaborative document. After some exploration time, everyone participated in a larger group share-out and discussion. Librarians were asked to provide “muddiest point” type feedback on the session overall in a designated spot on the spreadsheet as well (prompts used for the activity may be found here: http://ow.ly/VrWSc).

The training series concluded mid-spring and the remainder of the quarter was spent focusing on developing final projects. For these projects librarians were asked to design an instructional or outreach effort in Canvas using one or more of the features explored during the training series (e.g. lesson designed with the Quiz tool; virtual office hours using the chat feature; etc.). Time during three instruction meetings was reserved for individual, small and large group brainstorming, planning, and feedback on these projects with the goal of rolling them out over the course of Academic Year 2014-15. To assess this effort, librarians were asked to self-reflect on their process and also present on their projects and perceived successes and challenges during instruction meetings (see Appendix B for the Canvas Project Overview and Appendix C for Canvas Project – Associated Materials).

Because the Canvas training program was integrated into instruction meetings, time was limited and not always sufficient for what the authors hoped to accomplish. Additional and optional support resources were built into the process including specific Canvas-experienced librarian mentors, a summer “work party”, and referral to relevant design, pedagogy and edtech
workshops sponsored by COPE and the Canvas team. Librarians were also encouraged to support each other by sharing materials and requesting feedback on their projects.

**The Line and the Hook**

Phase One, Effort B of the authors’ professional development plan involved developing a set of realistic offerings for the integration of relevant library resources and services into Canvas and effective promotion of these offerings. Several ways were strategized to make the library and library faculty a more integrated presence in the virtual learning environment, drawing from examples shared by others in the profession and the authors’ ideas (Burke & Tumbleson, 2013; Fabbro, 2013; Hess, 2014; Russo & Daugherty, 2013; Tumbleson & Burke, 2013). These offerings included integrated librarians, services and collections. The goal was to increase visibility of not only the library as a helpful and integral educational resource but to also promote librarians in a role of proactive leadership and with a level of expertise that faculty new to teaching online could draw on.

**Integrated Librarians**

Early in the transition to the new LMS the LLORI worked with the Canvas team to create a Librarian role for library faculty. That way when librarians were enrolled in courses it would be clear who they were and why they were there. It would also allow them to communicate with students, access course materials and deliver instruction. Librarians were accorded almost all of the same privileges as instructors so that they could easily create and copy instructional content into the course as appropriate and also provide comments/feedback on information literacy assignments. Because librarians work with multiple classes/faculty within their liaison areas, we encouraged clear communication with partner faculty about realistic goals for librarian involvement.

Possible options for integration from most basic to complex were shared with both librarians (during training) and faculty (during promotion of the library’s Canvas offerings). At the basic level these included enrollment into a class for the purpose of accessing course materials, observing interactions in the class or serving as a research contact via course email. At the medium to high level librarians might integrate some basic materials (e.g. a feedback survey or simple quiz to assess student learning) or online lessons for delivery in both fully online or hybrid classes. At the most complex level librarians and faculty members might collaboratively design course outcomes, assignments or overall curricula to include authentically integrated information literacy components. While the SU Library has not yet achieved the complex level in its instruction program, the hope is that by committing to the blended learning model of proactive leadership, this will become a natural part of work with other faculty.

**Integrated Library Resources**

In addition to the Librarian Role in Canvas the library created and promoted other resources to enhance embeddedness in the LMS. With the approval of the Canvas Team, a link to the library website was added to the Canvas main navigation. A system-wide change like this required a certain level of collaboration; another reason why cultivating relationships with
relevant stakeholders and outside departments on campus is so critical. The library has also promoted course-level customizations to integrate library collections into Canvas, including links to subject and course guides containing librarian-curated content specific to a particular discipline or class. Another option is permanent links to electronic resources such as articles, ebooks, databases, etc. (Canvas offerings may be found here: http://libguides.seattleu.edu/onlinelearning/canvas).

Navigating the High Seas: Ongoing Professional Development

**Professional development for librarians.** LMS training and one-off professional development opportunities were only preliminary steps in the process of adopting a more integrated approach to online learning. To truly commit to a blended librarian model, a sustained and sustainable professional development program is critical. This is particularly challenging when faced with many of the issues that derail efforts to become more embedded in an institution’s online presence. Librarian workload, changing strategic priorities, constant change in educational technologies being utilized and lack of buy-in from library administrative personnel or other librarians all create roadblocks to success (Bell & Shank, 2004; Brzozowski, 2015; Burke & Tumbleson, 2013; Cassner & Adams, 2006). While there will always be variability in momentum related to growth in online/hybrid, the SU Library has taken specific steps to make professional development a constant and integral part of its instruction program:

- **Ongoing professional development as part of the annual instruction plan.** This plan is developed during Fall Quarter of each academic year and identifies a series of goals and criteria for success. Ongoing professional development activities related to instruction, including online learning and instructional design, are set by all library faculty. This allows the group to collectively discuss what new or additional training is needed when it comes to work in Canvas. Ultimately, success in meeting professional development priorities can be assessed because we have already defined both goals and evaluation criteria for the year.

- **Drawing on resident and outside expertise to help meet instruction professional development goals.** To keep professional development efforts sustainable and inclusive, librarians, on-campus collaborators and occasionally outside experts are invited and encouraged to facilitate specific sessions on selected professional development topics. This type of collaboration with other educators working in Canvas creates ongoing motivation and also opens a consistent communication channel on topics of mutual interest to both librarians and partners.

- **Encouraging frequent participation in other professional development workshops/events on campus.** Handling all professional development in-house isn’t sustainable, so periodic notifications and reminders are sent to librarians encouraging participation in professional development workshops, events, and other efforts on campus. COPE and the Canvas team offer workshops on topics related to Canvas features/use, instructional design, pedagogical best practices and use of other educational technologies. The Center for Faculty Development (CFD) offers more general workshops and series on effective research and pedagogical practices, as well as
consultations to support faculty teaching and student learning. Other opportunities are also available via various academic departments.

- **Encouraging participation in outside professional development opportunities.** While campus-wide opportunities serve many needs, attendance at outside events including regional, national and international conferences brings new and fresh ideas to the library’s pedagogical toolkit. All librarians are accorded professional development funds each year and are encouraged to share their learnings with the group at large. Currently, the group is working on a plan to develop more intentional approaches to professional development. The hope is that this will avoid unnecessary duplication in specific knowledge niches and better match activities to library strategic goals.

**Professional Development for Other Faculty: Education & Outreach.** In addition to internal professional development, Seattle University librarians endeavor to represent the blended librarian model of leadership and collaboration with a two-pronged approach for campus-wide education. As part of Phase One Effort B of the library professional development program, librarians do targeted outreach to the campus community on offerings in Canvas, advertising the library’s presence as a source of leadership and collaboration. Outreach activities include the two-pronged approach to reach relevant personnel and departments, campus wide.

One prong is at the campus level where library administrative personnel and the authors are encouraged to discuss offerings with relevant partners on campus and communicate needs for services or opportunities for partnership to the group as a whole. As an example, the LLORI contacts COPE each quarter to get a list of faculty participating in their Course Design Program. This list is shared with the library subject liaisons so that they can follow up with their liaison faculty to pursue partnerships in Canvas or offer instructional support. Various librarians have also participated in Canvas events on campus including the annual Canvas Users Forum, presenting on specific efforts or pedagogical strategies used in the LMS. Also, librarians have facilitated faculty workshops hosted by COPE and the Canvas Team about options for integration of library resources into Canvas.

The second prong is at the liaison level where librarians conduct outreach to their liaison departments. This is where personalized relationships and collaborative partnerships can really occur at the formative level. Consistent messaging about library offerings in Canvas is encouraged at both campus-wide and individual levels, and librarians are asked to use a flyer and online learning support LibGuide to share this information (see Appendix C). Librarians are also encouraged to offer their support as co-learners with faculty. No librarian is expected to be an expert in online education and even though they may be able to offer considerable mentorship, experience and guidance in the online realm, the goal is to approach work in the LMS as partners.

While overall library offerings for work in the LMS have some structure, individual librarians are encouraged to utilize flexible approaches to collaboration. Library faculty must consider their own time constraints, workload and experience levels when deciding how embedded or complex their work can be. For this reason, parameters for library offerings are intentionally broad so that specific partnerships are set up for sustainability and successful
outcomes. This organized but inclusive and flexible approach at the programmatic level also strengthens the library’s image in Canvas as an organized and effective professional development resource.

**Current Landscape and Learnings**

As of Fall 2015 the initial Canvas training program has concluded and librarians who implemented their projects have shared out on their work at Academic Year 2014-15 instruction meetings. During this time the institutional landscape has undergone significant changes. At the campus level, the online/hybrid initiative has expanded significantly with 59 hybrid or online courses taught during the 2014-15 academic year, 28 lined up for Summer Quarter 2015 and over 100 faculty participating in the COPE Course Design program (Seattle University, 2015). In Spring 2016 a new program for adult degree completion, the School of New and Continuing Studies, will start offering bachelor’s degrees and certificate programs in fully hybrid format. The COPE and the Canvas Teams have joined forces to become the Center for Digital Learning and Innovation (CDLI) and have now expanded offerings to all faculty (not just those in the Course Design Program). As a result of all of these changes there is an increased online learning presence on campus, less resistance to the growth of such programs and increased interest in cross-departmental collaboration in these modes (e.g. new cross-disciplinary certificate programs being offered in hybrid mode and increased interaction between academic departments and units like the library and CDLI).

At the library level, an almost brand new Research Services team has been hired as the result of several retirements and promotions. Many responsibilities of the LLORI have been redistributed to the new position of Coordinator of Teaching and Learning and other Research Services librarians. With this new group and redefined position, it is a clear expectation that librarians will be a collaborative and educational leadership resource in all modes of instruction including online and hybrid. The library is in a position to build upon past work, having gained expertise in Canvas, and take advantage of a campus and broader edtech climate filled with opportunities and primed for innovation.

Throughout the exciting and challenging process of building a Canvas presence and professional development plan the authors have learned many things. The SU Library is striving to maintain an active professional development presence as both leaders and learners and build new goals. The authors’ learnings are guiding this work as the library navigates into the future:

- **Connect to institution-wide strategic priorities and goals.** Focusing on areas that have institutional priority adds more legitimacy to the professional development program in the eyes of campus partners.

- **Make professional development a library-wide priority.** Librarians have increasingly heavy workloads and grow busier every year. Making professional development a larger group priority can help to avoid undue burden on an already heavy plate. Because best practices for online instructional design/pedagogy are not dissimilar from those applied to any mode of instruction, professional development in this area is also transferable and can be used to address multiple needs.
• **Develop strategic relationships with relevant partners and personnel in the library and on campus.** These partnerships will not only help increase campus-wide visibility for online pedagogical options but will add the richness of additional areas of expertise to the library’s instruction toolkit. Additionally, combining efforts with other units can result in more resources and a broader pool of offerings.

• **Keep reevaluating library-wide and topical professional development priorities and goals.** The worlds of edtech and online learning in academia are constantly changing, as will institutional priorities and needs. Keep track of current trends and librarian professional development needs to allow the flexibility to adapt and change as necessary. Losing momentum can result in loss of visibility and relevance.

• **Encourage creativity and experimentation.** There’s no one right way to do this work. It’s okay and desirable to try new things while learning from each other about what seems to work. Creating rich and responsive learning environments means that faculty, librarians and students are always gaining insight and ideas from each other that can be used for continuous improvement.

• **Showcase work.** Share examples of faculty/librarian collaborations broadly to inspire more faculty into envisioning how they might benefit from working with a librarian.

• **Plan smart and don’t take on too much at once!** It’s easy to over-plan and end up overwhelming or frustrating team members. Assess an audience in advance to get a sense of workloads, areas of potential frustration/sticking points and resources that will be needed to make the professional development endeavor successful. Bring a plan to the group but strategically ask for group buy-in as needed to avoid overburdening them with the responsibility of too much decision-making.

**The Future: Ports of Call**

As the functionality and design of the LMS evolves, interoperability appears to be a growing trend. Systems of the future will prioritize integrated/collaborative resources, less restrictive course environments, and Universal Design for Learning principles, making them inherently accessible to all learners (Brown et al., 2015). All of these changes will also inform the navigation of the SU Library’s professional development program as it sails into uncharted waters. In the near future, the authors hope to examine professional development work to date, take account of current academic and campus climates and then adjust both internal (library) and external (campus-wide) goals for the next few years.

As SU librarians continue to develop expertise in specific areas, they can facilitate professional development opportunities for the rest of the group and hopefully elsewhere on campus as well (e.g. designing workshops for CDLI). Eventually, once the library’s offerings in Canvas have reached a critical mass, the authors would like to assess the effectiveness of online instruction with students, soliciting the student perspective via surveys, focus groups and other
methods (Jurkowski, 2003). Similar methods would be used to solicit faculty perspectives on the effectiveness of library instruction and librarians as collaborators in online classes.

The next generation digital learning environment as noted by Brown et al. “must be an environment or ecosystem—a dynamic, interconnected, ever-evolving community of learners, instructors, tools, and content” (2015, p. 42). Without intentional, consistent professional development programs that are continuously re-evaluated it is difficult to be prepared for the changes that will be sailing along in the next month or even a few years down the line. All academic libraries need to be prepared and in port early when these ships arrive.
References


Appendix A

Canvas Training Calendar

Canvas Training

In each training session librarians will work in pairs or small groups to explore individual tools or sets of tools that can be used for a specific purpose (e.g. Communication Tools). A set amount of time will be allotted for exploration and recording of observations about potential outreach, instructional or reference uses of each tool/tool set in the group collaborative document (http://ow.ly/VrWSc). After initial exploration all librarians will participate in a large group share out and discussion. All groups will be asked to provide final feedback on the most useful things learned and questions they still have at the end of each training session.

Calendar

<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>January 10, 2014</td>
<td>Canvas Basics for Librarians (facilitated by a Canvas Learning Technologist)</td>
</tr>
<tr>
<td>January 17, 2014</td>
<td>Communication Tools (Chat, Conferences, Inbox) &amp; review from the Canvas Basics training</td>
</tr>
<tr>
<td>February 7, 2014</td>
<td>Quiz Tool</td>
</tr>
<tr>
<td>March 14, 2014</td>
<td>In depth review of the Conferences feature</td>
</tr>
<tr>
<td>April 11, 2014</td>
<td>Collaboration Tools (Google docs or Etherpad)</td>
</tr>
</tbody>
</table>
Appendix B

Canvas Project Overview

Guidelines

- Should be based on an instruction or outreach goal/need that can be implemented in an actual class or with a specific population (department, student group, etc.). Possible options include an activity, assignment, communication plan, assessment tool, etc.

  * Examples of ways to use Canvas will be posted in the Library Instruction Clearinghouse site in Canvas as models

- Note that you should complete something by the end of the project even if you aren’t able to implement it in an actual Canvas course site.

- A project that can be implemented in the 2014-15 academic year is ideal!

- Select a feature/tool in Canvas that is appropriate in terms of comfort level, learning curve, accessibility and applicability to goals for your selected project

- Must have content unique from others (e.g. there can be more than one person creating a feedback survey for their class but you shouldn’t use the exact same questions)

- You will be building something in Canvas using one of the tools we’ve discussed in our Winter/Spring Instruction meetings. A list of these tools and information about them from the SU Help Guides is provided below:
  - Assignments/Rubrics
  - Quizzes
  - Collaborations (Chat/Conferences/Google & Etherpad docs)
  - Discussions
  - Communication tools (Announcements/Email Inbox)

Support options:

- SU Canvas training: register for group workshops or scroll down to sign up for an individual consultation with the Canvas Learning Technologist
- Quick Technical Help/Project Questions: Lead Librarian for Online Research and Instruction or other referrals
- COPE Dive In workshops: visit the COPE website or check in with the Lead Librarian for Online Research and Instruction for more information
- Examples of library instruction materials in the Library Instruction Clearinghouse in Canvas
**Canvas Projects Timeline 2014-15**

May 2\(^{nd}\)
- Initial assessment of project ideas and start to brainstorm ways that Canvas can be used to implement them

May 2\(^{nd}\) – June 6\(^{th}\)
- Come up with a more solidified idea for a project (can still be rough). *Be sure to note any questions for our June 6\(^{th}\) meeting.
  - Possible examples of ways to use Canvas will be posted during this time as models.
  - Everyone will be provided with a worksheet/list of prompts to help them consider all variables of the assignment

June 6\(^{th}\)
- Large group share out of project ideas and feedback

July 25\(^{th}\)
- Work party for Canvas projects and help from resident “experts”

Fall 2014- Spring 2015 Instruction Meetings (TBD)
- Librarians will sign up to share out at a meeting sometime in the next academic year, depending on when they plan to roll out their project idea. Goal to get 1-2 sign-ups per meeting.
Appendix C

Canvas Project - Associated Materials

Initial Brainstorming on Canvas Projects
(worksheet used at May 2, 2014 instruction meeting to start preliminary planning of project ideas)

Discuss the following questions with your partner and provide feedback to each other:

1. What instruction or outreach needs/goals do you have that you could focus on for your Canvas project? Ideally, this would be something you could implement in Fall 2014.

2. Which Canvas features that we’ve explored would be most appropriate for design and delivery of this project? Why? Considerations: comfort level and technology learning curve for you, your students and faculty, accessibility, general usefulness, etc.
Considerations for Designing Canvas Projects
(form assigned after the initial brainstorming session on May 2, 2014 - to be used for individual in-depth outlining and planning with the goal of sharing out at the subsequent instruction meeting)

Use this form to outline parameters and start planning for your Canvas projects this summer. You can use it however you want (e.g. as a checklist or a working document with notes under each category). The goal is to have something drafted – can be very rough! – for discussion and feedback at our June 6th Instruction meeting.

Helpful hints:

- If you still have notes from the Initial Brainstorming on Canvas Projects form that we worked with at our May 2nd Instruction meeting these may be useful.
- Examples of ways that other librarians have used Canvas tools for instructional purposes can be found in the Modules section of the Library Clearinghouse.

Getting Started

- Instruction or outreach goals supported by this project (i.e. asking the question: “why am I doing this?”)
- Class(es) or groups for project implementation
- Population of choice (e.g. students or faculty? Or both?)
  - Any needs or considerations unique to this population?
- Assessment strategy (i.e. how will you try to measure the success of what you tried?)

Canvas Tool Selection

- Appropriateness of tool to your project goals
- Comfort level/technology learning curve for librarian (you)
- Comfort level/technology learning curve for your learner population
- Accessibility or Limits on Accessibility (consider diversity of learner populations, student/librarian access to technology, etc.)
Timing and Timeframe

- Timeframe for development and implementation this project – Quarter, year (can be tentative)
- Timeframe for delivery
- Capacity (consider amount of time you have with your learner population as well as your personal time limitations, other projects/responsibilities, etc.)

Collaboration and Outreach

- Collaborators (faculty or other)
- Possible ways to introduce or “sell” your project to your collaborators (e.g. benefits to faculty, students, to you/your instruction efforts, etc.)

Support Resources

- Potential “sticking points” or areas where you might need help
- Potential help/support resources for your sticking points (hint: check out Support Options in the Canvas Projects Overview-Timeline 2014 doc in Canvas)

Questions?

- Based on what you’ve outlined above what questions or feedback areas do you have that you can bring to your colleagues on June 6th?
Don’t Stop Believing: Mapping Distance Learners’ Research Journeys

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Lizette Gabriel
Paul V. Stenis
Pepperdine University

Abstract
Journey mapping, a method of collecting data that illustrates individuals’ paths toward a specific goal, was originally developed for use in retail/customer service environments. Much of the literature describes its application in examining customer behavior when navigating merchants’ websites, allowing researchers to examine the effectiveness, user-friendliness, as well as confusing or ambiguous junctures of their webpages referred to as “points of pain.” The research approach has been applied minimally in library environments, and exclusively to patrons’ experiences in the physical, brick and mortar library. The present study aimed to gather data about distance patrons’ experiences in using online library resources. Input was solicited from students in Pepperdine University’s Graduate School of Education and Psychology (GSEP) and the Graziadio Graduate School of Business and Management. Springshare’s LibGuide software was used to collect data.

Background and Introduction
Pepperdine University, a medium-sized, private university, includes five campuses in Southern California, one in Washington, DC and six international campuses. Five graduate campuses (one adjoined to the undergraduate school property in Malibu, California) offer a mix of courses from the Graziadio Graduate School of Business and Management (GSBM), the Graduate School of Education and Psychology (GSEP), and the Graduate School of Public Policy. Masters’ distance learning programs are offered by GSBM. Masters’ and Doctoral distance learning programs are available in GSEP’s education division. The current study examines the information habits of distance learner graduate students in Pepperdine’s GSBM and GSEP departments (Bryant, Parang, & Ye, 2015; Pepperdine University, 2015).

Literature Review

Journey Mapping
Journey mapping research (JMR) originated in the customer service retail and marketing research setting, to help merchants understand how to better serve and accommodate customer needs by learning about buyer motivations and tracking their behaviors. Gaining an
understanding about the customer’s point of view allowed retailers to design retail environments that would enhance the customer experience (Buttle 2004; Crosier & Hanford, 2012; Mangiaracina, Brugnoli & Perego, 2009; Myron, 2014; Rawson, Duncan & Jones, 2013). Croiser and Hanford (2012) observe that despite its emergence a half century ago, scant discussion of the technique appears in the social sciences literature. As the “consumer society” emerged in the late-mid 20th century, along with retailers’ increasing consumer orientation focus, researchers monitored buyers’ behaviors as they moved “through the stacked shelves, noting where customers look, what attracts their attention, and most importantly, recording how customers feel and how they respond emotionally to the retail environment” (Crosier & Hanford, 2012, p. 67-68). Software was later developed to follow and examine buyers’ online shopping experience (Crunkilton, 2009; Mangiaracina et al., 2009; Penna, 2011).

Though this study will not serve as a critical review of JMR, the researchers acknowledge that not all authors describe its usefulness favorably (Kolsky, 2015). In recent years the literature reveals broader applications of the JMR approach. Cooner and Dickman (2006) describe how principal interns were directed to use Journey mapping (JM) software for the purpose of online journaling. Software allowed interns to narrate their learning process while furnishing program supervisors with easily accessible qualitative and quantitative data to describe their experience. E-journal entries, readily accessible to supervisors and cohorts alike, offer a source of material to support “professional dialogue, collegial support, and deep learning” (Cooner & Dickman, 2006, p. 11). The first known application of JMR by a national charity for the purposes of advocacy is profiled by Croiser and Hanford in their 2012 article. The authors worked with the Royal National Institute of Blind people (RNIB) in London and applied JMR to examine “shopping journeys” of blind and partially sighted people in three British cities (p. 71). The personal narratives were presented to merchants, finance representatives, and transportation officials by the RNIB as part of their campaign to cultivate inclusive communities. Elsewhere, in the social work arena, JMR has shown usefulness in drug court program evaluation (Crunkilton & Robinson, 2008). After three months clients found that JM software initiated behavioral and cognitive change while providing experiential narratives for clinicians and staff to assess. In the area of medical informatics and bio-informatics, Westbrook, Coiera, Gosling, and Braithwaite (2007) found JM useful in evaluating the “integration of an online evidence system into clinical practice and its impact on decision making and patient care” (p. 234). Their research showed that JM offered a method for making program logic of a clinical information system as well as preferred outcomes overt.

**Journey Mapping in Libraries**

The literature on journey mapping research in libraries is extremely limited. A search in the two library literature databases (Library Literature & Information Science Index and Library, Information Science & Technology Abstract) on the phrase: journey mapping (not enclosed in quotation marks) produced only 12 articles, a mere two of which were authentically relevant to the topic. Moreover, both of these articles describe the same JMR project, first conducted by Andrews and Eade as follows.

Andrews and Eade (2013) describe the JM project undertaken at the Birmingham City University Library. With a research budget of 1500 English pounds (equivalent to 2312 US
dollars) researchers were able to offer each participant student a 31 US dollar equivalent Amazon voucher incentive for two hours of participation. Still, response rates were lower than anticipated. Digital signage was added, attracting a total of 23 volunteers. Though smaller than half of the 50 participants researchers had hoped for, the group was deemed adequate in size. This project entailed physical (paper) grids to represent participant journeys, and emojis to reflect the emotional experience. Student volunteers were trained in focus groups, and given assignments described via scenarios; for example:

… your tutor has just recommended some books for you and you search the catalogue to find out that most of the books are located at other campuses...How would you go about doing this without having to go over to one of those campuses? (Andrews & Eade, 2013, p. 171)

Andrews and Eade outlined a number of useful outcomes from their research that ranged from basic practical modifications to conceptual service issues. The fresh perspective offered by library patrons revealed a range of unexpected observations and ideas. Researchers gained valuable insight into how student patrons experience the physical library, policy issues, and services during different times of the day. Likewise, patron expectations, both appropriate and unrealistic, were revealed. As a result of some findings, changes were introduced to make library work practices more customer-focused. Pleased with the rich and useful data produced from the study, Andrews and Eade (2013) summed up the value of JM: “customer journey maps are being used to illustrate the differences between our current and ideal journeys” (p. 176). The authors maintain that the data from continued research promises to “…clarify student expectations of the library service and to build an increased understanding of the support that library staff can provide for students throughout their academic careers” (Andrews & Eade, 2013, p. 176).

In the second article captured from the search described above, Fichter and Wisniewski (2015) urge librarians to use JM methodology as an effective tool to persuasively provide evidence of areas where service development is needed, particularly when budgets are limited. Highlighting findings from the Birmingham research, the authors argue that JMR facilitates a “user-centric” mindset in libraries that may be blind to patrons’ experiences (Fichter & Wisniewski, 2015, p. 75).

An additional JM research project conducted by Robin Milford, Access Services Librarian at the University of California Merced, was described at the American Library Association’s Annual Conference in Chicago 2015. Though her study is unpublished, it represents one more instance of the research approach, increasing the number of known studies by 100%. Moreover, Milford’s presentation inspired the current study and deserves recognition. Her research, which traced student patrons’ paths in the physical library, documented on a paper grid similar to the Birmingham maps, was part of the Future and Emerging Access Services Trends presentation series (Milford, 2013).

Distance Students Information Seeking

Tury, Robinson, and Bawden observed in 2015 that “relatively little attention has been
paid to the behaviour of distance learners specifically” (p. 313); however, a few significant studies have contributed to the understanding of their needs and information habits over the years. The research reveals a variety of sometimes-conflicting characteristics among this population. Findings from the literature are presented here in chronological order.

Early and some recent researchers agreed that distance learners (DL) mostly used materials available at academic and public libraries local to them (Cassner & Adams 2004; Clark, 2014; Dew, 2001; McDonald, Unwin, Stephens, & Bolton, 1999; Shouse, 1995; Stasch, 1994; Tipton, 2001, 2002). Tuñon, Barsun, and Ramirez (2004) described potential challenges distance students might encounter when attempting to utilize local libraries. In their 2004 article *Pests, Welcomed Guests, or Tolerated Outsiders? Attitudes of Academic Librarians Toward Distance Students from Unaffiliated Institutions*, the authors described the results of their survey of 107 academic librarians regarding their attitudes toward unaffiliated distance students. Though most respondents communicated a desire to serve even non-affiliates to the best of their abilities, concerns were consistently expressed about the resulting strains on staff and resources. Librarians at smaller institutions, particularly, worried about the appropriateness of their collections, and the library's ability to assist and advise students researching disciplines outside the librarians' realm of expertise (Tuñon, Barsun, & Ramirez, 2004).

Geographical distance was found by Hultgren and Thórsteinsdóttir (2005) to influence literature acquisition even in the online research environment. The researchers, furthermore, identified a link between access to library and student use of higher-quality research materials. In another study, DLs were found to prefer the most easily accessible information sources (Boadi & Letsolo, 2004). Van de Vord (2010) surveyed 363 distance education students to investigate their ability to assess numerous aspects of sources’ academic quality and reliability. Significant relationships were found to exist between information literacy and media awareness, access, and information efficacy, respectively. Interviews of doctoral students at Pepperdine University by Brahme and Walters (2010) found that though DL’s familiarity with and expertise in using research tools proved equal to local students, DL experienced feelings of loneliness and isolation. Meanwhile, Oladoku’s research also published 2010 showed that distance students’ research needs were largely unmet. At The Royal Roads University Library in British Columbia, Mussell and Croft’s (2013) survey of distance students enjoyed a remarkable return of 1,038 total responses equaling approximately 75% of enrollees in their degree program. This group represented a mix of (26%) undergraduate students, (62%) graduate students, and (12%) continuing education students (for-credit certificate and diploma students). The authors found that 39% of students called the discovery search tool Summon either essentially or helpfully useful while 50.2% identified publisher research databases as (e.g., EBSCOhost, etc.) similarly useful. Tang and Tseng (2013) invited 3,517 DL at Jacksonville State University to participate in an online survey, with a response rate of 219, or 6.2%. Findings revealed that students with higher self-efficacy for information seeking and information manipulation likewise demonstrated higher self-efficacy for online learning.

Clark (2014), librarian at Kent State’s Performing Arts Library, conducted a survey with graduate students in the School of Music’s online Master of Music in Music Education program with an enrollment of 146. Students who participated could enter to win one of ten $50 Amazon.com gift cards; three separate survey invitations were emailed. Impressively, 82 valid
surveys were submitted, equaling 58% of the students taking classes during the survey period. Sixty-two students opted to enter the drawing for one of the ten $50 Amazon.com gift cards. Findings showed that a mere 4% had physically visited the campus library building. Though research websites had been created for the program, most students bypassed these and accessed the main library website directly instead (Clark, 2014).

Tury et al.’s (2015) study of a large and varied DL population illustrated the complexity of DL’s information seeking behaviors: “The fact of their being distance learners [is not] necessarily the dominant factor in their information behavior” (p. 319). Instead, the authors found that their discipline and level of study appeared of greater importance.

**Emotions in Online Information Seeking**

Information seeking behavior has been defined (Wilson, 2000) as purposive seeking for information resulting from the need to fulfill a goal. Early and significant observations made by Kuhlthau (1991) showed how the information search process “involve the whole experience, feelings as well as thoughts and actions” (p. 362). A number of studies subsequently have illustrated the importance of mood in human-computer interaction (Bilal & Bachir 2007; Flavián-Blanco, Gurrea-Sarasa, & Orús-Sanclemente, 2011; Gasper & Zawadzki, 2013; Lazar, Jones, & Schneiderman, 2006). The present study explores the relationship between student-researchers’ use of librarian-recommended research paths, success in obtaining research materials, and the nature of the research experience based on these factors. The researchers aim to gain an understanding of influences on the affective component of the online search behavior, given that emotional outcomes are likely to influence all the subsequent actions that users perform on the Web (Flavián-Blanco et al., 2011). Bilal and Bachir (2007) found that a researcher’s mood and attitude prior to an information search affected the search practice. The previous year, Lazar, Jones, and Schneiderman’s research described that frustration levels during the search process correlated negatively with the mood after the search session (2006).

While a number of studies examined emotional responses to search stimuli by identifying physiological signals (Arapkis, Jose, & Gray, 2008; Lopatovska & Cool, 2008; Mooney, Scully, Jones, & Smeaton, 2006), the present research focuses on self-reported, experienced affective states with participants noting their emotion on a survey at each step in the search process. The assumption explored in this study surrounds the participant-researchers’ experience, depending on the respective search paths taken.

*Affect* is defined in the Gale Encyclopedia of Psychology as “the expression of emotion or feelings displayed to others through facial expressions, hand gestures, voice tone, and other emotional signs such as laughter or tears” (Affect, 2001, p. 19). All graduate students enrolled in distance programs, participants conducted their searches outside the library environment, and recorded their search steps and affective states on an electronic form as they progressed through the information query. Prior studies of secondary emotions include mainly face-to-face assessments, including interviews, questionnaires, and think-aloud protocols. Bilal and Kirby’s (2002) study of Internet search behaviors of children and adults found a connection between feelings of satisfaction and comfort with successful completion of the task. They also identified participants’ frustration related to difficulties in finding the correct answer. System performance,
search strategy and task have also been associated with negative feelings in online information searching (Tenopir, Wang, Zhang, Simmons, & Pollard, 2008). More recently, positive correlations were found between the following variables: perceived effort and post-search feelings of joy; cheerfulness prior to searching and increased regret with frustration afterwards; finally, surprise affect while searching followed by post-search disgust and anger (Flavián-Blanco et al., 2011). Blay, Kadous, and Sawers (2012) concluded that the literature suggests positive affect, “while facilitating more creative and inclusive cognitive processing” may cause distraction, less focus and less efficiency in information searching (p. 82).

More relevant to the present study, Flavián-Blanco, Gurrea-Sarasa, and Orús-Sanclemente (2011) found that “Feelings of regret and frustration could arise when the users feel positive and encouraged to find the information but they are ill at ease during the search process and fail to get it” (p. 549). Bronstein (2014) examined the impact that precepts of self-efficacy might have on users’ information seeking behavior, and found that “past experience as information searchers positively affect the information seeking behavior of the participants which includes perseverance and the ability to resolve challenging situations” (p. 105).

Methods

In the fall of 2013, a pilot survey was created and distributed to a small student population from the Pepperdine University graduate campus libraries located in West Los Angeles and Malibu. The survey was sent via email and could be accessed by the survey link or by using the QR code attached to the email. It was a two-part survey made available via two separate tabs located on the survey website. The participants were asked to “Find an article on a topic” or “Find one of three articles” within a ten-minute frame. Based on the initial results and analysis of the pilot survey, modifications were made to the questions and the survey access path. After the results were examined, the researchers realized that a few issues existed with the pilot survey that affected the outcomes of the survey. The questions for both parts of the survey appeared to lead participants to respond in a certain way. Instead of asking them to explain their emotional journey, we provided terms that described their journey, such as confident, happy, frustrated, confused, etc. By only using the terms provided, the participants were not expressing their own voice as to how they really felt during the research process. We also discovered that while the QR code was a great tool to use for the survey, we encountered some challenges accessing the survey. We found that there were some compatibility issues with different smartphones and browsers, which made it difficult for the participants to access or view the survey. Based on the feedback that we received and researcher verification of survey access, we decided to remove the QR code from the official survey.

The researchers of this study chose a population of distance learning students in Pepperdine University’s Graduate School of Education and Psychology (GSEP) and the Graziadio Graduate School of Business and Management (GSBM). The following graduate programs were selected: in the business school Executive MBA (EMBA), Online MBA, and . A list of students was requested from each program and received with the approval of the program directors. The lists were reviewed and only currently enrolled students were selected to participate in the survey. From the lists provided we had two hundred and four (204) students from GSBM. Two programs in GSEP were approved for inclusion: the Doctoral Program in
Learning Technologies (two courses representing first and second year students, respectively), a
total of 40 students, and the MA program in Learning Technologies, including 22 students. As a
result, a total of 266 students were contacted for participation. An incentive for participating was
offered to all students: the inclusion in a raffle for one of two $50 amazon gift cards.
Additionally, the faculty member teaching the doctoral students offered her students extra credit
points for completing the survey exercises. Still, the initial request for participants reigned in
only 12 responses. A subsequent participation request several weeks later garnered an additional
13 responses. Though this amounted to only 10% of the total population, the researchers decided
the group could produce meaningful, if not generalizable, data.

Springshare’s LibGuides, a software tool licensed by Pepperdine University, was used to
create and collect the data from the survey (see Appendix A and Appendix B for the
questionnaire form). After the initial results from the pilot study were examined, the questions
were altered and the QR code was removed from the survey. An email was generated with the
survey link and distributed to the target population. The emails were sent in late spring 2015 and
the survey was active for three months. A second email reminder was sent, which increased the
number of surveys received and resulted in interesting feedback from the participants. NVivo, a
qualitative data analysis software tool, was initially utilized to analyze the data gathered from the
survey. The surveys were separated into “Find an article on a topic” and “Find one of three
articles” and nodes were created to filter the varied emotional responses. In the consent letter,
researchers assured the participants that their responses would remain confidential and
anonymous. For students who decided to participate, an incentive, the inclusion in a drawing for
one of two fifty dollar ($50) Amazon gift card, was offered.

Though the NVivo software yielded interesting comparison data, the researchers chose a
different approach in order to more efficiently answer the research questions:

1. Was the patron successful in accessing articles?
2. Was the patron’s experience emotionally positive?
3. Did the patron follow librarians’ recommended path in accessing journal articles?
4. What relationships appear between the above questions?

The researchers each read through all survey responses and attempted to recreate every
participants’ information seeking path. They then met and discussed the outcomes and
experiences of all participants, coming to agreements on questions one to three. Excel software
was thereafter used to develop answers, via graphs and charts, to the fourth question.

**Data Interpretation**

The researchers examined the 25 responses with the research questions in mind. The
two-part instrument resided in a tabbed LibGuide with each part on a separate tab (see
Appendices A and B). Twenty subjects responded to the first section, “Find an Article” (FAA),
and five subjects responded to the second section, “One of Three” (OOT). The first section
(FAA) asked subjects to locate one peer-reviewed article of their choice and the second (OOT) asked subjects to find one article from a list of three article citations.

- Of the 20 who responded to the FAA section, 13 were successful, four followed a recommended path, and 11 ended with a positive feeling.
- Of the five who responded to the OOT section, four were successful, two followed a recommended path, and three ended on a positive note.

Originally the authors intended to compare the responses to the two instruments described above – the “Find an Article” (FAA) instrument and the “One of Three” (OOT) instrument (Appendices A and B). But due to OOT receiving only five responses, the researchers felt shifting to a holistic analysis of the 25 combined responses would be more productive.

So, taking the 25 responses together in light of our three questions, the results break down as follows:

- On the first question – was the patron successful in accessing articles? – the following was found: 17 subjects had successful searches, five had unsuccessful searches, and in three cases it was unknown whether the search was successful or not (see Figure 1).
- On the second – was the patron’s experience emotionally positive? – the researchers found the following: 14 subjects ended their searches with a positive feeling, six ended with a negative feeling, three with a neutral feeling, one with both positive and negative feelings, and one subject’s feelings were unknown (see Figure 2).
- And on the third – did the patron follow librarians’ recommended path in accessing journal articles? – these results were revealed: 10 subjects used a recommended path, eight subjects used a less recommended path, four subjects used a path that was not recommended, and three subjects’ paths were unknown (see Figure 3).

Also worth noting is the fact that every time subjects were unsuccessful in their searches, they ended with negative feelings. And in every case where subjects were successful in their searches, they ended with positive feelings, except in one case where the subject reported ending with both positive and negative feelings.

- In the 10 cases where subjects used paths the researchers deemed “recommended,” they ended with a positive feeling six times, neutral feelings twice, a negative feeling once, and both positive and negative feeling once (see Figure 4).
- In the 12 cases where subjects used paths the researchers deemed “not recommended” or “less recommended,” they ended with a positive feeling six times, a negative feeling five times, and a neutral feeling one time (see Figure 5).
Was the subject’s search successful?

Figure 1. Was the subject’s search successful?
Did the subject end with a positive, negative, or neutral feeling?

Figure 2. Did the subject end with a positive, negative, or neutral feeling?
Did the subject follow a recommended path, a less recommended path, or a path not recommended?

Figure 3. Did the subject follow a recommended path, a less recommended path, or a path not recommended?
Figure 4. How subjects felt who used “recommended” paths.
In the 10 cases where subjects used paths the researchers deemed “recommended,” they were successful in their searches nine times and unsuccessful one time (see Figure 6).

In the 12 cases where subjects used paths the researchers deemed “not recommended” or “less recommended,” they were successful in their searches seven times, unsuccessful four times, and gave inconclusive results once (see Figure 7).

**Discussion**

The three assumptions for analysis follow: Researchers who follow paths recommended by librarians have a more positive experience conducting research than those who do not. Researchers who follow librarians’ recommended search paths will be more successful in locating desired material. Researchers who successfully locate desired material will have a more positive experience than those who do not.
Figure 6. Success of subjects who used a recommended path.

Figure 7. Success of subjects who used a “not recommended” or “less recommended” search path.
The data supports the first assumption – researchers who follow paths recommended by librarians have a more positive experience conducting research than those who do not – but the support is not overwhelming. In six out of 10 searches (60%) where subjects followed a recommended search path, they experienced a positive feeling at the end of their searches. And in six of 12 searches (50%) where subjects followed a less recommended path or a path that was not recommended, they also ended with a positive feeling.

More supportive of the first assumption, however, is the finding that five of 12 subjects (41.7%) who followed a less recommended or an unrecommended path ended with a negative feeling compared to two of 10 subjects (20%) who ended with a negative feeling while following recommended paths. So the researchers’ smoother journey along a librarian-recommended path was at least less likely to end in negative feelings for the researcher.

Overall, researchers expected a greater discrepancy between the frequency of positive endings for those following recommended paths versus the positive endings for those who did not. But the data supports the first assumption overall. Subjects who followed unrecommended paths ended with negative feelings much more often than those who followed recommended paths, which shows that librarians still make valuable recommendations of paths for researchers to follow, and that those recommendations lead to negative feelings less often than paths they would not recommend.

The data also supports the second assumption – researchers who follow librarians’ recommended search paths will be more successful in locating desired material. Subjects who followed recommended paths were successful nine out of 10 times (90% of the time), while those who followed other paths were successful seven out of 12 times (58.3% of the time). Librarians’ recommended paths lead to success more often than other paths, and therefore, according to these results, researchers who follow recommended paths will obtain relevant articles more often than those who do not.

Less reassuring is the fact that over half (58.3%) of researchers achieved success, despite following unrecommended or less recommended search paths; these researchers were able to locate what they perceived to be desired resources without the guidance of a librarian. This finding begs researchers to ask whether the resources the subjects located in these cases were, in fact, desirable resources (i.e., scholarly, peer-reviewed articles). This study did not make that evaluation, but a future study certainly could, comparing how often recommended paths led to a librarian-recommended resource versus how often an unrecommended paths led to the same.

The data also supports the third assumption: researchers who successfully locate desired material will have a more positive experience than those who do not. In every case where subjects were unsuccessful in their searches, they ended with negative feelings. In every case where subjects were successful in their searches, they ended with positive feelings, except in one case where the subject reported ending with both positive and negative feelings.

Limitations

The authors recognize that the participant group for the present study was too limited in
size to identify generalizable results. Moreover, the characteristics of the specific graduate student participants may not reflect other distance learners or their possible information seeking habits. Whether the study participants had received information literacy instruction was also not known. Due to a delay in the processing of the study’s IRB application, the survey emails were sent out later in the academic term than the researchers had planned. Consequently, the timing for student participants was not ideal, as they were very busy finishing up projects for their courses. Fortunately, a later re-distribution of the survey netted additional participants.

**Recommendations**

This study suggests many other possible avenues for research. First, further analysis could be done of the subjects’ emotions at each stage of their search, with close attention paid to the nuances in their emotional states, citing their “pain points” along the way.

As mentioned above, the researchers of this study used NVivo software to code the emotional responses of each subject. Though the coding was not analyzed here, the researchers hope to explore themes surrounding these codes. In addition, they hope to tie journey mapping in virtual environments more explicitly to current research on information seeking behavior.

Further research might also consider how often researchers who find resources along unrecommended paths have actually found librarian-recommended resources as well as how efficiently subjects who use recommended search paths work versus subjects who follow less recommended or unrecommended paths.

Finally, the researchers also acknowledge that asking subjects whether they have had bibliographic instruction before a journey mapping exercise would provide valuable insight.

**Conclusion**

This research reveals a new area of journey mapping research of great relevance and interest to instruction librarians, building on Fichter and Wisniewski’s (2015) recommendation that JM be utilized to provide evidence for service development. Here, researchers show the value of evaluating and improving librarian-recommended paths, because of their importance to patrons’ moods and chances of success in locating relevant, scholarly resources. Therefore JM research methods should continue to be utilized to develop librarian-recommended paths in libraries’ virtual spaces as learning in higher education increasingly occurs online, and students’ successes depend more heavily on following the right click path.
References


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Appendix A

Library Research Exercise Instrument: Find an Article (FAA)

Find an article on a topic
Find the full text of ONE of the three articles listed below

Find an article on a topic - instructions (Ten minutes only)

Only the designers of this study will see your responses to the prompts below, and they will otherwise be kept anonymous. This InfoGuides system sends the questionnaire responses by email to the study designers and is otherwise stored in the password-protected InfoGuides system.

Please note that neither refusing nor agreeing to participate in this study will affect your class standing, grades, or job status. Your participation in this study is entirely voluntary.

A. Find a peer-reviewed article on a topic of your choice using the Pepperdine online library. You do not need to locate the full text.

B. Annotate each of your steps and thoughts in the boxes below as you proceed with your research.

C. Please include one or two words to capture your experience emotionally at each step.

D. The exercise is over when you have
   1. located the article of your choice
   or
   2. Searched for ten minutes, become frustrated, lost or otherwise decided to stop

You are not required to answer all the questions.
Survey

Spending no more than 10 minutes of your time, find a peer-reviewed journal article on a topic of your choice in the Pepperdine University Library's catalog. When you find the article, or your 10 minutes are up, answer the questions below. Please don’t continue looking beyond the 10-minute time limit. You are not required to answer all the questions.

Journey Mapping Survey - find an article on a topic
For each step you took in locating your article, briefly describe the step in one box (a) and note how you felt/what the experience was like in box b.

Name

Email

1. Describe the first step you took, or link you clicked on.

2. In one or two words, describe how you felt at this stage in the search?

3. Describe the next step you took or link you clicked on.

4. In one or two words, describe how you felt at this stage in the search.

5. Describe the next step you took or link you clicked on.
Appendix B

Library Research Exercise Instrument: One of Three (OOT)

Library Research Exercise - Ten minutes

The purpose of this study is to examine distance students’ experiences at crucial “touchpoints” on our website. We hope to learn to what degree these touchpoints offer positive or negative experiences in their research processes.

Last Update: Apr 24, 2015 | URL: http://pepperdine.v3.libguides.com/exercise | Status: Published

Find the full text of ONE of the three articles listed below

Find the full text - Instructions (Ten minutes only!)

Only the designers of this study will see your responses to the prompts below, and they will otherwise be kept anonymous. This InfoGuides system sends the questionnaire responses by email to the study designers and is otherwise stored in the password-protected InfoGuides system.

Please note that neither refusing nor agreeing to participate in this study will affect your class standing, grades, or job status. Your participation in this study is entirely voluntary.

A. Choose one of the three articles below. Navigate to the full text of the article in the Pepperdine online library. Describe your steps in the boxes below.

B. Please include one or two words to capture your experience emotionally at each step.

C. The exercise is over when you have
   1. located the article of your choice
   or
   2. Searched for 10 minutes, become frustrated, lost or otherwise decided to stop

You are not required to answer all the questions.

Article 1:

Article 2:

Article 3:
Journey Mapping Survey - find one of three articles

For each step you took in locating the article, briefly describe the step in one box (a) and note how you felt/what the experience was like in box b.

Name

Email

1. Describe the first step you took, or link you clicked on.

2. In one or two words, describe how you felt at this stage in the search?

3. Describe the next step you took or link you clicked on.

4. In one or two words, describe how you felt at this stage in the search?

5. Describe the next step you took or link you clicked on.

6. In one or two words, describe how you felt at this stage in the search?

7. Describe the next step you took or link you clicked on. (If you found the article at this point or reached 10 minutes, please stop and press “Submit” below.)


In Their Own Voices: Study Habits of Distance Education Students

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Abstract
Distance learners must balance many challenges when studying away from their home institution, including balancing work, family and study times. How, where, and when a student organizes and interacts with his or her study environment is a significant factor in student persistence and retention. Support services provided by the home institution, including the library, that can help students succeed are an essential resource but capturing how, if, and why distance students interact with these services presents a unique challenge. Distance from the home institution means that the distance learner’s voice is often lost. This research study uses an ethnographic method (photo-elicitation) to gain a better understanding of how distance learners engage with their study environment and offers some suggestions on what libraries can do to close the gap.

Introduction
Distance learning offers students an opportunity to continue their education despite the challenges of family, work, and location which may prevent them from taking classes on campus (Holder, 2007). Online study offers its own set of challenges. Online students live, study, and conduct their research in a sometimes isolated environment. They are often reluctant to ask for help from the home institution and are not always familiar with the resources and services available to them. Numerous research studies have analyzed the reasons why a distance learner might succeed or not succeed in an online program and what contributes to online learning success. A number of specific factors have been identified as contributing to student retention rates, including where and when the student studies, assignment scheduling, and information overload (LaPadula, 2003; Qureshi, Morton, & Antosz, 2002; Willging & Johnson, 2009). All of these factors may play a significant role in student success, yet educators know little about how distance education students actually engage in their study environment because there are few opportunities to observe them there. Foster and Gibbons (2007) observed that “between the assignment of a research paper and the finished, submitted product was a black box that largely concealed the processes undertaken by the student” (p. v). The box becomes even more obscured by distance.

This research project is an exploration of students’ study and research behaviors in an online learning environment. It will shed some light on student activities and methods that help or hinder their learning process and may lead to better understanding of how the library can support distance learners. A better understanding of students’ study and research behaviors helps
institutions identify new approaches and improve services for distance education students, leading to improved online learner retention and success. The study was also an exploration of using a specific type of cultural probe called *photo-elicitation* in conjunction with interviews to gather data from distance users. Photo-elicitation gives the students an opportunity to document their lives in real time and present those findings to the researcher using their own narrative. It offers researchers a glimpse into the “black box”.

The goals and expected outcomes of this study include:

1. Improve our understanding of how distance education students organize and prioritize their study times and environments.

2. Define specific enabling and hindering factors that students encounter when trying to accomplish their studies or research assignments.

3. Describe distance education students’ approach to online research and library use.

4. Identify opportunities for improving services to distance education students that support them in their studies.

5. Explore the potential of this methodology as a way to gain insight into student learning and study.

**Literature Review**

Distance students’ use of the library and online library resources has been a growing subject of study, especially as more students go online either for a class or for an entire program. How libraries can engage users who are unlikely to come through the physical doors of the building is a challenging question. Many of these studies use quantitative data to discover if the students are aware of these resources, when and how often they use these, and measure their perceived satisfaction with the resources. Other researchers have used more qualitative methods, in particular interviews, to gain insights about how students use the library and how they locate resources. This study uses an ethnographic method known as photo-elicitation to gather insights about how distance students actually interact with their study environment and locate resources. This literature review addresses both the research regarding the impact of institutional support services such as the library for distance learners, as well as this methodology as a viable research option.

Distance learners face many challenges when studying online; they have fewer opportunities than their on-campus counterparts to interact directly with campus support services and their instructors and they often face technical problems with access to resources. As predominantly adult learners, they often face the issues of balancing work, family, and jobs while taking online courses (Holder, 2007; Qureshi et al., 2002; Street, 2010). Since drop-out rates in online courses are significantly higher than in face-to-face courses, researchers and educators have put considerable resources into determining predictors of success in an effort to improve retention and graduation rates (Gaytan, 2013). While some of the challenges facing
distance learners that lead to poor retention or high drop-out rates are similar to those faced by on-campus students, most researchers agree that these elements are more pronounced in the online learning environment and require students to have certain characteristics or orientations to be successful in online education (Gaytan, 2013; Holder, 2007). Most researchers on student success rates agree that the factors that determine persistence or drop-out rates are more complex and variable than just a single or even a few factors, and there is no consensus on all the underlying causes (Gaytan, 2013; Hart, 2012; Kerr, Rynearson, & Kerr, 2006; Morgan & Tam, 1999; Willging & Johnson, 2009). These factors include learning styles, motivations, environmental factors, time management skills, study skills, academic readiness, and computer literacy, among many others (Holder, 2007). Baxter (2012) summarizes these characteristics as a “complex mix of institutional, personal and biographical factors” (p. 110).

Creating a supportive study environment is one significant factor in student success (LaPadula, 2003). For distance learners, this includes a variety of support structures, such as family and home life and financial support, but also support services provided by the home institution, to successfully complete the program. The recent literature on institutional support services for distance learners identified access to these services as an important factor in student success and retention (Britto & Rush, 2013; Gaytan, 2013; LaPadula, 2003; Lee & Choi, 2011; Potter, 1998). Institutional support services can range from access to advising, counseling, financial aid, tutoring and test proctoring, and writing help, among others. It also includes access to those resources, specifically library resources, which can significantly contribute to academic success (Russo-Gleicher, 2013). While not always ranked as the most significant factor in what makes students persist or fail in an online learning environment, there is no doubt that a lack of access to support services can cause students to feel frustrated or dissatisfied with the program (Potter, 1998). LaPadula (2003) notes that “a student’s distance learning experience is often shaped by the quality of services that support the educational process” and that online learners “benefit from support services specifically designed to meet their needs” (p. 120). However, awareness of these support services tends to be low and students who do not feel supported are more likely to drop out (Gaytan, 2013; Nash, 2005).

Low library use and general unawareness of library resources among distance learners has been well documented (Pitts, Coleman, & Bonella, 2013). Stockham and Turtle (2005) also confirm that students do not spend much time actively seeking out what library or online sources are available to them. Even those who are aware of library serves rarely use them, preferring instead to go to the internet for free resources. That does not imply though that students find the library resources unimportant. Potter (1998) found that the respondents to a survey about resources and services that are important to students identified lack of access to the library as a barrier to success and improved access to the library as one of the primary suggestions for improving student satisfaction. However, students, in particular those online, often display a reluctance to ask for assistance (Pellegrino, 2014).

The research methods frequently used to determine the factors of success or failure in online learning include surveys to determine attitudes or usage of resources, or standardized testing instruments (such as the Barsch Learning Style Inventory or Life Events Inventory) that can help determine a student’s readiness for online learning or their motivation or persistence levels. Surveys have also been used extensively to determine how and when online students use
the library. Surveys provide important quantifiable data but online surveys cannot allow researchers to “observe” the student in his or her actual research (Qureshi et al., 2002). Surveys also gather data after the fact and rely heavily on student self-reporting rather than actual events or activities and are therefore not necessarily an accurate representation of the student’s actual behavior.

Ethnographic methods such as observing, interviewing, or conducting an analysis of cultural artifacts provide important qualitative data that may be lacking in a quantitative survey, and allow for a more authentic understanding of how and when students engage. These methods are receiving more attention by both academic and public libraries as a way to get at the end-user perspective (Gaver, Boucher, Pennington, & Walker, 2004; Harper, 1987). Ethnographic methods have been used to design both physical and online library spaces by observing how the students use the spaces or online resources. Other studies have used methods such as mapping to see how students work in their preferred learning environment, designing appropriate services in response. Some well-known ethnographic studies in libraries have been conducted by the University of Rochester (Foster & Gibbons, 2007), MIT (Gabridge, Gaskell, & Stout, 2008), Fresno State (Delcore, Mullooly, Scroggins, & Scroggins, 2009), Illinois State University (Hunter & Ward, 2011), and the ERIAL project (Asher, Duke, & Wilson, 2013). The focus of these studies has been with on-campus students and there are fewer examples of ethnographic studies with distance learners (Wahl, Avery, & Henry, 2013). One useful tool for learning about student needs and habits is the online focus group or interviews, sometimes done in person but often conducted via webinar software or teleconferencing (Garland, 1993; Grays, Bosque, & Costello, 2008; Wahl et al., 2013). Analyses of student diaries or online discussion board postings have both been used to gain greater insight into student attitudes and some of the issues distance learners face (Andrews & Tynan, 2012; Krüger, 2006). These types of studies highlight the importance of the student voice in the process of understanding their specific needs.

None of these methods allow for observation of the distance learner in their preferred learning environment. A photo-elicitation study where students capture specific aspects of their activities on camera can help focus on actual as opposed to perceived behavior as the images are taken in real time. The images and screenshots taken by the students become talking points as well as memory aids (Clark-Ibáñez, 2004). Students become active participants in the research study, taking photos and screenshots and annotating their images, which allows students to speak with their own voice rather than an observer interpreting what he or she sees (Fielding, 2007). The images are used in conjunction with interviews to help gain a better picture of the activities of students in their own environment.

There are challenges to using cultural probes such as observation with distance education students, including recruiting subjects, retaining them throughout the study, and technological issues. Using this method is both time-consuming and requires a great deal of coordination. Yet, it can provide us with a heretofore unseen picture of the lives of distance learners in context and in their own environment. An additional goal of this study is to provide suggestions on using this method for future research studies on distance learners.
Methodology

The researcher employed a photo-elicitation method, combining student photographs and interviews held online. The subjects of the study were students enrolled in online courses offered through the Oregon State University’s distance education program called Ecampus. Oregon State University is a land grant institution located in Corvallis, Oregon, with a student population of about 26,000. The Ecampus program offers more than 35 bachelor’s and graduate programs and 900 courses in 90 subjects. Around 4,500 students are dedicated Ecampus students. They may be situated anywhere in the world and are unlikely to come to campus.

The study participants were recruited during the first two weeks of the fall quarter of 2013. Recruitment prior to the beginning of the quarter would have been difficult, since the University prohibits blanket emails to students and students won’t know what the requirements of the course are prior to enrollment. The distance education program provided the researcher with a list of all the courses and instructor contact information for all the distance education courses taught that quarter. A recruitment email message inviting the students to participate was sent to all instructors teaching distance education courses to post in the course learning management system (LMS). Students were informed that they would receive a $150 incentive ($50 per interview) to be paid at the conclusion of the study (see Appendix A).

Each prospective subject was given a preliminary screening reviewing the informed consent form, to make sure they understood the requirements of the study and that they would be working on some kind of research project or presentation requiring research for at least one of their courses (see Appendix B). If after the initial screening they wished to continue, they were sent the consent form and, upon receipt of a signed consent form, assigned a participant code, provided additional information about how the study would progress and completed a brief demographic survey (see Appendices C and D). Each participant was asked to take pictures and screenshots of their study and research environment and record their research activities during the seven remaining weeks of the quarter. Participants documented different aspects of their study environment including: their preferred study environment; time management and organizational methods; motivation and hindrances in their studies; library and research tools used to complete their research; and pedagogical preferences, including course design and preferred methods of communication with instructors and classmates (see Appendix E).

Participants were given a list of the themes and activities of which they should take pictures or screenshots during their study time, producing a minimum of 10 images or screenshots per week. Two of the questions were to elicit information about factors contributing to or hindering their success in their online studies. Three questions specifically addressed students’ study and research habits. This was broadly defined and did not ask them to document only their library interaction, to provide a more complete picture of where students go for information without biasing them toward library sources. Participants were asked to document where they start their research, what they ultimately use to complete their task, and where they encounter barriers.

Each enrolled participant was assigned a participant code which was later used to identify the images taken by the student and the interview transcript. Each participant was interviewed
about his or her images during weeks four, six, and ten of the quarter. In between each interview, participants took images and screenshots based on the above criteria. Participants scheduled their own interview times using a Google Calendar and received weekly reminders of what they should be doing that week as well as reminders of their interview time and day. Prior to the interview, participants emailed their images to the researcher or uploaded them to Google+ so the researcher could view the images at the same time as the participant. Each interview was scheduled to last between 30 and 40 minutes, although some lasted considerably longer. The interviews were recorded using webinar software (Adobe Connect) or a hand-held recording device and a speaker phone when the webinar technology failed. During the interview, participants described their images, what they were doing at the time and what the image represented. The researcher asked follow-up questions based on the participant comments.

**Participants**

The ten students who enrolled were all undergraduates in different degree programs. One participant dropped out after the first interview for personal reasons but the remaining nine participants completed the study (all three interviews, images and time study) (see Tables 1 and 2).

Table 1

*Participant Demographics*

<table>
<thead>
<tr>
<th>ID</th>
<th>Gender</th>
<th>Family</th>
<th>Working Hours/week</th>
<th>Time Zone</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>F</td>
<td>2 children (4 years and 8 months)</td>
<td>No</td>
<td>Eastern</td>
<td>Dropped out of study after first interview</td>
</tr>
<tr>
<td>2</td>
<td>F</td>
<td>1 spouse (and 2 cats)</td>
<td>No</td>
<td>Pacific</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>F</td>
<td>1 spouse</td>
<td>No</td>
<td>Aleutian-Hawaiian</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>M</td>
<td>1 child (6 years)</td>
<td>20-40</td>
<td>International</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>F</td>
<td>1 spouse</td>
<td>19</td>
<td>Pacific</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>F</td>
<td>1 sibling</td>
<td>8</td>
<td>Pacific</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>F</td>
<td>1 spouse</td>
<td>No</td>
<td>Pacific</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>M</td>
<td>[DNA]</td>
<td>10</td>
<td>Pacific</td>
<td>(Jon)</td>
</tr>
<tr>
<td>9</td>
<td>M</td>
<td>1 spouse</td>
<td>No</td>
<td>Pacific</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>M</td>
<td>2 children (9 and 3 years)</td>
<td>No</td>
<td>Eastern</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 relative</td>
<td>No</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
At the conclusion of each interview, the researcher downloaded participants’ images and renamed them with participant code and the week of the interview to help keep them in chronological order. At the end of the study, the interviews were transcribed and named using the participant code and week of the interview. Each image was linked to the relevant part of the interview using the participant code number and week. The images and transcripts were loaded in NVivo and coded for themes related to the questions and goals of the study. Interviews were coded for goal areas and subject areas based on the probing questions.

Because the sample is small the results are not generalizable, but they do offer us two things: an intimate, detail-rich look at the lives of distance learners, and an example of an application of a specific ethnographic method to the distance learning environment.
Results and Discussion

A key factor to a successful learning situation is a good learning environment, including physical study spaces (Garland, 1993) and the ability to time-manage. Study spaces include all the places where the students conduct their studying and research inside and outside the home. At the beginning of this study, the participants shared pictures of their study spaces which ranged from the traditional desk set-up to an outdoor trampoline, evidence of the distance learners’ need to be flexible and creative in finding suitable study spaces (see Figure 1).

For the most part the participants study in their homes and a big challenge facing participants is not having a space dedicated to study. Willging and Johnson (2009) found that students liked to study at home, where they had more privacy and fewer interruptions, but the participants in this study found the opposite, especially those with families. Participants frequently commented on the distractions they face when having to study where family activities take place at the same time, even with a dedicated study space in the home which is still easily accessible by family members.

Organization is definitely one of those constant battles and also not having a committed workspace there’s definitely a greater . . .more interruptions and distractions because you’re sharing that space with everybody else. . .even if you’re in that area concentrating people are going to have to come through and you know it’s never truly yours.

Figure 1. Participants’ study spaces are varied and often born of necessity. The participant had no separate study space and has created a makeshift stand-up desk. The participant on the right needed to be able to keep an eye on her children outside and study at the same time.
Some participants have located other places such as coffee shops or the local library to give them some distraction-free study time but students with families, in particular young children, find this difficult. For some, daycare is not easily accessible or affordable. In addition, accessing the internet is not a given in other locations and the hours may not be conducive to the student’s schedule.

I’ve narrowed down the places that I go because of [internet access]. . .I’ve definitely had that issue in a couple of places where it’s either just [shoddy] Wi-Fi or I just can’t access it for some reason or another . . .so I have a very few places that I go and I also have issues with the hours that are available.

A lot of the times I can’t actually study at my house. . .I just don’t get that much done . . .but this is my local library. I think this has been the main one but the hours on Sunday weren’t that good so I’ve actually as of yesterday found the local community college library and their hours are open a bit more so I’m going to start going there more. . .but most of my study spaces are not at home.

In the end, participants do their studies late at night or early in the morning when the children are asleep. They also have to organize themselves around family schedules. Many prefer to do their work during the week so they can spend weekends with their families but that does not always work as planned, and participants recognize the challenges of work, life and study balance.

Honestly it’s hard for me to do the [mornings] anymore; the kids are up at 6 a.m. and so I get them in bed at 8 or 8:30 and then my homework at night is usually up until at 10 or 10:30 [p.m.]. . .at that point my mental processing starts to become really sloppy.

My goal is to get [my homework] done throughout the week that way. . .my husband only has Sunday’s off. . .so my goal is to have everything done so where we can spend Sunday’s just having fun together as a family. . .depending on the projects though or if I’m having trouble understanding something . . .if I get behind then obviously it overflows into the weekend and if it’s a bigger project it will overflow into the weekend and so. . .primarily a lot of my homework is done in the evening and on Saturday when my husband’s off so. . .it’s all based around day-care.

Online students need to be prepared to dedicate the time to online study (Seckel, 2007). A successful student has the ability to manage and organize his or her time and has the necessary study or academic skills (Müller, 2008). Students who can manage their time or self-regulate will do better in their course work than students who do not and those with time management issues are more likely to drop out (Nash, 2005). Panelists in Gaytan’s (2013) Delphi study rated student self-discipline as one of the most important predictors of student success. Holder (2007) identified time and study management as one of the key criteria that allows students to persist and includes such behaviors as keeping up with course work and managing their time well. Participants were asked to identify factors that helped them succeed in their research and not
specifically what helped them manage their time, but these are co-existent factors. All of the participants provided images of their calendaring system, ranging from a simple paper calendar to complex and strategic color-coding schemes to help them achieve the course goals (see Figure 2).

The participants developed these systems on their own and several of the participants say they wish they had created a system in their first quarter as juggling multiple classes without benefit of direct instructor contact makes it difficult for them to stay on track. Only one student indicated he does not print off the syllabus; all the others rely heavily on this tool to keep them focused and on track. They express frustration when the course syllabus is changed or the instructor does not keep on track with the course as laid out.

Those are one of my greatest tools as well. . .in my house you literally cannot have enough calendars. The top one is pretty much all my school and so what I do is I organize all my classes usually by color of permanent marker and then I write down all the due dates I have for the different classes and sometimes if it’s like a big project I’ll put the it the week ahead. . .when I first started online education I had really no idea how important organization is and as far as being an online student I honestly would recommend this to everybody. . .it has helped me so much. . .you see it everyday and you can’t forget anything.

Figure 2. Organization and keeping on task is a key factor in student success in online learning. Participants created different methods of keeping themselves on track. The course syllabus is a valuable tool for this process.
The time of day when a student studies can impact how and what support services he or she uses. One participant, struggling with writing, states that she had “had intentions as a resource to use PaperHelp but a lot of times I’m working late in the evening or on the weekends and I just don’t think to ever use those resources.” The participant abroad had the greatest challenge due to the time difference but this also impacts students in the country. Some support services, like the library, provide 24/7 access to resources if not services, but this is not the case for all services. Some participants recognize that they could use these services more; it’s just not something that is on their radar.

As far as my entire degree I really could have depended more on the service of offered by the school and locally. . .I’m trying to access more of the help that’s provided so at least this quarter I’ve been having a little more dialog with my teachers and stuff like that.

For distance students, family, study time, access to the internet, and spaces conducive to study are part of the daily challenges they face. Students in online programs must take responsibility for their learning environment and time management skills. They need to seek out resources that will help them succeed. A great deal of a student’s success depends on their own ability to self-regulate and manage their learning (Holder, 2007; Seckel, 2007).

Another key predictor of a student’s ability to succeed in an online program is motivation (Artino, 2008; Brophy, 2010). What a student finds motivating at the beginning of his or her program may change significantly by the time the student reaches the end of the program (Hartnett, George, & Dron, 2011). The participants in this study took pictures of things that motivated them over the course of the quarter (see Figure 3).

Figure 3. Family and the prospect of a better financial future are important motivational factors.
For many, the promise of a better future, including secure employment and consequently improved financial stability, plays a large role in keeping them motivated over the course of the quarter and throughout their academic studies.

The picture of my house is definitely one of the motivations. . . .We live in a lower income community so we’re in a double wide trailer house . . .it’s definitely not where we want to be. . .living in a trailer is not ideal for me by any means, so it’s a daily motivation to get out of it.

Family, while often a distraction, plays a large motivational role for many participants, including those without children. Several participants feel responsible for their own families as well as being a caretaker and role model for siblings or other relatives. Four of the participants are first generation and have taken it upon themselves to encourage their younger siblings to follow suit. However, even within that larger framework of financial gain and a better life for their families, individual motivations on a weekly basis vary tremendously. For many participants, the fall quarter is “a really challenging time” as the holidays and the family obligations that go along with these are big distractions and yet, the coursework needs to continue. Faculty are not always cognizant of this and may add additional work “because you will have so much extra time.” Having activities, events or rewards for completing the work that week becomes more significant as the pressure of the quarter builds.

I was having a hard week last week. . . .and I came across this quote [for my computer screen] and I use that as something that motivated me. [Week 3] was a very difficult week. . . .I felt kind of lost in every single class.

Participants find grades and other indicators of academic success motivating, especially when they are posted in a timely manner and students can see visually where they are and what they need to do. It helps them organize their time and set priorities (see Figure 4).

In particular, speedy and prompt posting of grades, as well as feedback on assignments, helps the students stay motivated. Several participants use these as a baseline to determine what they need to do to successfully pass the class. Students with high grades, however, do not necessarily persist. Grades are more than just a motivator, they also represent one of the few opportunities to receive feedback and feedback that is not given in a timely manner is not helpful to students who cannot easily stop in and talk to their instructor about how they are doing. Most participants check their grades regularly. One notes, “I think it’s so helpful when teachers keep up with gradebooks and also having something like this so you can see what’s ahead and how much it’s worth; it’s nice to get feedback.”
Figure 4. Participants often took pictures of their grades as recorded in the course LMS. Access to their current grades both motivates them and provides them with immediate feedback.

Course design, layout and content can contribute significantly to a student’s desire to participate and successfully complete the course. Students feel a strong connection to courses where the communication between the instructor and students is active and participation is more than the routine of posting a response and three substantive replies to the discussion board (Andrews & Tynan, 2012). The participants view these as chores more than learning opportunities. Timely and constructive feedback from instructors or classmates doing peer-review is also important. Equally important is course layout and clarity of expectations. Participants label courses that did not have a clear layout, preferably week by week, as hard to navigate (see Figure 5).

They express frustration at not knowing when things were due or what the expectations of the course are. This is supported by the work done by that faculty-student interactions contribute to student retention in the classroom (Bocchi, Eastman, & Swift, 2004; Ivankova & Stick, 2007). While none of the participants reported ever dropping a class because of poor design, it plays an important role in their engagement and interest in the course.

This is showing my ecological restoration just what we are expected to do over the course of the week. He has it separated week by week in folders and then. In those folders it will have our reading, guidelines for the part of the paper we’re working on and just kind of an example of that organization... Actually his setup is one of my favorites, the fact that he has on the outside of the folder what’s expected that week in red and then what that week is going to be about even before you open the folder, I think that’s really helpful.
Figure 5. Course layout and design can significantly help students stay on track.

Participants display a reluctance to ask for help, either from their instructors when assignments or expectations are unclear, or from fellow classmates. Asking for help is crucial to online students’ success. The online learning environment is isolating and students need to be proactive in identifying where and when they need help (Seckel, 2007). Faculty may not always know when students are struggling unless the students contact them (Schrum & Hong, 2002). Participants cite distance, time difference, and the use of email as the predominant communication tool as reasons not to ask for help. Several participants feel that email, the primary tool for contacting their instructor or teaching assistant, is unreliable in the sense that content can be misconstrued or not specific enough to answer the question. Rather, the participants prefer to “figure it out on my own,” turning to Google to provide them with an example or background information. They rarely turn to the course discussion board to ask other students for help.

It is it helps so much [to have a model] because it really takes away any confusion because sometimes we all know with emails and so forth sometimes it’s hard to. . .sometimes the real subject matter can be missed. . .sometimes you’re not always expressing what you. . .what you want to express isn’t always clearly done and so.
I think those are Teaching Assistants who are just administering classes; they are not the actual instructor. . .sometimes when you ask for clarification [from a TA], you don’t really get clarification back from them you just get repeat in a different form and you say well it’s just the same thing you have had up differently worded. . .that’s not too often though

Any student enrolled in an online program needs access to a computer and the internet and a good understanding of how the technology works (Dabbagh, 2007). Participants mentioned the technical challenges of accessing some resources, such as a video posted online by the instructor, because of incompatible browsers or outdated plug-ins. One participant reported being able to stream a 14-minute video in only one-minute chunks. Another major issue faced by some participants is a lack of reliable technology. One participant faced with financial difficulties almost had her internet access cut off, making studying online virtually impossible. Other participants faced unexpected technology failures, such as a router going out unexpectedly, leading them to fall behind in their studies. The participant overseas faced some additional challenges as the internet in the country where he was is often restricted, blocking him from using some important United States Government websites for his studies. He had to get “creative” in his access, using a non-institution VPN (virtual private network) service. He displayed considerable technical savvy and reported that the University technology support staff had been unhelpful in getting his access issues with the VPN resolved. Flexibility and self-reliance are hallmarks of successful distance leaners. But students need to be willing to ask for help, especially when it comes to assignment clarification and technical support (Seckel, 2007).

Finding specific resources required for a course from a distance can be daunting, especially as awareness of library resources among distance learners tends to be low (Sullo, Harrod, Butera, & Gomes, 2012). Participants took photos and screenshots of their research activities. All of the participants had assignments that required them to do some form of information gathering. This often but not exclusively includes locating peer-reviewed scholarly journals. Two of the participants had some sort of introduction to the library prior to this study but the other participants did not or could not recall if they had. As one participant stated, she just “sort of figured it out,” not an uncommon practice among distance learners.

Not surprisingly, Google is the starting point of choice for the participants, regardless of the topic or assignment, a trend that has been explored in the literature (Mussell & Croft, 2013; Thompson, 2003). For all the participants, it’s the main starting point regardless of the information needed. In many cases it’s to find “background information” or just to “get an idea of what is out there.” They also use Google as a substitute for the library’s discovery service (Serial Solutions’ Summon) and search Google or Google Scholar for articles. Once they have identified an article, they cut and paste the title into the library search box (Summon) to locate the full-text of the article (see Figure 6).
Figure 6. Participants’ first stop for doing online research is Google and Google Scholar. After that, they use the OSU Libraries’ discovery tool, 1Search (Serial Solutions, Summon), located in the top right corner of the screen.

Google Scholar is “easier” than the library search interface and provides, in their opinion, more relevant results.

It’s really easier to search Google, right, because it searches the broadest things but you wind up having then to search again the title through the OSU Library after you find them on Google.

My starting point is Google and I know this is a way to get to OSU and then the library and use the databases. . .but I always just Google everything and it comes up a lot faster. . .so that’s how I did it.

Once they have been introduced to the service, participants recognize the usefulness of the library databases for accessing journal articles, even if the library is usually second to Google or Google Scholar as a research tool. Their primary access point is the library’s Summon service even if they are not sure about what exactly that service contains, which is not unusual (Mussell & Croft, 2013).

I so use the OSU Libraries [databases] when I am required to get journals that’s been one of the most successful. . .because having those accessible through that search is definitely better than using google searches. . .or I go to the OSU Home page and then the OSU libraries and then through that search on the library web page (1Search).
Using the library services is not necessarily a last resort but also not a first choice:

Basically. . .because I couldn’t find that articles I searched for what I really wanted to find through the OSU thing. . .right so I just decided if I can’t find stuff on Google I might as well just go straight to the OSU library search website.

Yeah, there was a search up there and I wasn’t sure what that was, I wasn’t sure if it searched all the databases all at once for me or if it searched . . .because underneath the list was just databases so I wasn’t sure if I typed by subject into the search field if I was gonna get. . .search results that scanned through all the different databases . . .It does say something about articles books and I don’t know I was just not that familiar with OSU libraries yet.

Participants located not just journal articles using Summon but other databases such as Science Direct through the discovery service. This is serendipitous and not a targeted strategy. Participants often select databases at random. One participant searching for scholarly articles knew enough to go to the library home page but then “just picked a database and searched for articles in there; [that] is how I usually do it.” If they expect a certain database, such as one they have used in the past, and cannot find it, they feel lost and unsure about where to go next.

I did notice my favorite database wasn’t available through OSU. I ended up using the EBSCOhost, I believe it was. . .It’s OK, I have access to [ProQuest] at a previous university, I just. . .I’m not that thrilled with how the results come up when I’m searching [EBSCOhost]. I find that in ProQuest when I’m searching two things like families and media I get more narrowed down results than I do with some of the other databases.

On the other hand, course and research guides and other aids designed to guide the students in the right direction are not heavily used. One participant had access to a LibGuide for the course but did not feel like she needed it. Another participant used the course LibGuide but primarily because it was a course assignment. Nevertheless, he felt he had learned things and plans to use the guide again in the future.

Participants demonstrate “satisficing” by choosing only those items they can get full-text online. Choosing the items that are most easily accessible is another well documented trend among student researchers and these participants are no exception (Van de Vord, 2010). One participant documenting his search for articles “found that there’s no online version available at [the library]. . .so I wasn’t able to use that as my source” (see Figure 7).
Figure 7. Participants encountered barriers to accessing online resources. The image on the left indicates to the user that the item is not available online but available through the interlibrary loan services. For many participants, this became a stopping point in their research. Other issues were down-times or poor internet access. The participant captioned the image on the right: “where I got stuck. great.”

In addition, not knowing how to access the full-text of an article poses a barrier, even though most of the participants had heard of Interlibrary Loan. Participants must also take into consideration the time needed to get materials through Interlibrary Loan. Given that the quarter is short, many participants don’t see the value of going the extra mile for an assignment that does not count heavily towards their grade. Working on a weekly assignment, one participant comments, “for this assignment. . .it’s like a weekly assignment and I could maybe contact the library to get a print or a scan or something like that but I guess that this point I just figure skip it.” The strategy is not to try and get it but simply, and occasionally with some regret, to move on.

I do have to go back and try a different one or . . . I know it gives you the information and I could try my public library and all I . . .try to get as much as you can through the computer. . .that’s just the way that it goes most of the time.

Serendipity in finding sources is a common theme in the search for materials. One participant attributed successful searching to luck more than search strategy. Searching the OSU Libraries’ site, he located an article using the facets in the discovery service to narrow down to the type of items he needed. When he located an item that looked useful, he “clicked on it and thought wow. . .that’s a really lucky chance. So I got this one. . .this has a lot of information about soil and soil chemistry and water. . .so it’s important to have.”
Once participants discover features such as finding similar sources in the ScienceDirect database, they enthusiastically embrace them (see Figure 8).

I’ve never run across this in any other places most of the time whenever you search for something it just comes up with different articles. . .and you have to weed through the ones that sound good and the ones that you know don’t and so this one. . .all the recommended articles were actually something that I could use and they were within the time frame because it need to be the past 10 year or so.

Participants frequently need to find non-scholarly sources, in particular images to support their projects or research. Several of the participants are enrolled in fields such as environmental studies where topographical maps, images of reference sites, and geographic or statistical data are important sources for them.

Most participants use Google Images to accomplish the task (see Figure 9). Searching for images is tricky and often imprecise and the library resources are not necessarily the best tool. One participant searching for images explains “I have used resources from [the] libraries but for images, it’s a little bit harder to search for things . . .harder to find accesible images. . .it’s easier to Google Images.”

Figure 8. Participants appreciate any resources that help them locate other credible sources and save time at the same time.
Participants frequently sought maps, statistics and pictures for their projects. Participants preferred to use Google Images as their search tool for these types of sources over the library databases.

Participants struggle with finding the right key words to locate an image that will meet their need. One student notes that she had taken a library class and knows how important it is to get the right term but had a difficult time doing so. In the end, she tried terms she called more “scholastic,” even if the results are not “scholarly.” However, even when looking for non-scholarly sources, including images, participants are concerned about “credibility.”

Peer-reviewed journals or anything that’s like an accepted source rather than just Wikipedia or any random Google website result . . . because I know you can use that kinds of stuff as long as you cite it well but in my . . . some classes have a very specific requirement about where the sources come from so I’ve just picked that up and use it every time . . . I don’t want any problems with the credibility of the source.

The way I do it normally is I’ll look in Google Images and my thing is that I have to be able to click on the web site and on the website there’s information that good sources and that the information from the image is also supporting the information in my work . . . I want to make sure the image it’s just from some run of the mill place especially if I’m going to be referencing it.
Serendipity in searching also extends to images. These can also be used to locate additional sources and is a strategy that the participants use regularly.

I was really hitting the Google Image jackpot for this project but...sometimes it’s harder in the research to dig and really find what you need but just even going through Google Images was able to find some of the documents I needed for my research just starting with the image searches. ...for a project like this that’s definitely what I was working on [start with image] because it’s about the visuals for this type of project so that’s definitly how I worked with this one.

The participants frequently mention the challenge of locating videos or other media required for a course as instructors do not always take into consideration that there may not be a large video store or large public library in the participants’ immediate vicinity. While many instructors use videos on a streaming subscription service such as Netflix or Amazon Prime, in some cases the particular video is not available in that format, leading some participants to access these through bit torrent or other streaming services.

This was an example of something I had to search for because being a college student I’m you know kind of broke and couldn’t really afford to buy the movie and had no idea where I was going to find it and fortunately my husband found where I could watch it online and so that was really helpful to me. ...We had to watch this specific movie. ...so we had to kind of search that out...it is available on Amazon...we have Netflix and it wasn’t on there...but like I said we couldn’t really afford the $15 to buy it so we had to find a copy online that we could watch.

Textbooks are another important information source for participants that go beyond just the readings for the course. One participant “put my main tool [that helped me succeed] as coffee but yeah, that is actually the physical textbook that I have so I wanted to include that,” and many participants consider the textbook their most important research tool for that week. Textbooks can also be used as jumping-off points for finding other resources but acquiring those textbooks is an issue (see Figure 10).

This was my most important research tool besides my computer, and it is the textbook for my class. Since I had to find materials other than the book, I decided to draw off of information I found in the book and search for new information and the same subject. It also gave me an idea of what I should be talking about for my presentation.
Figure 10. Textbooks are a valuable source for the participants. They prefer to purchase them so they can refer back to them in later courses.

A popular way among the participants to get textbooks is to purchase via Amazon or rent. Some participants get their textbooks on Kindle or e-reader when possible because it is usually less expensive and has the benefit of portability. Only two students had tried the Kindle textbook renting service but did not like that the textbook is not theirs to keep. Some participants had discovered e-books from the library but use them only to a certain point. They appreciate the search-ability but dislike the loan rules and inability to print or save the whole book. Participants are frustrated by a perceived lack of physical books available to them but also by the reality of having to wait to receive print books via the mail (see Figure 11).

I found three books that would even be semi-helpful and. . .I was just kind of showing the lack of availability and I’ve had this issue almost throughout my entire program as far as accessing the resources. . .they’re just not that. . .and then this one I actually requested [from a local library] and I still haven’t heard back if it is available yet.

Three of the students have used the OSU Libraries’ Interlibrary Loan system for books and articles but all of them considered it “a bit of a hassle,” even though they appreciate the service. Participants are also more likely to try and purchase the books because they come faster and the participants like to refer back to them later in other classes.
Figure 11. Participants frequently documented their frustrations accessing print materials. Not seeing an easy way to acquire these items was a significant barrier.

Several participants report that reaching out to experts in their field to get assistance on a project or driving to other locations to acquire additional information such as guides or brochures is another way to acquire resources. They may do this as part of the course requirement but in some cases out of necessity, as the resources or examples provided by the instructor for the course may be very local, but when a participant is on the east coast, the provided resources are not useful to him. He has to spend more time than other students in the course to find materials relevant to his topic. This may include local businesses, or individual experts on a topic, or locally published materials such as pamphlets from the local national forest or local planning commission. Not all of these are available online.

Local resources may include using the local libraries. While some of the participants made use of other libraries, one participant was unsure if this was permitted and had not done so. One participant noted that “yesterday and today were my first experiences [at the local community college library] and one issue with that is I’m not sure if I can check things out because I’m technically not a student.” Those who had not felt they could find what they needed on the internet or through the library. Most express some disappointment with their local resources; only one had had access to a larger university and most rely on the public library or local community college library. For some, the local library is a good place to study but not one for resources, including videos and DVDs. For others, the collection is helpful but the study location is not.

There is a community college library, I used to go there years ago and I’m not that thrilled with their. . . well their online services are pretty good but the actual sit down library isn’t that great but my public library is actually pretty big and I like
it . . . I sometimes go there for really major papers to get some books but I haven’t tried their online stuff. There’s a full university. It’s like a half hour away and I was accepted there and I went there for [one] semester and the whole commute and the kids thing did not work out so I don’t know if I would have access to their college . . . probably not anymore.

Financial pressures sometime preclude students from getting the resources they need. Often, though, the desire for immediate full text resources drives their decision about what source to use. Students use a great variety of resources, much more than scholarly articles or books. Participants displayed a great deal of resourcefulness in getting access to materials they need. Unfortunately, they did not always feel supported in this process by their instructors but are reluctant to ask for help.

**Potential of This Methodology for Other Research Projects**

This type of research can be a viable alternative to gathering information for distance users, rather than a survey or focus groups. It offers a richer, thicker description of what distance learners are facing on a daily basis. The use of the images helps prompt participants’ memory and so participants are more likely to offer more detailed descriptions and show the exact failure or points of success in their research. It is not a methodology that is easy or cost-free, but neither is it particularly expensive compared to incentives often needed to improve survey response rates. The main financial cost was the incentive of $50.00 per interview.

One significant benefit of any study on distance learners is that the participants learn something about the library and the resources of the institution and this study was no exception. Three students indicated they had not heard of Google Scholar before this study or had not heard about Interlibrary Loan services. If nothing else, making direct contact with distance learners provides this opportunity. For at least one student, the number of databases available to him was a revelation.

The most significant benefit from this type of study may not just be that librarians can get an insight into the daily off-campus student experience, but that distance education students feel they are being heard. Their voice is often lost due to their lack of physical presence on the campus. As distance learners, they often feel outside of the normal university community contacts. Distance learners often feel sidelined or second class when it comes to making their opinions heard. This type of study can help identify those issues while giving the distance learners their voice. One participant, referring to a LibGuide, noted she would probably not use it but also noted:

it’s just kind of nice to have a reminder like . . . here this is available to you . . . to use it whether or not it’s a really good tool . . . that tells the students that it’s available . . . that they are not silent . . . that we [Ecampus] exist.
Many of the lessons learned during this study relate to the methodology.

- Screen potential participants carefully. Participants in this study were screened but it would have been better to ask more specifically about the type of research assignments they were doing. Students should be gathering a variety of source types, not just the same source types over and over. This can be tricky at the beginning of the quarter when students may not know exactly what the requirements of their research project will be. Working more closely with instructors would be beneficial.

- Be specific about what constitutes a “research project”. The participants understood the term “research project” broadly; anything they do outside of reading the textbook is “research”.

- Be specific about what you want. The participants took prompts for images and screenshots very broadly and it would be good to be more precise about these. For example, one of the prompts asked participants to take an image or screenshot of something that distracted them in their studies. This was intended to elicit where students were getting derailed in their search for sources, but one participant took a picture of a porcupine outside his window because it was a “distraction”. Choosing something for students to focus on, such as an organizational scheme or use of e-books, would help focus the research.

- Have a technology back-up plan. The interviews went well but the technology did not always work as expected, which led to delays and some frustration. Some participants had difficulty setting up their Google+ accounts or sharing the images with the researcher. In the end, they often simply emailed them, and the researcher and students viewed the images using the webinar software. The researcher had a conference phone and a hand-held audio recorder available in case the webinar audio failed, which it did in several cases.

- Find a partner. This methodology is quite time-consuming and it would be better done in a team than as an individual.

This type of research study would work well with a class or specific course. It would be informative to interview more students for fewer weeks rather than the whole seven weeks, as it would allow for more comparisons on how students complete the same kind of research. It would also allow for a larger participant pool. It would have been better to be more selective about which participants to enroll in this study, but this being the first time, it was difficult for the researcher to anticipate how many, if any, students would enroll. The short timeframe also makes this challenging since enrolling the participants needs to happen quickly.

**Conclusion**

University support services “can and should assist distance learners to cope with the transitions that they experience” (Potter, 1998, p. 61). While the study only had a small sample, there are some preliminary suggestions that can be drawn from the rich detail of the interviews
and images. Given that there is no consensus about what factors are most important in improving student persistence and each student is motivated by his or her own situation, these suggestions may not be applicable in all situations.

- Students read and use the syllabus to organize their research time and keep on track. The more libraries become part of the syllabus, the better. Only two of the participants had an assignment to use the library and a LibGuide to help them, but those that did appreciated the resource.

- Libraries serving distance learners strive to offer the same or equivalent services as on-campus learners and yet, it may very well be that the best alternative for the student is to access local resources. In some cases, students are not aware of this option. While librarians recognize that local resources may not have all the materials a student needs, it is important that the student understand all of the resources available to them, not just the ones offered by the home institution.

- Be geographically open-minded. Students need to know how to do research in their geographic location, not just the ones from the home institution. When working with faculty to design courses, encourage them to think about what students may need to access locally and offer suggestions on how to do so.

- Teach how to search Google and search it well. They will use it so they might as well know how to use it most effectively.

- Technical challenges are still a big barrier to distance learners. Offering students suggestions about how and where to get technology help is a good step but libraries could consider doing more, such as webinars or tutorials on using the VPN or tools like Dropbox to help students be more efficient.

- As frustrating as it often is, librarians’ efforts to communicate with distance learners are not unappreciated and do eventually resonate with the students.

The most satisfying part of this research project was the opportunity to hold regular, in-depth conversations with distance learners. Ecampus students want to tell their story. Being away from campus online leaves students feeling outside the regular university community; they have little opportunity to share their story unless we ask. Librarian interactions are often limited to answering questions about how and where to find research materials. These interviews go a step beyond that to help libraries gain a better understanding of student lives beyond the institution’s door.
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Recruitment Email
Study title: Photo-elicitation study of Ecampus students’ study habits

Invitation to Participate in a Research Study

Being a student at a distance presents special challenges, especially when it comes to conducting research or locating information for a project. [Institution] is always looking for ways to improve your access to services and finding out more about what barriers you might encounter. This is why I am inviting you to participate in a research study.

I am conducting a study on how students study and research when they are not able to come to campus. This is a photo elicitation study, meaning that you will be taking photos and screenshots of certain activities or situations you encounter when you are doing your research and upload these to a photo sharing site. You’ll also participate in some interviews with me where you will describe your photos and the situation. Finally, I’ll send you a brief follow-up survey at the end of the study.

I anticipate that this study will take about 30-40 minutes of your time each week. The interviews will be held virtually using webinar software or Skype so there is no need for you to travel.

If you agree to participate in the study, you will be paid US $150.00 at the end of the study.

You may terminate your participation at any time without penalty. The decision to participate in the study will in no way affect your grades for any courses in your program. Your efforts and contributions will help us improve library and Ecampus services for future users.

You must be 18 years old to participate.

If you are interested in participating, please contact the principal investigator, NAME, TITLE at EMAIL or PHONE.
Appendix B

Informed consent form
Study title: Photo-elicitation study of Ecampus students’ study habits

1. WHAT IS THE PURPOSE OF THIS FORM?
This form contains information you will need to help you decide whether to be in this study or not. Please read the form carefully and ask the study team member(s) questions about anything that is not clear.

2. WHY IS THIS STUDY BEING DONE?
The purpose of this study is to understand how students who are at a physical distance from the [Institution] campus access resources they need to complete their course work, what barriers they encounter, and what tools and services they use to be successful.

Up to 10 students may be invited to take part in this study.

3. WHY AM I BEING INVITED TO TAKE PART IN THIS STUDY?
You are being invited to take part in this study because you are enrolled in an [online] course that requires you to conduct some form of research or project requiring you to use resources other that your course readings or text.

You are 18 years of age or older.

4. WHAT WILL HAPPEN IF I TAKE PART IN THIS RESEARCH STUDY?
If you take part in this study, you will participate in multiple interviews during one quarter. You will be asked to document thorough photographs and screenshots your research activities during 5 weeks of the quarter.

The study activities include
• 3 interviews of 30-40 minutes each. These interviews will take place over the course of the quarter. The interviews will be conducted virtually; you do not need to come to campus.
• For 5 weeks, you will take a minimum of 5 photographs and 5 screenshots each week detailing your activities when you conduct your research. There are specific questions to help guide you.
• You will upload these images with brief notes to an imaging sharing website (Google + Photos or another site of your choice). During the interviews, you will describe the contents of the photos and screenshots to me.

Schedule of study:
• Week 3-Take photographs and screenshots of study environment and activities; upload to photo sharing website
• Week 4-Interview 1
- Week 5: Take photographs and screenshots of study environment and activities; upload to photo sharing website
- Week 6: Take photographs and screenshots of study environment and activities; upload to photo sharing website
- Week 7: Interview 2
- Week 8: Take photographs and screenshots of study environment and activities; upload to photo sharing website
- Week 9: Take photographs and screenshots of study environment and activities; upload to photo sharing website
- Week 10: Interview 3

Study duration: Each interview will take approximately 30-40 minutes and will be conducted virtually by phone or using webinar software. For the week where you are documenting your research habits, you should expect to spend about 20 minutes filling out a form about your research process, taking the photos and screenshots, annotating these briefly and uploading them to the photo-sharing website. The follow-up survey at the end of the quarter will take about 10 minutes.

Recordings: The interviews will be recorded for note taking purposes only. The recording will not be made available to anyone but me (the researcher). They will be erased after transcription. Audio recording is optional.

- I agree to be audio recorded.
- I do not agree to be audio recorded.

Photographs and Screenshots:
Your photographs and screenshots are an essential part of this study and I may want to reproduce them in a publication or presentation. I will blur any personally identifying information (such as a log in name on a screenshot or faces) prior to publishing or displaying a photo or screenshot. If you do not choose to have your images published, you should not participate in the study.

- I give permission to publish my photographs and screenshots
- I do not give permission to publish my photographs and screenshots

Study Results: Study results will be disseminated via the peer-reviewed journal literature and conference presentations.

Storage: The data collected from this interview will be stored for a period of five years, including at least three years post study termination.
5. WHAT ARE THE RISKS AND POSSIBLE DISCOMFORTS OF THIS STUDY?
The risk to you in this study is minimal. The possible risks and/or discomforts associated with
the being in the study include:

Breach of Confidentiality: There is a risk that I could accidentally disclose information that
identifies you or that your identity may be determined through the contents of the photographs or
screenshots.

Internet and/or email: The security and confidentiality of information collected from you online
cannot be guaranteed. Confidentiality will be kept to the extent permitted by the technology
being used. Information collected online can be intercepted, corrupted, lost, destroyed, arrive
late or incomplete, or contain viruses.

6. WHAT ARE THE BENEFITS OF THIS STUDY?
This study is not designed to benefit you directly. The distance learning community in general
may benefit for a more complete understanding of how students at a distance conduct their
studies and what aids or resources may benefit them.

7. WILL I BE PAID FOR BEING IN THIS STUDY?
You will be paid for being in this research study. You will received US $50.00 for each
interview in which you participate for a total of $150.00. If you choose to withdraw from the
study, you will only be paid for the interview in which you participated.

8. WHO IS PAYING FOR THIS STUDY?
[Sponsor] is paying for this research to be done.

9. WHO WILL SEE THE INFORMATION I GIVE?
The information you provide during this research study will be kept confidential to the extent
permitted by law. Research records will be stored securely and only researchers will have
access to the records. Federal regulatory agencies and the [Institution] Institutional Review
Board (a committee that reviews and approves research studies) may inspect and copy records
pertaining to this research. Some of these records could contain information that personally
identifies you.

If the results of this project are published your identity will not be made public.

[Sponsor] will be given a copy of the final report which will not include any personally
identifiable information.

Photos and screenshots may be reproduced in the publications or presentations.

To help ensure confidentiality, I will assign your interview data file an alpha code. The data file
will be password-protected for the duration of its storage.

10. WHAT OTHER CHOICES DO I HAVE IF I DO NOT TAKE PART IN THIS STUDY?
Participation in this study is voluntary. Choosing not to participate will not affect your standing in the university. If you decide to participate, you are free to withdraw at any time without penalty. You will not be treated differently if you decide to stop taking part in the study.

If you choose to withdraw from this project before it ends, I may keep information collected about you and this information may be included in study reports. You will be paid only for the interviews in which you participate.

In the interviews, I may ask you questions about your photos or screenshots that you may choose not to answer.

At the end of the study, I will send you an anonymous follow-up survey. You may skip any question on the follow-up survey without penalty.

11. WHO DO I CONTACT IF I HAVE QUESTIONS?
If you have any questions about this research project, please contact: NAME, EMAIL, PHONE
If you have questions about your rights or welfare as a participant, please contact the [Institution] Institutional Review Board (IRB) Office, at PHONE or by email at EMAIL

12. WHAT DOES MY SIGNATURE ON THIS CONSENT FORM MEAN?
Your signature indicates that this study has been explained to you, that your questions have been answered, and that you agree to take part in this study. You will receive a copy of this form.

Participant’s ID code:

Participant's Name (printed): _________________________________________________

_________________________________________ ________________________________
(Signature of Participant) (Signature of Person Obtaining Consent) (Date) (Date)
Appendix C

Demographic survey
Study title: Photo-elicitation study of Ecampus students’ study habits

Ecampus Study Demographics

Hi. Thanks for participating in this study. Please fill in the survey as soon as possible. It's mainly demographic information but it helps me put together a more complete profile of who our Ecampus students are. Thanks and I look forward to seeing your photos and screenshots!

ID Number:

Status
☐ Undergrad
☐ Graduate student-Masters
☐ Graduate student-PhD
☐ Other ____________________

What is your major? (open ended)

How long have you been a student at OSU? (open ended)

How long have you been an Ecampus student? (open ended)

Do you have previous distance education experience? (open ended)

Are you working?
☐ Yes
☐ No

Answer If Are you working? Yes Is Selected

How many hours/week?

Do you have family living with you?
☐ Yes
☐ No

Answer If Do you have family living with you? Yes Is Selected

How many family members? What are the ages of your children (if applicable)?

Please list the classes and number of credits you are taking this quarter:

What projects or research papers are you working on this quarter? (open ended)
How much time do you think you spend a week on your coursework? (open ended)

What time zone are you in? (open ended)

What photo sharing software do you use or will you be using? (open ended)

What screen capturing software do you or will you use? (open ended)

Do you have speakers and a microphone for your computer? Y/N
Appendix D

Process sheet
Study title: Photo-elicitation study of Ecampus students’ study habits

Thanks for participating in this study. I have detailed the steps for you to take. If you have questions or run into trouble uploading images, please contact me (stefanie.buck@oregonstate.edu, 541-737-7273) and we can work through the steps.

You have been assigned an ID number to help preserve your confidentiality. Please use this number when submitting your information.

My ID Number:

Please send me the following information by October 19:

Your Gmail account
What time zone are you in?
What Photo sharing software will you use? Please set this up and make sure you share your photos with me.
What screen shot software will you use?
Do you have speakers/microphone?

Schedule of study:

<table>
<thead>
<tr>
<th>Week</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>Take photographs and screenshots of study environment and activities&lt;br&gt;Upload to photo sharing website</td>
</tr>
<tr>
<td>4  (Oct. 21-24)</td>
<td>Interview 1</td>
</tr>
<tr>
<td>5</td>
<td>Take photographs and screenshots of study environment and activities&lt;br&gt;Upload to photo sharing website</td>
</tr>
<tr>
<td>6</td>
<td>Take photographs and screenshots of study environment and activities&lt;br&gt;Upload to photo sharing website</td>
</tr>
<tr>
<td>7  (Nov. 11-15)</td>
<td>Interview 2</td>
</tr>
<tr>
<td>8</td>
<td>Take photographs and screenshots of study environment and activities&lt;br&gt;Upload to photo sharing website</td>
</tr>
<tr>
<td>9</td>
<td>Take photographs and screenshots of study environment and activities&lt;br&gt;Upload to photo sharing website</td>
</tr>
<tr>
<td>10  (Dec. 2-6)</td>
<td>Interview 3</td>
</tr>
</tbody>
</table>
1. You will be taking photos (5 per week minimum) and uploading these to a photo share site. We will be using Google + Photos as our site for sharing images. Not only can you upload and comment and tag your photos, you can record a quick description, if you want. This will be useful because it will remind you why you took the photo. We will discuss each photo and screenshot during the interview.

2. You will be taking screenshots (5 per week minimum) of some of your activities. Here are a couple of tools you can use to take screenshots:

PC - On most PCs, you can use the Print Screen key to create a quick screenshot.

Mac - On the Mac, you can use the following commands to create screenshot:
   - Command-Shift-3: Take a screenshot of the screen, and save it as a file on the desktop
   - Command-Shift-4, then select an area: Take a screenshot of an area and save it as a file on the desktop

If you want something a little fancier (Mac or PC), you can use Jing which is free. Jing is available at http://www.techsmith.com/jing.html.

WEEK 2

Set up Google+ Photos

1. Create a Google account (if you don’t have one already)
2. Go to www.google.com
3. Click on More and choose Photos
4. Click on Upload photos
5. Select the images you want to upload
6. Click on Add to Album
7. Choose New Album name and enter Ecampus Research Study Week 1. Do this each week so you have an album for each week of the study.
8. Click Done
9. Share the album with me
10. When prompted, enter my email (stefanie.buck001@gmail.com) in the To field and click Share.
11. Once the images have uploaded, you can add comments and descriptions
12. Click on an image in your album
13. On the right, add a caption and comment describing the image. Do this for each image you upload.

To add images to your Album

1. Go to Google
2. Click on More and choose Photos
3. Choose Albums
4. Choose Add Photos
5. **Add comments and descriptions to your images**

Make sure you know how to create screenshots and upload photos to your photo sharing site. If you are having difficulties, please contact me as soon as possible.

**WEEK 3**
Take the 5 screenshots and 5 photographs documenting your research or study activities this week. See the Research Journal sheet for a description of the kinds of things you need to document.

Fill in the Research Journal sheet and email it to NAME (EMAIL) or fill out the online form at URL.

**WEEK 4**
Interview 1

My interview is scheduled for _______________ at _______________ (_________)

Date | Time | Time zone

**WEEK 5**
Take the 5 screenshots and 5 photographs documenting your research or study activities this week. See the Research Journal sheet for a description of the kinds of things you need to document.

Fill in the Research Journal sheet and email it to NAME (EMAIL) or fill out the online form at URL.

**WEEK 6**
Take the 5 screenshots and 5 photographs documenting your research or study activities this week. See the Research Journal sheet for a description of the kinds of things you need to document.

Fill in the Research Journal sheet and email it to NAME (EMAIL) or fill out the online form at URL.

**WEEK 7**
Interview 2

My interview is scheduled for _______________ at _______________ (_________)

Date | Time | Time zone

**WEEK 8**
Take the 5 screenshots and 5 photographs documenting your research or study activities this week. See the Research Journal sheet for a description of the kinds of things you need to document.
Fill in the Research Journal sheet and email it to NAME (EMAIL) or fill out the online form at URL.

WEEK 9
Take the 5 screenshots and 5 photographs documenting your research or study activities this week. See the Research Journal sheet for a description of the kinds of things you need to document.

Fill in the Research Journal sheet and email it to NAME (EMAIL) or fill out the online form at URL.

WEEK 10
Interview 3

My interview is scheduled for _________________ at _________________ (________) at ________
Date Time Time zone

WEEK 11
Submit the Follow-up survey. The URL will be emailed to you at the beginning of week 11.

Questions?

Contact NAME at EMAIL or PHONE.
Appendix E

Research journal
Study title: Photo-elicitation study of Ecampus students’ study habits

My ID Number: Week __

Fill in this sheet and email it to NAME (EMAIL) or fill out the online form at URL

What are you looking for/what is your task this week?

Were you successful in your task?

How much time did you spend on your task?

Check which, if any, of the following you used to complete your task

- Searched Google
- Searched Google Scholar
- Searched [Institution] website
- Used online library catalog to search or browse. Which library?__________________
- Searched library online databases Which library?__________________
- Used library course web site
- Reviewed notes/discussion from [CMS]
- Used readings on course [CMS]
- Read textbook
- Consulted with instructor
- Consulted with other person. Please explain________________________________________________________
- Went to local library. Which library?__________________
- Used Wikipedia
- Used Interlibrary Loan
- Used [Library consortium holdings]
- Other:

During research/study time that week, take a picture of
1. Your study space
2. The time when you started
3. Your most important research tool that week aside from your computer
4. Something that distracted you
5. Something that helped you succeed
When seeking information online in support of your studies, take screenshot(s) of

1. Where you started your research
2. Where you got stuck (if applicable)
3. What you ended up using to complete your task
4. Where you got distracted
5. What helped you succeed? (e.g. a guide or FAQ or support service)

When did you do most of your course related study or research this week?

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<thead>
<tr>
<th></th>
<th>Sun</th>
<th>Mon</th>
<th>Tues</th>
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Upload your pictures to your photo share site and date them. Add a few tags to each photo to remind you of the purpose of the image. We will talk more about each image during the interviews.

Comments:
“If You Build It, Will They Come?” Piloting a Multi-Day Collaborative Research Workshop within a Learning Management System

Robin Chin Roemer
Rebecca Greer
University of Washington

Abstract
Research workshops are designed to help students develop skills that go beyond the scope of one-shot library sessions. However, with more students conducting research off-campus, online, and in the evening, workshops targeted towards complex skills and competencies are difficult to offer. But what if librarians were to design and deliver intensive workshops online? By removing the constraints of time and space, librarians can bring active learning and collaboration to an environment that meets student demand. This paper describes one research library’s experience with the development, implementation, and assessment of a multi-day, asynchronous, online workshop, targeted at teaching “Effective Literature Review.”

Introduction
Research workshops – intensive non-curricular educational events – have long been offered by academic libraries as a means to help motivated students obtain and develop skills that go beyond the scope of in-class or one-shot library sessions. Typically offered face-to-face and structured around a central tool (e.g. EndNote) or theme (e.g. citation management), these workshops offer both students and librarians an opportunity to spend much-needed time examining the intricacies of a research topic, enabling students to work beyond the immediate parameters of a specific course assignment.

Over the last ten years, however, the traditional model of research workshops has changed based on the ways that many university students consume course content and conduct research. For instance, according to a 2014 survey conducted by the Babson Survey Research Group, nearly 71% of all degree-granting institutions that are open to the public offer options for distance learning, with this number increasing to over 95% for institutions with 5,000 total students or more (Allen & Seaman, 2015). Educational research has also long suggested that the majority of U.S. college students use the Internet as a primary means of conducting research, even as early as 2002 (Jones & Madden, 2002). With the preponderance of students using online tools to execute their research, librarians have had to implement instruction at students’ points of need in the online environment. Since 1989, students have identified web-based library instruction to be preferable to face-to-face instruction as it aligns with their search habits, and in the case of distance students, their geographic limitations (Kelley & Orr, 2003). With more students than ever choosing to conduct their research off-campus, online, and in the evenings
when most librarians are no longer working, face-to-face workshops have become increasingly difficult for students to attend, and frustrating for librarians to offer. But what if librarians were to design and deliver intensive workshops online? Would increased investment in rich online learning environments result in greater participation in research workshops? In other words: if we built it, would they come?

In Winter 2014, a small team of librarians and staff within University of Washington (UW) Libraries in Seattle tested this solution by developing and piloting a new asynchronous online research workshop, built using the university’s Canvas Learning Management System. Drawing from one team member’s recent experience volunteering as a tutor for a credit-bearing online course offered by the University of Nottingham Libraries, a five-day, asynchronous, tutor-supported workshop model was adopted as an initial starting point. The topic of “Effective Literature Review,” including research skills required to complete a literature review, was subsequently nominated by the team’s two lead designers. This nomination also reflected the strong demand for literature review assistance informally reported by UW librarian liaisons.

While there have been documented instances of web-based library instruction with the use of learning management systems (Gordon & Stewart, 2002; Li, 2013), as of the time of the authors’ research, there has not been a documented occurrence of library-related instruction pertaining to the literature review process in an asynchronous manner with the use of Canvas Learning Management System. This paper thus describes the results of the University of Washington Libraries’ innovative Effective Literature Review workshop pilot, from its development in Winter and Spring 2014, to its two-part implementation in Summer 2014.

### Researching Literature Review

Following the decision to design the workshop around the topic of Effective Literature Review, the two lead project designers began examining practices and techniques commonly used to teach students how to research and write literature reviews. Multiple sources were consulted as part of this design stage, including books on instructional design, articles on literature review frameworks, and instructional content from university websites, including content local to the University of Washington. Many of the external texts consulted indicated that instructional materials related to the literature review process were lacking substantive content to foster student success with the literature review process (Green & Bowser, 2006; Rempel & Davidson, 2008; Swales & Lindemann, 2002). Practical instruction manuals, such as *Writing Literature Reviews* (Galvan, 2006) and *The Library Instruction Cookbook* (Sittel & Cook, 2009) did provide useful instructional design methodologies; however, neither of these were meant to be applied in an online context. In an effort to synthesize practical, face-to-face methodologies with an online modality, internal websites were also consulted, such as *Integrating Writing: Assessing Sources/Writing a Literature Review*, a teaching resource from the University of Washington Bothell campus Writing and Communication Center (n.d), and a *Mentor Memo* from the UW Graduate School (Rivenburgh, 2011). Compiling these artifacts, the designers extracted four core values needed to effectively create a literature review. These values were as follows:
• **Context.** Literature review allows both the writer and the reader to understand where a research topic fits within an existing scholarly conversation.

• **Research.** Literature review is dependent upon the writer’s ability to find, evaluate, and analyze existing literature with reference to a research topic.

• **Synthesis.** Literature review demands that writers understand the different relationships between ideas, methods, authors, and stakeholders within the literature.

• **Organization.** Literature reviews can be organized based on a variety of parameters or questions, as determined by both the writer and the expectations of the intended audience.

Having identified these four values, the designers decided to gather local feedback on the subject from University of Washington librarians and Writing Center staff. To this end, face-to-face interviews were conducted with three subject librarians on the topic, and email correspondence was established with two members of the University’s Odegaard Writing & Research Center (OWRC).

From these interactions, the designers gleaned that many UW librarians focus their instruction on the purpose of literature review, as well as how to identify disparate knowledge domains and disciplines that are of relevance to students’ research topics. This strategy is often utilized as, according to the librarians interviewed, students often have difficulty recognizing the interdisciplinary dimensions of a research topic. OWRC staff similarly indicated that UW students struggle with what the purpose of a literature review is, in addition to how it functions within the larger scope of a research paper. These results correlated with the core values gleaned from the first stage of the design process. However, these added details enabled the designers to identify the struggles experienced specifically by University of Washington students with regard to preparing and writing a literature review.

The designers also distributed a brief online survey to UW librarians and graduate assistants. These survey participants were selected due to their close proximity and didactic role in working with students who need help with literature review. This survey asked participants to share methods used to assist students, as well as common questions they receive about literature review. The survey eventually garnered eleven responses and indicated that one-on-one consultations were most commonly used to provide students with literature review assistance. In these consultations, students frequently reveal confusion over what a literature review is, what kinds of sources are appropriate for use in a review, and how to distinguish when enough sources have been compiled to start writing a literature review.

Combining these new survey details along with insights gathered from localized interviews and previous research findings, the designers were able to develop learning objectives for each of the workshop’s four main content modules. These objectives were as follows:
1. Define literature review and identify its unique components.
2. Identify core topics in the literature using concept mapping strategies.
3. Find relevant literature using core and appropriate resources.
4. Demonstrate common techniques for constructing a literature review.

**Developing the Workshop**

Construction of course content and structure followed over the next one to two academic quarters, with work performed almost exclusively by the project’s two lead designers. By mid-Summer 2014, the course was largely complete, and consisted of five clearly-titled online modules:

- What is a Literature Review?
- Generating & Mapping Keywords
- Crafting Search Statements to Find Sources
- Evaluating Sources Using a Matrix
- Wrap-Up!

Each module was designed to be completed asynchronously by students in under one hour. A new module would be introduced each day, resulting in a five-day workshop. Four of these days offered substantive modules with a fifth day devoted to reflection and review.

To create a sense of flow, the designers consciously built the workshop using a predictable progression of modules comprising four components:

1. “Overview” page with explicit learning goals;
2. One or more clearly labeled “Resource” pages, including text, video, and links, communicating the substance of the module;
3. One or more “Activity” pages, with instructions and examples of how to complete a related hands-on skill; and
4. Concluding discussion forum, in which students were encouraged to share the results of their activity, post their reflections on the module, or pose questions to the workshop’s team of librarian tutors (see Figure 1).
To illustrate this structure, the first module, “What is a Literature Review?”, began with a brief overview followed by an activity where students were asked to evaluate four samples of academic writing (see Figure 2).

In this activity, only one of the samples came from an actual literature review. The following resource pages included two brief videos describing the definition and purpose of a literature review. The module then concluded with a discussion forum where students could post their final opinion on which writing sample best qualified as a literature review. Within the forum, students were also prompted to explain why they chose that sample, and what if any questions they had about the purpose of literature review going forward.
Within module discussion boards, “library tutors” serve an essential function of responding to student reflections and questions. Tutors would also actively examine artifacts supplied by students while offering one-on-one assistance and encouragement as needed. This particular role was directly adopted from our primary designer’s experience functioning as a library tutor for the University of Nottingham’s online workshop. The literature similarly supports this tactic as a means to “create a sense of community” in an online space (Rempel & McMillen, 2008, p. 367) while simultaneously creating an “automatic record” for the student and their peers to reference in the future (Gronemyer & Dollar, 2011, p. 111). Based on this model, the workshop’s first discussion forum utilized tutor expertise to acknowledge, validate, or correct students’ rationales for which writing sample was a literature review. In instances where students misidentified the correct writing sample, tutors would clarify the features of a literature review while offering supportive anecdotes to acknowledge students’ careful consideration among the other sample distractors. Beyond this particular forum, library tutors also helped welcome students to the workshop by participating in a “Please Introduce Yourself” discussion forum. Here library tutors would identify themselves and respond conversationally to students’ self-introductions (see Figure 3).

The final course module, or “Wrap-Up,” was added by the designers in order to provide student participants with an opportunity to explore the next steps required to for students to move towards writing the literature review. The “Wrap-Up” module also served to introduce an assessment mechanism into the workshop, which took the form of an online evaluation. Students who completed all four substantive modules, introduced themselves in the “Please Introduce Yourself” forum, and also completed the “Wrap-Up” evaluation were to be rewarded with a digital certificate of completion, customized with the student’s full name and date of workshop completion.

Figure 3. Effective Literature Review Workshop Introductions Module. Sample student-tutor interaction.
Workshop Implementation

Upon the approval of the two lead designers, the first Effective Literature Review workshop was marketed to University of Washington students in mid-Summer 2014, with the general assistance of UW librarian liaisons. An email blurb served as the primary means of promoting the workshop, although it was simultaneously advertised to students via a portion of the UW Libraries website. The first announcement about the workshop went out on a Monday approximately one week prior to its planned commencement. The designers hoped to attract up to 40 student registrants. Within 24 hours, this target was met; by Friday of the same week, the workshop waitlist had over 60 names on it. In response to this unexpectedly high demand, the designers decided to expand the summer pilot into a series of two Effective Literature Review workshops. The first workshop would move forward with the original cohort size of 40, and the second would experiment with a cap of 60 students. Students who were waitlisted for the first workshop were offered priority enrollment in the second one.

To support the expanded pilot, the designers recruited volunteer tutors actively from the UW Libraries’ large pool of subject librarians. Subject librarians who expressed interest in online learning, or those whose student populations were to some degree represented in the list of registrants, were primarily solicited. A rough student-to-tutor ratio of 4:1 was established as an early baseline in the pilot. The designers believed this ratio would minimize stress on librarian volunteers, as well as to guarantee a diversity of perspectives in the workshops’ discussion forums. To prepare tutors for taking on the nuances of this collaborative online role, the project designers offered interested librarians a one-hour Adobe Connect training session, in addition to various handouts on how to navigate the workshop space.

Over the course of the next two months, the designers successfully piloted two Effective Literature Review workshops, which together enrolled a total of 100 University of Washington students and were collectively supported by a team of 11 volunteer tutors.

Surveys & Findings

Following each workshop’s completion, the two lead designers carefully analyzed the results of students’ evaluation surveys, which were incorporated into Module #5, as well as emailed out to all students following the workshop’s completion. The response rate on the surveys held steady at approximately 50% across the pilot (50 surveys received for 100 total students). The designers also decided to create a similar survey instrument to capture feedback on the workshop from tutors, although many tutors voluntarily preferred to give informal feedback to the designers via meetings and emails throughout the pilot period. Ultimately, five formal evaluations were received from tutors (45% response rate).

The student workshop evaluation consisted of eight questions, touching on topics such as:

- **Class level.** (e.g. Freshman, Sophomore, Junior, Senior, Graduate, Other)
- **Comfort level** before and after the workshop with utilizing research techniques.
- **Perceived clarity and organization** of the workshop.
- **Satisfaction** with the workshop and its supplemental materials.
- **Exposure to new information** and most valuable thing learned.
- **Overall impression** and suggestions for workshop content.

From these results, the designers were able to gather valuable information about the potential of their intensive asynchronous workshop model. For instance, of the 50 respondents, 90% agreed or strongly agreed that the purpose of the workshop was clear (n=45), and an overwhelming 98% indicated that the workshop presented information in a clear and understandable manner (n=49). The workshop similarly rated well with regard to the helpfulness of its supplemental materials (95.9% strongly agreed or agreed, n=47).

Students’ impressions of the workshop content were also exceedingly good, although not quite as overwhelmingly positive as their reaction to the workshop design (see Figure 4). For instance, 81.6% of students reported that the workshop met or exceeded their expectations (n=40), while 6.1% disagreed that their expectations had been met. A similar number (83.7%) indicated that they had learned something new from the workshop, in contrast to 8.2% who suggested that they had not. The designers have speculated that one of the reasons for this difference could be the unexpectedly high number of graduate students who enrolled in the workshop (84%, n=42), as this population tends to have more advanced and specific needs relative to literature review than the average advanced undergraduate researcher.

**Figure 4.** Effective Literature Review Workshop student survey. Statistics for questions 5 and 6.
The final two questions on the evaluation gave students additional space to expand on the reasons for their earlier responses, and were thus extremely useful to the designers’ assessment of the workshop pilot. For instance, many students expressed sincere thankfulness for the opportunity to participate in the workshop, and some even wished that they had been exposed to the workshop earlier in their academic careers. To quote one student response:

“It was very useful tutorial. I wished I could have done this much earlier in my first year of PhD program. I could retrospectively review and reflect on my previous skills and mistakes from this tutorial. Thank you so much for this opportunity!!”

The final questions on the evaluation also gave the designers insight into whether the workshop succeeded in reinforcing the value and utility of working closely with a librarian. The value of the librarian tutors was mentioned in several student comments, and seemed to contribute to whether the class exceeded some students’ expectations:

“I enrolled to brush up on my research skills and ended up learning a lot of new things! I have always thought UW librarians were always so helpful, but this class exceeded my expectations. Thank you so much for offering this class/workshop!”

Curiously, students repeatedly referenced the value of the organizational techniques presented in the workshop in the last two survey questions, such as how to construct strong search statements methodically, and methods for categorizing sources for later synthesis in a literature review. “The matrix for organizing and comparing sources [from Module #4] was extremely useful,” wrote one respondent. “I especially appreciate the encouragement to adapt the matrix to the needs of each particular literature review.”

This feedback was surprising to the designers, as student participation over the course of both workshops seemed to wane once they encountered modules related to organization. Such findings may indicate that students drop out of non-credit online library workshops based on when their needs are met, rather than the quality of the material presented. Reinforcing this hypothesis is the fact that a good number of student responses also referred to the value of skills like developing a hierarchical keyword list, conceptualizing keywords with the use of a keyword map, and the utilization of advanced search techniques in databases—all concepts that arose in modules that afterward saw drop-offs in student participation. The designers believe this information will be pivotal when deciding how to construct the workshop in future iterations, as it strongly suggests that student engagement and satisfaction cannot be solely measured by student participation in discussion boards.

Finally, one of the most encouraging findings of the student survey was the degree to which students indicated that their level of comfort with utilizing research techniques had improved over the course of the workshop. For instance, the designers were pleased to discover that zero participants experienced negative growth in comfort over the course of the workshop, and indeed most students reported an increase in comfort levels of at least one level. Even more encouraging, the majority of the respondents who expressed positive growth moved from an initial position of being “comfortable” with literature review to being “confident.” This data, in addition to the rest of the survey, suggested to the designers that the workshop content is not just
a good fit for UW students who have no previous exposure to literature review, but is a good fit for experienced students who are looking to become more nuanced in their approach to literature review research.

However, while student feedback on the workshop pilot was largely supportive, feedback from the librarian tutors was decidedly more mixed. On one hand, of the five library tutors who completed the survey, four of these five respondents indicated that they would be willing to serve as a library tutor in future workshop iterations. On the other hand, it was telling that some tutors responded that they went into the workshop feeling “somewhat anxious” about their role, and felt occasionally ill-equipped to address student responses in depth. As one tutor wrote:

“...what I liked least was my own feeling of inability to provide detailed feedback. I get the feeling [the lead workshop designers] spent a fair bit of time doing students searches and then modifying them - what I think I really needed in terms of training was an even more extensive search and database tutorial than the students got!”

By contrast, tutors who expressed comfort or confidence with the tutor role going into the workshop either maintained their status by its conclusion or grew in their sense of confidence. This feedback suggested to the designers that it will be important in the future to work closely with librarian tutors, and to be consistently mindful of their previous experience with online learning, as well as workshop content.

Sustainability was also a major concern of the designers, due to the asynchronous and thus unstructured nature of the workshop’s support. To determine the sustainability of the workshop in its current form, tutors were asked in their survey to rate if they spent more or less time acting as a library tutor than expected. In conjunction, tutors were asked to select a time range (in hours) to identify the actual amount of time they spent acting in this role each day. Three out of five respondents indicated that their expectations matched the amount of time spent. However, only one chose a 0-1-hour time range, which was the daily time commitment suggested by the workshop designers. The other two respondents indicated that they spent 1-2 hours in the workshop. Somewhat curiously, the two remaining tutor respondents both selected that they spent 0-1 hours in the workshop, yet, one selected that they spent “more” time than expected while the other said they spent “less” time than expected. Again, these responses indicate that more training is needed to norm tutor expectations, and to solidify essential tutor skills related to scanning the forums, responding to students, and managing time.

Finally, tutors were given the opportunity to express what components of the workshop they would like to change in future iterations. Here, some tutors expressed that they would like to see students engage more directly with one another, rather than solely relying on tutors to provide feedback. Others desired to change specific learning objects such as instructional videos or writing samples. Still, tutors were overwhelmingly pleased with the structure, sequence, and time commitment required of students. Indeed, many library tutors expressed gratitude for the opportunity to participate in the workshop, and encouraged future workshop iterations to target specific departmental interests. As one enthusiastic tutor wrote:
“Thanks for this fantastic opportunity! It would be great to roll these out [to] the [UW Libraries subject-based] teaching communities. I don't think you would really need to change much in the modules themselves but the tutors could all come from a specific teaching community and the workshop could be marketed towards those disciplines. This seems like a great teaching community project!”

**Conclusion**

Since the completion of the Effective Literature Review workshop pilot in Summer 2014, the designers have considered multiple strategies for how the workshop could be improved and streamlined. For instance, based on feedback received from both students and tutors, the designers have experimented with several new workshop iterations, including workshops aimed specifically at students in the sciences, workshops embedded within a specific undergraduate research class, and the inclusion of new workshop modules aimed at the needs of advanced graduate students. Evaluations received from each of these iterations have been very positive, although drop-off in student (and tutor) participation toward the end of each non-credit workshop continues to be an issue. For this reason, the designers plan to continue to target issues of participant motivation and overall workshop sustainability in upcoming quarters. Possible solutions include the swapping out of some discussion forums with student self-assessments, which can be automatically graded, or changing the way that tutors respond to students in discussion forums to optimize student-to-student engagement and tutor-to-tutor collaboration.

In the end, setting aside the time not only to build, but to run and re-run an intensive multi-day online workshop would have been a challenge for any team of librarians. However, in the case of UW Libraries and the designers of the Effective Literature Review pilot, the investment has been well worth the results produced. What’s more, in bravely building something they had never tried before, the designers have begun to learn important lessons about what motivates university students to engage in new forms of online learning. These lessons have assured the designers (as well as UW Libraries stakeholders) that if we build it, students will not only come, they will meaningfully engage with the workshop and walk away with positive learning experiences and impactful relationships surrounding the literature review process.
References


Instructional Learning Objects in the Digital Classroom: Effectively Measuring Impact on Student Success

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Abstract

Demonstrating library impact on student success is critical for all academic libraries today. This article discusses how the library of a large online university serving non-traditional students evaluated how customized point-of-need learning objects (LOs) embedded in the learning management system impacted student learning. Using a comprehensive mixed-methods approach utilizing Google analytics, reference statistics, and citation analysis via rubrics, the author investigated the extent to which LOs contributed to students’ ability to conduct research independently and ability to create quality bibliographies. Results indicated high usage of LOs, that student research independence increased in all courses analyzed, and bibliographies improved for students in an anthropology course after LO integration. This initiative provided substantial evidence that the LOs positively affected student learning and allowed the library to communicate this impact to key stakeholders.

In the current academic environment of rapid change, scarcity of resources, and increased demands of accountability, distance education librarians are increasingly called upon to use tangible evidence to demonstrate the impact of information literacy (IL) instruction on student learning. The most effective instructional interventions to help students learn critical IL skills have taken center stage, and likewise, outcomes-based assessment has become more important than ever in determining the effectiveness of library interventions. Librarians are increasingly embedding point-of-need learning objects (LOs) (such as video tutorials) in courses via the institution’s learning management system (LMS) in order to proactively integrate relevant IL instruction when and where students need it. A 2012 survey of academic librarians revealed that as many as 71% of instruction librarians develop online tutorials and 47% of them teach instruction sessions online or serve as an embedded librarian (Bottorff & Todd, 2012). IL instruction delivered online has many benefits, as Held (2010) points out that “[computer assisted instruction] is advantageous for librarians because it is scalable, offers instruction just in time, and offers opportunities for librarians to share their technology expertise” (p. 154).

Evaluating the effectiveness of LOs and assessing student learning presents many challenges for librarians, who may not have the training to effectively carry out assessments that measure what they intend to measure (Oakleaf, 2008), or who may not have access to needed data points due to LMS permissions limitations (Farkas, 2015; Mestre et al. 2011; Shank & Dewald, 2003) or other barriers.
Libraries use various assessment methods to gauge the impact of instructional interventions; however, many of these methods may not effectively or directly measure what librarians intend for them to measure. Self-reported data through questionnaires and other indirect measures have dominated the methodology used to track success of online instructional interventions; however, these indirect measures do not provide insight into actual student learning. Analyzing overall course grades and retention also presents problems in that there are many variables that can affect these measures and it is difficult to confidently attribute changes in overall grades or retention to a single library intervention. In order to holistically understand how IL instruction impacts students, librarians must adopt a comprehensive assessment strategy using multiple data-gathering methods available to them, including those that most directly measure student learning, in order to strengthen confidence in the effectiveness of IL instruction on student learning outcomes. Additionally, quantifiable evidence is often needed in order to influence and get buy-in from faculty and university stakeholders (Dolinsky, Matthews, Greenfield, Curtis-Tweed, & Evenbeck, 2007).

The LMS provides unique and immediate access to overwhelming amounts of digital data, tracked through analytics and recorded activities that are critical for assessment and evaluation in distance education. Tapping into this unique access is how the author of the current study attempted to directly measure how customized point-of-need LOs embedded in the LMS of several required online general education courses impacted student learning. Rubric scores that specifically measure the quality of students’ bibliographies were analyzed and compared before and after an LO was embedded. Additionally, tutorial usage analytics and reference statistics were utilized to triangulate the data and give the author a better overall impression of how LOs affected students.

**Background**

Ashford University (AU) is a proprietary, predominantly online university serving approximately 50,000 non-traditional distance students. AU offers undergraduate and graduate degrees through 5-week accelerated courses year-round. Students can enroll at any time during the year and new sections of many courses, especially lower-division courses, run every week. With as many as fifteen sections of a course running simultaneously, this led to thousands of students enrolled in general education courses at any one point in time. As a new entity, the AU Library primarily offered reference services for students but very little instruction, resulting in a strong emphasis on reactive services. Librarians received repetitive reference questions from students primarily enrolled in general education courses with heavy research components, pointing to major gaps in students’ understanding of how to successfully carry out the research for their assignments. As a result, the library team began to focus on implementing more scalable solutions to proactively meet such a large body of students’ needs and reduce reference service hours which only served a fraction of students. Students’ pain points could better be addressed through point-of-need, customized instruction, hence, the Information Literacy Work Group in collaboration with library liaisons launched an initiative in August of 2013 to design, create, and embed customized LOs within the LMS of courses with the highest IL instructional need.
LOs have been defined in various ways; for the purposes of this study, an LO refers to a digital resource, including brief video tutorials, interactive learning modules, course or assignment-specific research guides (i.e. LibGuides), and job aids, that teach specific IL concepts and skills necessary for students to successfully execute research for a particular assignment or course. AU librarians have administrator rights to the LMS and are able to access all courses, enabling them to review course syllabi, discussions, assignments, and more. Software used to create video tutorials and interactive learning modules included Articulate Storyline, Adobe Captivate, VideoScribe, Adobe After Effects, Adobe Audition and Audacity. Depending on the medium used to create the LO and the content taught, time needed to create an LO varied anywhere from a couple of days for simple job aids to six-to-eight weeks for interactive learning modules. Additionally, much time and effort were needed for the course development process, which included frequent back-and-forth communication with faculty course developers and instructional designers, sometimes resulting in several librarians spending months and devoting many work hours to embed a customized LO into a single course. This long time commitment to effectively and meaningfully deliver online IL instruction is normal, as other academic librarians have reported that online instruction takes significantly longer than face-to-face instruction (Bortoff & Todd, 2012).

Due to the investment needed for successful LO integration, a high return on investment (ROI) needed to be established. Librarians needed to ensure LOs were an effective method of instruction in order to ensure best practices were being followed and determine if the initiative should be continued in the way it was being carried out. Additionally, ROI needed to be communicated to university stakeholders in order to get buy-in and convey that reducing reference service hours to embed instruction in courses was an effective way to meet students’ needs and positively impact learning. It was determined that a mixed-methods assessment approach would be the most holistic way to determine the overall effectiveness of the initiative and provide compelling evidence of the AU Library’s contribution to student success.

**Literature Review**

There is an abundance of literature reporting on how online IL instruction benefits student learning and success; however, much of the research largely uses indirect measures of assessment. These methods often gauge students’ perceptions from self-reporting through questionnaires or pre- and post-tests (Blake, 2010; Horn, Maddox, Hagel, Currie, & Owen, 2013; Nichols, Shaffer, & Shockey, 2003; Searing, 2013), rather than measuring if actual learning took place. One explanation for the over reliance on self-reported data, other than the relative ease of administering questionnaires, could be that many librarians may not have the knowledge or training to effectively carry out direct measure assessments (Oakleaf, 2008), especially within a distance education environment. Another possibility is that many librarians lack the required permissions to access the LMS and critical data points needed to carry out a comprehensive assessment (Farkas, 2015; Mestre et al. 2011; Shank & Dewald, 2003). Whatever the case may be, few studies fill this gap in the current literature within the realm of online IL instruction, and the author did not find any studies using direct assessment methods to measure student learning conducted within the context of an online-only university.
Most studies that provide direct evidence of student learning from online instruction do so through performance-based assessment, such as citation analysis. Shaffer (2011) examined the impact that LMS-embedded library instructional LOs had on graduate student learning and confidence levels as compared to the same instruction delivered face-to-face (F2F) within various education research methods courses. Using pre- and post-tests and citation analysis, Shaffer (2011) found that student learning took place equally among both online and F2F groups and confidence levels were similarly equivalent. While pre- and post-tests rely on indirect student-reported data, this study also analyzed works cited in student research papers to determine the types and quality of sources used. Citation analysis provided “solid evidence that students are achieving the desired learning outcomes, especially those regarding advanced database search skills, article retrieval and evaluation” (Shaffer, 2011, p. 46).

Mery, Newby, and Peng (2012) compared the quality of bibliographies of English 102 students who received IL instruction in three different ways: a) from their instructor, who was previously trained by a librarian in a F2F one-shot session; b) directly from a librarian in a F2F one-shot session; and c) from a 10-week online IL course. Results revealed that students who received instruction from the online course had higher quality bibliographies (i.e. number of citations, number of complete citations, currency, and variety of sources) than students in the other two groups (Mery, Newby, & Peng, 2012). Clearly, IL instruction delivered online can lead to student learning gains; however, librarians must be vigilant in authentically measuring those gains.

Citation analysis has shown to be an effective tool for determining if students are meeting information literacy learning outcomes. Citation analysis is a type of performance-based assessment that can evaluate the products of students’ work, in effect assessing higher order thinking skills and students’ ability to apply learned concepts that fixed-choice tests typically cannot measure (Oakleaf, 2008). Oakleaf went on to state that performance assessment can be closely aligned with instructional goals and “may be able to render more valid data than other types of assessments” (2008, p. 243). Schilling and Applegate (2012) claimed that citation analysis is a direct way to measure performance in a cumulative way that is useful for determining what students have learned or achieved over time. However, citation analysis is not without its limitations. Not only can there be practical issues with librarians performing citation analysis, such as lack of access to student coursework (Booth, Lowe, Tagge, & Stone, 2015; Schilling & Applegate, 2012), there are also shortcomings in measuring student learning and performance, as citation analysis only accounts for the end product or artifact (i.e. quality of a bibliography) rather than the process (i.e. search and evaluation techniques) that led to that product (Schilling & Applegate, 2012).

Rubric-based assessment is increasingly being used by libraries to measure students’ IL skills and performance, and has been shown to be an objective, reliable means of assessment. Rubrics are regarded as one of the most basic, fundamental tools for measuring learning by many assessment professionals (Wiggins, 1998). Rubrics also allow for “the development of objective criteria against which assignments, such as bibliographies, can be evaluated” (Knight, 2006, p. 52). Additional benefits include a clearer understanding of instructor expectations among students, reliable scoring of student work, detailed result data, cost, and more (Oakleaf, 2008).
The current study used a combination of these methods, as rubric scores (for the quality of student bibliographies) recorded in Waypoint Outcomes software were analyzed in specific courses. It must be noted that the author did not create the rubric nor examine the bibliographies of students’ final papers herself; rather, faculty graded the quality of students bibliographies using a rubric and the author analyzed students’ grades on the rubric before and after an IL instructional LO was embedded in the course. This strategy is somewhat comparable to a study conducted by Held (2010), who determined embedded instructional LOs contributed to higher quality bibliographies based on faculty reporting on a questionnaire, as the researcher was dependent on the accuracy of the faculty members’ assessment of bibliography quality. The author of the current study relied on the judgement and grading of dozens of instructors for any one course analyzed due to the structure and schedule of AU course delivery where new sections of a course start every week.

In addition to citation analysis and rubrics, LO usage analytics and reference statistics for specific LO-embedded courses were consulted. Through this mixed-methods assessment strategy, the author attempted to answer the following research questions:

1. To what extent are students using the LOs?
2. To what extent does the LO contribute to students’ ability to complete their work independently?
3. To what extent did the LO have an impact on student learning and performance?

**Methodology**

Although LOs were embedded within a total of 17 courses between August 2013 and December 2014, the current study focused on six general education courses (ANT101, ENG122, PSY202, INF103, HIS103 and POL201) where students typically struggled most and where the needed data for the assessment were available.

It is important to note that the author originally intended to identify specific students who used the course-embedded LO so that she could track academic performance and make comparisons to the performance of students who did not use the LO. The LMS offers abundant data tracking possibilities, and the ability to isolate those students who watched a tutorial and those who did not and compare the quality of final paper bibliographies would be a very powerful, direct method of measuring impact. After much time and effort reaching out to multiple assessment groups within the institution, such as Institutional Research as well as Academic Assessment, it was ultimately determined that these data were not available. As a result, data had to be gathered at the aggregate level and compared before and after the LO was integrated.

To answer the first research question of whether students used the LOs in their courses, usage statistics available through Google Analytics were consulted. Google Analytics were integrated within some, but not all, of the video tutorials and learning modules. A major challenge to pinpointing usage was that almost all of the video tutorials and learning modules
were incorporated in several places, such as the library website and relevant research guides, rather than solely existing within the course. Therefore, it was impossible to determine how many students only exposed to an LO within their course actually used it. There was only one course, BUS642, where the embedded LO could only be found in that course. LO usage was analyzed for this course from July 1 to October 31, 2014. The unique number of users who engaged with the interactive learning module was divided by the total enrollment for that time frame. Additionally, the average time users spent using the LO (e.g. watching a video tutorial) was determined. Usage divided by enrollments was also analyzed for the LO embedded in ANT101, an introductory general education anthropology course, even though the LO was also available on the library website. The time frame analyzed was from July 15 to September 14, 2014. The LO, an interactive learning module specifically designed for ANT101 alone, was so specific to the course that it would be unlikely a student would use it unless they were in the course, as it would not be relevant to anyone else. Although the researcher could not isolate usage for the LO being embedded in ANT101, it was determined that it was still valuable to look at usage and time spent engaging with the module.

Reference statistics were analyzed using LibAnalytics in order to determine how the number of queries librarians received from students in courses with embedded LOs changed after the LO was integrated. A decrease in reference questions after LO integration would suggest that students received answers to their questions before they needed to reach out to a librarian, therefore improving student research independence. The date of LO integration was recorded for each course so that the author could determine the appropriate time frames to analyze and compare. Since reference volume often ebbs and flows naturally depending on the time of year, the author compared averages for the same span of months from 2013 and 2014 before and after LO integration in order to control for those variations. For instance, if an LO was integrated in a course on September 1, 2013, the researcher may compile the average number of reference questions received for that course from April 1 to August 31, 2013 (before LO integration) and April 1 to August 31, 2014 (after LO integration) in order to compare the same time frame between years. Reference statistics were analyzed for a total of six courses: ENG122, ANT101, PSY202, HIS103, POL201, and INF103. The researcher filtered the reports to ensure that only reference questions pertaining to research were counted, as opposed to troubleshooting, writing, or other irrelevant question types.

To determine the extent to which LOs have had an impact on student learning and performance, rubric score analysis was conducted for the “Resource Requirement” rubric which is used to determine whether or to what extent the student used the required number of scholarly sources and provided compelling evidence to support ideas for their final papers. Waypoint Outcomes software is an electronic grading rubric and assessment analytics tool that was integrated within most courses at Ashford during the time of this study, and has since been integrated within all courses. This tool allowed the author to gather and compare scores for the Resource Requirement rubric of students’ final research papers within two general education courses, ANT101 and ENG122, before and after LO integration within the course. It is important to note that two different iterations of an LO were integrated in ANT101. The first iteration was a Libguide and the second, improved LO was an interactive learning module. The researcher chose to focus data analysis on the interactive learning module rather than the Libguide. Additionally, although the researcher originally aimed to analyze rubric scores for two
additional general education courses, PSY202 and INF103, the courses were ultimately not included in the analysis because either Waypoint Outcomes was not integrated within the course, making the data unavailable, or the rubrics were changed in the course around the time of LO integration so that comparisons could not be made.

Instructors assessed students’ final papers within the Waypoint Outcomes software assigning a grade for each rubric. The criteria for which instructors determined how well a student performed a certain task were as follows: Distinguished, Proficient, Basic, Below Expectations, and Non-Performance (see Figure 1). The author compared the average percentages for all students who received Distinguished, Proficient, Below Expectations, and Non-Performance for four months before and after the LO was integrated within the course using descriptive statistics. These data were taken for all sections of ANT101 and ENG122 running within the specified time range of analysis (generally four months before and after LO integration), rather than a sample. The LO for ANT101 was integrated on July 15, 2014; therefore, rubric data was compared between February 4 – June 9, 2014 and July 15 – November 24, 2014. The LO for ENG122 was integrated on April 1, 2014; therefore, rubric data was compared between Nov 12, 2013 – March 24, 2014 and April 15 – August 19, 2014. For each performance criterion, the average percentage of students earning that criterion was calculated for each time range. The percentages were compared between time frames to see how the percentage of students who earned a Distinguished, Proficient, Below Expectations, and Non-Performance may have increased or decreased following LO integration. All raw rubric data were obtained through the Academic Assessment office; however, statistical analysis was performed by the author.

<table>
<thead>
<tr>
<th>Resource Requirement</th>
<th>Total: 1.25</th>
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<tr>
<td>Distinguished - Uses more than the required number of scholarly sources, providing compelling evidence to support ideas. Quotations are used minimally or not at all. All sources on the reference page are used and cited correctly within the body of the assignment.</td>
<td></td>
</tr>
<tr>
<td>Proficient - Uses required number of scholarly sources to support ideas. Quotations are used appropriately. All sources on the reference page are used and cited correctly within the body of the assignment.</td>
<td></td>
</tr>
<tr>
<td>Basic - Uses less than the required number of sources to support ideas and/or uses some unnecessary quotations. Some sources used may not be scholarly. Most sources on the reference page are used within the body of the assignment, but citations may not be formatted correctly.</td>
<td></td>
</tr>
<tr>
<td>Below Expectations - Uses inadequate number of sources, providing little or no support for ideas, and/or uses quotations excessively. Sources used may not be scholarly, sources on the reference page may not be used within the body of the assignment, and citations may not be formatted correctly.</td>
<td></td>
</tr>
<tr>
<td>Non-Performance - The assignment is either nonexistent or lacks the components described in the instructions.</td>
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*Figure 1.* Rubric for evaluating student bibliography quality in ANT101 and ENG122.
Results

The unique number of users who watched the video tutorial in BUS642 was 255; with a total enrollment of 373 (after 47 dropped in the first week), the tutorial received between 61-68% usage. The high usage rate was surprising, but more surprising was that the average amount of time students took to watch the tutorial was 8:07 minutes, indicating that students typically watched the entire tutorial (see Figure 2). A total of 4,364 unique users used the interactive learning module for ANT101. The total enrollment for ANT101 was 2,134 after 407 students dropped in the first week. Since the tutorial was also posted on the library website, any user on the library website could access the tutorial. Still, the high usage was surprising due to the fact that the learning module was customized to be only relevant to ANT101 students, leaving the author to wonder who else used the module and the reason for the usage. Just as with the BUS642 LO, the average time the ANT101 module was viewed was very high: 7:49 minutes, which spanned the approximate length of the module.

Librarians received a significantly lower number of research reference questions after LO integration for all courses analyzed. The following list shows courses and corresponding percentage decrease in research reference questions:

- ENG122: 80%
- ANT101: 68%
- PSY202: 67%
- HIS103: 67%
- POL201: 65%
- INF103: 28%

![Figure 2. BUS642 Google Analytics showing LO usage.](image-url)
ENG122, an introductory English composition course, accounted for the most dramatic decrease in reference questions at 80% while most others, with the exception of INF103, decreased by approximately 67% on average. It must be noted that many of the reference questions that librarians continued to receive from students in the courses listed above were either not related to the assignment that the LO addressed, or it was clear that the student had not utilized the LO. Librarians noticed that questions that could be directly addressed by the LO dramatically decreased overall.

INF103 showed the lowest drop in average percentage of reference questions at 28%. It should be noted that the LOs (two video tutorials) for INF103 were not integrated within the course in the way librarians intended and had agreed upon with course developers. The videos were meant to be placed together and watched sequentially; however, once the redeveloped course launched, the tutorials were split up with one integrated within a week two assignment and the other integrated within the final assignment. Since the tutorials were designed to be watched together at a specific point in the course but were ultimately used in an alternative way, the author hypothesizes that this may have contributed to the LOs’ limited success and students’ continued need to contact librarians with their research questions.

Student performance on the Resource Requirement rubric improved significantly following integration of the second iteration of the LO for ANT101 (i.e. the interactive learning module); however, no significant changes were observed for ENG122. In ANT101, there was an 8% increase in students who earned a “Distinguished” criteria level on the grading rubric, indicating that more students used more than the required amount of scholarly sources, provided compelling evidence to support their ideas, used quotations minimally, and cited sources correctly. Likewise, there was a 4% decrease in students who earned a “Below Expectations” criteria level and a 3% decrease for those assigned a “Non-Performance” status, indicating that the number of students who did not use any or enough scholarly articles declined. There were no significant changes for the “Proficient” or “Basic” grading criteria.

Discussion

The results indicate that the point-of-need, customized instructional LOs embedded in the LMS have a positive impact on student learning. The dramatic decrease in the amount of reference questions librarians received after LO integration points to the fact that students’ research questions are addressed proactively before students form them or otherwise need to reach out to the library. It can be reasonably concluded that in this way, the LOs lend to students’ ability to be more research-independent. Additionally, bibliographies for students enrolled in ANT101 improved significantly after the learning module was integrated into the course, while the amount of students who performed poorly in this area went down significantly. The unchanging rubric scores in ENG122 following tutorial integration was surprising and disappointing. The reasons are unclear, as usage data could not be gathered for the ENG122 tutorials; therefore, the author could not determine if students are utilizing the tutorials. The dramatic 80% decrease in reference questions from students in ENG122 indicates that students did view the tutorials, however, leading the author to consider if the problem lies in the content or instructional design of the tutorials. It would have been optimal for the author to have analyzed rubric scores for multiple courses rather than just two to better assess how LOs impact
IL skills; however, the data were not available for the current study. Future studies will attempt to gather these data for more courses in order to more confidently generalize the findings.

Although usage could only be pinpointed accurately for the LO in one course, BUS642, the positive results are encouraging. Most students watched the video tutorial in that course, and surprisingly, students tended to watch it for the entire duration of the tutorial. This trend seems to hold true for the ANT101 LO as well, although usage statistics could not be isolated for the LO in that course. Still, the average view time for the ANT101 learning module spanned the duration of the module. Again, confidence in these results could be strengthened if the author were able to analyze the data in relation to many courses rather than just two. Going forward, AU librarians will attempt to find solutions to make usage data isolation possible for more LOs.

One major study limitation was the reliance on aggregate, before-and-after data rather than tracking individual student usage of LOs and comparing academic performance and research independence of those who used the LO to those who did not use the LO. The ability to directly attribute individual student usage to performance would have provided the most powerful, direct evidence of LO impact on student learning; however, the data necessary to carry out this type of assessment were not available. Future studies assessing LO impact should attempt to measure direct impact of LOs by tracking individual student performance in relation to LO use. Another study limitation involved the reliance on faculty to accurately grade bibliography quality. It would have been ideal for librarians to perform the citation analysis; however, the study could not have been carried out on the same scale, as citation analysis takes considerable staff time and resources to complete.

Despite its limitations, the current study upholds evidence presented in previous research demonstrating the effectiveness of point-of-need, embedded instructional LOs in distance education. The results are reassuring to AU librarians that the IL interventions are having a positive impact, leading to more confidence in the initiative being worth the time and effort. Additionally, the results provide compelling evidence of the library’s value to university stakeholders. The author presented her findings to various groups including faculty, instructional designers, the Academic Assessment team, the Provost and the academic chairs of all four colleges at Ashford. This communication has resulted in not only the elevated reputation of the library and its devotion to meeting students where they are, but also in increased buy-in from critical stakeholders.

Conclusion

Libraries serving distance students must be steadfast in tapping into the rich data-gathering opportunities available within LMSs and use the most direct measures of assessing the impact of instructional interventions on student learning. In doing so, librarians gain a better understanding of the interventions’ effectiveness and can determine ROI. A mixed-methods approach to assessment, as opposed to reliance on a single data-gathering method, is an optimal way to gain a strong, comprehensive picture of an intervention’s success. The methodology used in the current study is sustainable and does not overly burden library staff. This lends well to continued assessment and reporting of how the library is impacting student learning. A combination of analyzing usage statistics, reference statistics, and citation analysis through
rubric score data provided the AU Library with the knowledge that students are using LOs and that LOs are contributing to students’ ability to complete their work independently and produce bibliographies that meet or exceed rubric requirements. These results help validate the AU Library’s decision to cut back on reference services in favor of devoting more time to developing and embedding point-of-need LOs in courses. It is clear that course-embedded LOs provide a scalable solution that proactively helps more students than is possible with one-on-one reference interactions.

Aside from gaining internal validation, effective outcomes-based assessments must be carried out in order to communicate library value to university stakeholders. At the conclusion of the current study, the AU Library has since successfully advocated for more library involvement in the course development process and increased collaboration with faculty to embed LOs in the LMS that meet students’ needs for particular assignments. Effectively creating and integrating customized LOs in courses is a massive undertaking in terms of staff time and resources; however, as Mune et al. (2015) succinctly state, “While the initial time commitment for planning and creating modules can be significant, as long as there is buy-in from library and campus stakeholders, the reusable and scalable nature of the modules make the investment worth the time and effort” (p. 115). Armed with a proactive instructional strategy that meets students where they are and a well-designed assessment strategy, distance librarians will be well-positioned to demonstrate library value and advocate for the necessary resources to continue to make meaningful impact on student success.
References


Collaborative Metaliteracy: Putting the New Information Literacy Framework into (Digital) Practice

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Abstract
This paper describes a course-integrated collaborative project between a subject librarian, a communication professor, and an instructional designer that illustrates how the TPACK (Technological Pedagogical Content Knowledge) framework, developed by Koehler and Mishra (2006), and the new ACRL Framework for Information Literacy (Framework) converge to support student learning in an online course in public speaking. Aligning TPACK with the Framework hones the behavioral, affective, cognitive, and metacognitive skills in the metaliterate learner. The authors illustrate how TPACK and the Framework can support the subject-specific content areas of public speaking by integrating information literacy learning objects throughout the entire online course.

Introduction
For some, the notion of an online public speaking course violates more than two thousand years of oral tradition and instruction in rhetoric. However, the proliferation of online learning, the constant emergence of new technologies, and a growing population of digital natives necessitate a shift in the conceptualization of public speaking and the ways in which it is taught. While many academic institutions are already offering an online version of the course, challenges of reconciling traditional content with new technology remain—not only for the students. Instructors are required to rethink traditional pedagogy to support student learning in the online environment. The same is true for librarians who now find themselves embedded in the “combat zone” of online learning. This paper presents a strategic approach to these challenges by aligning a holistic model of instructional design with the new ACRL Framework for Information Literacy.

The online public speaking course provides a unique environment to promote multiple literacies as students navigate subject content and technology, not only for the acquisition of knowledge and skills but also in the creation of their own information products, i.e. various types of speeches. Furthermore, the online environment offers an opportunity to highlight specific aspects of oral communication, information literacy, and instructional design, which in turn support the continuous integration of information literacy learning objects into the course curriculum. In the following, the authors outline some of the tenets of oral communication,
information literacy, and online instructional design before discussing how these knowledge areas intersect to foster metaliteracy in the online learning environment.

Literature Review

This project exists at the intersection of three knowledge areas: oral communication, information literacy, and online instructional design. The following discussion highlights concepts from each of these knowledge areas relevant in guiding the creation of an online public speaking course that requires students to incorporate information resources into their speech assignments.

Oral communication, or public speaking, has long been a staple of general education (Gen Ed) programs in higher education. Valenzano, Wallace, and Morreale (2014) call it “perhaps the original and most enduring pedagogical element in the communication discipline” (p. 356). Harking back to ancient Greece and Rome, oral communication has been a fundamental element in the education of well-rounded citizens and future leaders. The oral communication curriculum is designed to foster students’ confidence in verbal and nonverbal expression and improve their public speaking skills in their academic and professional careers. While nowadays most of the public speaking classes are offered through departments like Communication, elements of public speaking have also found their way into other disciplines as part of a movement in the 1990s to “infuse ‘communication across the curriculum’” (Valenzano, Wallace, & Morreale, 2014, p. 361), which reflects a shift to an outcomes-based approach to education rather than a prescribed menu of courses. Furthermore, due to the proliferation of distance education as a way to accommodate shrinking university budgets and a growing demand for flexible scheduling, oral communication in higher education is no longer limited to a traditional classroom environment. A common approach to this is a hybrid model for the public speaking course, where content is taught online but students still convene in the traditional classroom to perform their speeches. Studies of these types of hybrid courses found no difference in students’ perception of speaking apprehension or students’ public speaking abilities between a traditional and an online classroom environment (Clark & Jones, 2001; Hanson & Teven, 2004; Nicosia, 2005).

Despite apprehensions among some faculty about the suitability of public speaking in an online learning environment, it can be argued that a traditional classroom environment may “reflect the real world far less accurately than public speeches online students might present to audiences they locate in their own communities” (Sellnow & Gullick, 2005, p. 36). Many colleges and universities have successfully moved to a fully online version of the course by requiring students to submit recorded speeches through the online classroom; either posted to a forum for all to see, or submitted individually to their instructors (Corum, 2013; McCullough, 2015; Violette & Fitch, 2006). Violette and Fitch (2006) suggest that students be required to contract a specific number of evaluators “who commit to be present and to provide evaluative feedback for the student speech when it is taped” (p. 9). Many instructors underline the importance of providing specific guidelines regarding sound and camera angle for the speech recording as proof that speeches occurred before a sizable audience similar to a classroom experience (Sellnow & Gullick, 2006; Violette & Fitch, 2006). Corum (2013) also recommends requiring students to upload a brief introductory video early in the course to identify any
technical problems that may arise for the students or within the learning management system (LMS). As is typical of any public speaking course, in the online environment the requirements for each speech build up over time as well, increasing in length and number of sources to support their argument (Corum, 2013; Sellnow & Gullick, 2006).

At many academic institutions public speaking is part of the General Education (Gen Ed) curriculum and often is one of the first courses in which students are introduced to concepts of information literacy, as they are required to incorporate information sources into their speeches. In 2007 The National Communication Association published the second edition of *The Competent Speaker Speech Evaluation Form*, which lists Competency Three as: “provides supporting material (including electronic and non-electronic presentational aids) appropriate to the audience and occasion” (Morreale, Moore, Surges-Tatum, & Webster, p. 13).

Thus, information literacy, though not always explicitly named as such by instructors of public speaking, traditionally has been an integral part of oral communication courses, as students are required to support their speeches with credible information from reputable sources. As is typical for many instruction sessions at the undergraduate level, instructional librarians are usually asked to provide students with tools to help them identify, access, and evaluate information resources. Since 2000, the “Information Literacy Competency Standards for Higher Education” (Standards) by the Association of College and Research Libraries (ACRL) have guided librarians in creating student learning outcomes for various courses across the curriculum. Each Standard entails several performance indicators with measurable outcomes. In collaboration with discipline faculty, librarians are expected to align these outcomes with institutional curriculum guidelines and individual course objectives. This standardized approach has been criticized by some instructional librarians as too prescriptive and not reflective of changes in the higher education environment and in the production and dissemination of information in the 21st century. In 2011 this led to the appointment of a task force by ACRL to consider if the Standards should be revised. As a result of discussions among the task force and a debate within the broader professional community of librarians the new “Framework for Information Literacy for Higher Education” (Framework) emerged, which was filed by ACRL as part of a group of documents related to information literacy. As such, the Framework does not replace the Standards but serves as a guide to “the development of information literacy programs within higher education institutions while also promoting discussion about the nature of key concepts in information in general education and disciplinary studies” (Association of College and Research Libraries [ACRL], 2015, Appendix 1, para. 1). The Framework consists of six frames:

1. Authority is Constructed and Contextual
2. Information Creation as a Process
3. Information Has Value
4. Research as Inquiry
5. Scholarship as a Conversation

Each frame represents an essential element of information literacy and proposes “knowledge practices” to help students better understand each of the information literacy concepts, as well as “dispositions” that “address the affective, attitudinal, or valuing dimension of learning” (ACRL, 2015, Introduction section, para. 2). Rather than serving as a measure of competency, however, the frames are envisioned as flexible constellations of interrelated dimensions of a learning process relevant to concepts of information literacy. As a result, information literacy becomes an integral part of disciplinary research and learning, which ideally provides students with transferable research skills that go beyond a specific assignment or course.

At the core of the Framework is the concept of metaliteracy, inextricably linked to “behavioral, affective, cognitive, and metacognitive engagement with the information ecosystem” (ACRL, 2015, Introduction section, para. 4), which is discussed extensively by Tom Mackey and Trudi Jacobson in their book by the same name (2014). These four domains encourage active participation, active emotion, active knowledge acquisition, and active reflection as students interact with the information environment. Mackey and Jacobson’s (2014) model represents a self-reflective learner who is not merely a consumer but an active participant in the creation of knowledge in a digital information world characterized by collaboration and sharing. One aspect of this “brave new world” is the realm of online education, where the parameters of the curriculum require students to engage with unfamiliar information and utilize potentially unfamiliar tools to produce and disseminate new knowledge. “To be metaliterate requires critical reflection about individual and collaborative learning and active engagement in the production of new knowledge” (Mackey & Jacobson, 2014, p. 93). In order to foster students’ metaliteracy in the online learning environment, the instructional design needs to reflect the interplay between subject matter, pedagogy and technology. However, until recently educational technology was typically regarded merely from the perspective of its possible impact on learning, along with procedural content, rather than through a unified theoretical framework employed across the educational technology discipline (Koehler, Shin, & Mishra, 2012). The TPACK framework, described under this particular acronym by Mishra and Koehler in 2006, attempts to address this gap (see Figure 1).

The key to the TPACK framework lies in the interactions among three bodies of knowledge that are represented as PCK (Pedagogical Content Knowledge), TCK (Technological Content Knowledge), TPK (Technological Pedagogical Knowledge), and, at the core, TPACK (Technological, Pedagogical and Content Knowledge) (Koehler, Mishra, & Cain, 2013). Further, the framework emphasizes that the interaction among these elements is affected by the context in which the learning occurs (Koehler et al., 2013). The TPACK framework has "allowed teachers, researchers, and teacher educators to move beyond oversimplified approaches that treat technology as an ‘add-on’ to focus instead, and in a more ecological way, upon the connections among technology, content, and pedagogy as they play out in classroom contexts” (Koehler et al., 2013, p. 14). Despite concerns about its complexity (Brantley-Dias & Ertmer, 2013) and lack of evidence to reliably measure its validity (Cavanaugh & Koehler, 2013), the
TPACK framework has had a significant impact on the discussion of the effect of educational technology.

Research on the application of the TPACK framework within the library context, however, is scant. Although technology and the online learning environment are among the factors in discussions focused on embedded librarianship online (Daly, 2011; Farkas, 2015; Schroeder, 2011), a gap exists on the explicit application of the TPACK framework in relation to information literacy in the online teaching environment. Sobel and Grotti (2013) suggest a hypothetical scenario of incorporating Google Docs (Technological Knowledge) into library instruction (Pedagogical Knowledge) that focused on the exploration of multi-subject databases (Content Knowledge), which is easily applicable to online library instruction.

Figure 1. Reproduced by permission of the publisher, © 2012 by tpack.org.
In the following, the authors offer an approach to utilizing the TPACK framework as part of an alignment between the learning objectives of the public speaking course and the new ACRL Framework.

Context

The University of Akron (UA) is an urban public research university with a student population of about 25,000. In 2014 UA revised its Gen Ed curriculum to include information literacy as one of its student learning outcomes. The public speaking course is part of the Gen Ed curriculum and is offered through the School of Communication. A Gen Ed Speech committee, made up of all full-time communication faculty who teach the Gen Ed classes, oversees the program under the leadership of a course coordinator. Approximately 100 sections of the course are taught every semester, reaching 2,000-2,500 students a year. The course is offered in various iterations: a traditional classroom format, where students meet with the same instructor for all classes; a traditional hybrid format, where a lecture is provided to 100-125 students one day a week, accompanied by small sections – taught by a different instructor – on the other class days; and an online hybrid format, where lectures are provided online, and students meet with an instructor in person on other class days.

All classes are designed to meet the same learning objectives for consistency across sections, typical of most public speaking courses: students learn about rhetorical traditions and public speaking as civic engagement, and have to give different types of speeches. Aside from smaller assignments, students must prepare and deliver three types of speeches: an informative speech, typically on a topic of their choice; a problem-solution speech that falls into the persuasive category; and a special occasion or group speech. The information literacy efforts for this course thus far have focused on the informative and the persuasive speeches, in which students are required to incorporate information from various sources. The course coordinator and the subject librarian have collaborated to create worksheets for students to develop a feasible topic, identify appropriate keywords, search library resources in a systematic manner, and evaluate sources following a rubric, such as the University of Chico’s CRAAP test. A web-based course guide (LibGuide) exists to guide students through the research process for their speech assignments, and a handful of instructors have invited the subject librarian for one-shot library instruction sessions. In the spring of 2014 UA’s Office of Design and Development created a customized navigation bar in the university’s LMS (Brightspace by D2L, branded as Springboard). This navigation bar is released at the School of Communication level and includes a direct link to the LibGuide from the Springboard course home navigation bar; however, instructors are not required to select this custom navigation bar for their courses and very few do. As part of a larger assessment project (Gersch, 2015), the subject librarian also created a library research module in some of the sections in the 2014-15 academic year. The module contained some of the LibGuide material, as well as additional tutorials and resources.

In the summer of 2014, the Gen Ed Speech coordinator at the time submitted a proposal to develop a complete online version of the course. Due to personnel changes and delays in the approval of the course through the curriculum system, the complete online version will not be
offered until fall 2016. This paper, therefore, offers a discussion of the envisioned model, while insights gained from the experience and an assessment of student learning will be reported at a later point.

Information Literacy in the Public Speaking Course

The goals of the course are to introduce students to principles and practices of effective communication and apply them in a variety of speaking situations. Specifically, students will be able to:

1. Effectively compose a speech
2. Effectively use oral and visual communication
3. Utilize information literacy skills
4. Cite appropriate sources in speeches
5. Conduct audience analyses
6. Use various types of support and arguments, and
7. Manage communication apprehension.

In the traditional classroom, and even in the hybrid version of public speaking, the subject librarian typically conducts a one-shot instruction session to help students with their research in preparation for their speeches. Most often, this occurs before their informative speech, and the course instructor hopes for an introduction to library resources, identifying keywords for their topic, creating Boolean combinations and evaluating resources by using a rubric like the CRAAP test. Rarely does an instructor request a follow-up session to deepen the students’ understanding of these concepts and skills. Schedule constraints and the course instructors’ confidence in being able to teach information literacy skills themselves lead to many students in public speaking courses actually never working with the subject librarian. Therefore, a solution is typically to make information literacy content available to the students through the LMS and hope that course instructors promote these tools to their students and perhaps even require them to complete some of the tutorials as part of an assignment. For traditional classroom courses and hybrids, the LMS typically serves as a tool to support the classroom activities, enhance the learning experience through additional resources, and provide convenience for instructors and students alike with regard to submitting assignments and communicating. For online classes, however, the LMS is more than a part of the course, it is the basis of the course, where content, pedagogy and technology intersect. Even more than the traditional classroom it promotes, indeed requires, the “behavioral, affective, cognitive, and metacognitive engagement with the information ecosystem” (ACRL, 2015, Introduction section, para. 4), that is a metaliterate approach to learning. To promote this, the goal must be to carefully scaffold each essential element into the online course design. The various goals and layers involved create what Mishra and Koehler (2007) call a “wicked problem” (p. 2214).
The idea of context, then, becomes a key consideration and has the potential to solve rather than to compound the problem. In a physical classroom context, the logistics of introducing each element quickly become quite complex. It is typical for an introductory public speaking course to meet at least 30 times in a semester. If 100 sections are offered, this could approach 3000 lectures. It is clearly unreasonable to consider inviting the Communication librarian to present up to 3000 short, focused lectures such that the information literacy framework can be gradually introduced and reinforced. Even if this were possible, many of the classes meet at the same time in different locations.

The most common approach for librarians to reach many students is the one-shot library instruction session, in which librarians are often asked to teach all the necessary skills for good research in one visit. It is not unusual for an online class to simply replicate this approach and create a single information literacy module, where students can access the resources they need to complete their assignments, akin to “visiting” the library. Research has found, however, that an integrated approach to information literacy is far more conducive to student learning, whether in the traditional classroom or online, as evidenced by the approach Weaver and Pier (2010) describe at Wartburg College. However, at a large university like The University of Akron, it is impossible to “utilize the entire staff of instructional librarians” (Weaver & Pier, 2010, p. 265). Time constraints in the traditional classroom course typically prevent this opportunity for scaffolding information literacy instruction throughout the entire semester. In the online context, though, it is feasible and logistically possible for the librarian to design a series of short lessons to gradually introduce information literacy skills to the students and provide opportunities to practice the application of those skills.

As stated earlier, the main aspects of information literacy instruction in the public speaking course typically focus on developing a feasible topic, identifying appropriate keywords, searching library resources in a systematic manner, and evaluating sources following a rubric, such as the University of Chico’s CRAAP test. These steps in the students’ process of creating their speeches align with the traditional ACRL Standards, and the existing library research module contains resources to help students meet these standards. However, the online environment allows for larger information literacy themes or frames to be woven into the overall course material and for information literacy to be scaffolded throughout the entire course.

In the following, the authors discuss how the ACRL Framework aligns with the learning objectives of a typical public speaking course and how the TPACK model can support the learning objectives of the Framework in an online environment.

**Aligning Two Frameworks: Information Literacy and TPACK**

The public speaking course discussed here encompasses four large themes: public speaking in a democratic society, types of speeches, developing a speech, and presenting a speech. Below, the authors outline how the new ACRL Framework aligns with each of these themes, what specific information literacy learning outcomes are relevant for each theme, and how aspects of the TPACK framework support both of these in the online learning environment.
1) Public Speaking in a Democratic Society

Frames: Authority is Constructed and Contextual; Scholarship as a Conversation; Information Has Value. Concepts like civic engagement, ethical guidelines, and diversity are important facets in the public speaking curriculum, and information literacy is deeply tied to these tenets of communication in a democratic society. Student learning outcomes focus on identifying different types of authority, recognizing diversity in audiences, and evaluating a variety of fluid information formats. Students are encouraged to understand public speaking as part of an ongoing discourse to which they are able to contribute by seeking out diverging perspectives on a particular topic. Specific information literacy learning outcomes are the critical evaluation and proper attribution of information resources. While students are not required to do their own research at this point, analyzing existing information resources, specifically speeches, provides an opportunity for them to evaluate aspects of scholarly conversation that then become relevant in their own assignments (e.g., identifying expert and lay voices, summarizing and evaluating viewpoints, and attributing sources). By scanning the information landscape they begin to understand how different authors engage in a conversation that goes beyond interpersonal communication. As students begin to think about a topic for their own speech, they are encouraged to explore different voices on the subject. A discussion about constructed and contextual authority and the creation of a rubric can help them identify how authority is framed in different contexts.

The online learning environment offers an ideal opportunity to foster conversation among students. Discussion forums can add a self-reflective component, as students assert their own authority on certain topics within the course. In Mishra and Koehler’s TPACK framework, the ideal alignment of the Technological Knowledge (TK), the Pedagogical Knowledge (PK), and the Content Knowledge (CK) can be considered in this theme. The Content Knowledge is the ability to analyze speeches and evaluate how they frame authority. One key to the CK component is that this activity requires students to practice applying the skill across a wide variety of resources, and of particular importance is that students now have access to a wide variety of speeches of great historical significance. The Pedagogical Knowledge (PK) is an understanding of how to best teach the skill. In this case this task falls in the Evaluate level of Bloom’s taxonomy. When considering the pedagogy, then, the instructor will want to provide an example, followed by numerous opportunities for students to practice and obtain feedback. If the instructor chooses an individual assignment with instructor feedback, the student will gain practice with only the examples that the instructor has assigned to the student or those that the student self-selected. In either approach, the student’s knowledge will be constrained by the examples that student has selected or that have been assigned. Given that the goal is for the student to have numerous opportunities to practice with many kinds of speeches, an activity in which students observe the results of their peers and perhaps even critique the effort will lead to an improved alignment to the learning goal and thus a better application of PCK. This could be achieved through discussion either in groups, individually, or both. The final component to the framework is the Technological Knowledge (TK). In order to achieve the PCK, there are a variety of technologies that can support group discussion and peer feedback. As discussed, the TPACK framework is dependent on the context where the learning occurs. In an online course, the most likely technology to achieve PCK would be the discussion tool. Thus, for this theme,
the best application of the TPACK framework would be on an online discussion wherein students post one or more completed example(s) with opportunities to review the work of their classmates either formally (such as through an assigned and graded critique) or informally (such as through a respectful discussion or debate). As noted, this can include opportunities for students to post critiques of historically significant speeches.

2) Types of Speeches

**Frames: Authority is Constructed and Contextual; Scholarship as a Conversation.**

In any public speaking class, students are introduced to different types of speeches (e.g., informative, persuasive, special occasion). They study the characteristics of each type, analyze existing speeches, and produce their own. These learning activities provide students with the opportunity to recognize the significance of political, economic, social, and cultural contexts that shape the creation as well as the reception of various speeches. Through discussion, reflection, and feedback, students are encouraged to recognize and shape their own authority in public discourse. Having to present different types of speeches, students not only learn to acquire and evaluate information but to shape that information for distinct purposes. The online learning environment in a sense adds another type of speech (mediated speech, if you will) that presents an opportunity for reflection and evaluation, as students engage in academic discourse.

Although students may learn early on in the course about different types of speeches, it is only after they apply that knowledge in their own performances throughout the course that they reach a more advanced level of information literacy. In this application of the TPACK framework, the Content Knowledge grows in complexity. At the end of the course, students should be able to synthesize all of the information literacy knowledge as well as the communication knowledge that they have acquired to the extent that they can begin to think metaliterately about the various contributions made by various sources of authority in different speaking contexts. An appropriate pedagogical approach for the highest level of Bloom’s taxonomy is to provide access to expert knowledge. As noted in the first theme, online technology now provides students with access to a wide variety of historically significant speeches. This requires the student to practice deeper information literacy skills to find, filter, and derive meaning from these more complex and better-crafted sources. When applying the TPACK framework to this theme, this approach offers students a deeper opportunity to practice, thus improving the alignment with the “Authority is Constructed” frame.

3) Developing a Speech

**Frames: Research as Inquiry; Searching as Strategic Exploration; Information Has Value.** This is perhaps the most traditional context for information literacy in the public speaking course. In developing their speeches, students are required to identify a topic, find appropriate sources, evaluate and properly incorporate them in their presentations. Student learning outcomes typically include identifying the scope of the research project, accessing, synthesizing and evaluating information, and following ethical and legal guidelines in using the information they find. The first step typically includes the narrowing or broadening of a topic. The new ARCL Framework emphasizes the significance of ambiguity, flexibility, and creativity in the research process. The online learning environment is an ideal space for students to share
their thoughts on the process on a continuous basis and actively reflect on these attributes of research individually, or in groups. Following the identification of a topic, students then need to be able to identify appropriate databases and other information sources for their search, sometimes dictated by the parameters of the assignment (e.g., four to six resources, only two of which may be websites). Students can only be strategic in their search if they understand the commonalities and differences in databases with regard to content, tools, and usability. They need to be able to “think” like a database, i.e. use controlled vocabulary, keywords, etc. Identifying the “right” keywords and creating Boolean combinations that yield valuable results are skills that are improved through a metacognitive approach as they continuously reflect and adjust their search strategies. This also includes the evaluation of resources by applying existing criteria for evaluation (such as the CRAAP test) or developing their own. Finally, students also need to understand and be able to apply rules of proper attribution and citation.

While the traditional one-shot session allows for only a limited demonstration and practice of strategic searching, the online classroom offers an excellent way to parse out elements of the research, so that students are guided in their strategies and can continue to build on them throughout the course. For example, the instructor can determine how much content to release at once and whether students have to complete certain steps before they can move onto others.

To apply TPACK to this frame, the Content Knowledge (CK) is the student’s application of effective research. This comprises several tasks including topic identification, information source identification, search strategies and attribution as explained. The key to this CK is that the knowledge is a complex series of steps in which one step is dependent on the successful completion of the previous step. At any point, if a student is not successful, the results from the steps that follow may be adversely affected to some extent. When considering the Pedagogical Knowledge (PK), then, the instruction should reflect some form of iterative or step-by-step direct instruction with opportunities to check results against a correct answer. For example, students can be provided with some worked examples where they have opportunities to compare their own answers, followed by an individual assignment to complete. In both activities, students would be asked to respond to reflection questions that encourage metacognitive thinking about their results. For the guided practice, the technology that can support this approach is a series of online quizzes. Students can be provided with unlimited attempts with the goal of them mastering the material. The next step can be controlled with a conditional release such that the student must master the activity before progressing. For each attempt, students can be provided with an open-ended reflection question. For the individual graded activity, the technology that can support this is a dropbox. For this theme, the best application of TPACK would be a series of conditionally released quizzes followed by a dropbox activity connected to a rubric.

4) Presenting a Speech

Frames: Information Creation as a Process. While library instruction typically does not directly involve the presentation of speeches, the new Framework offers an opportunity to guide students in recognizing the significance of the variables in the process of creating information. In presenting a speech, students are essentially selecting, evaluating, and packaging information for a specific audience. Creating their own information artifact makes this process,
as it applies to any type of information, more transparent to students. Not only do they have to demonstrate their competency as a public speaker, typically following the competencies as published by the National Communication Association (Morreale et al., 2007); in addition, students need to be able to capture their performance in a format that is transferrable to the online environment. Recording a video of their speech adds two dimensions that go beyond the immediate realm of public speech. Although nowadays more people experience public speeches in a mediated rather than in direct communication, in the context of a class assignment the presence of a video camera (even if it is only a cell phone) potentially affects the emotional disposition of the student giving the speech and thus may alter its outcome. It also requires students to master this technological component of their assignment, so that it meets the parameters given by the instructor and does not negatively affect their speech or the video representation thereof.

In this case, the Content Knowledge (CK) is the ability to present information in verbal form, which falls within the Creation level of Bloom’s taxonomy. At a minimum, an appropriate pedagogy should provide opportunities for students to practice and receive feedback. Ideally, though, this should be taken a step further with opportunities for students to receive multidimensional feedback from a variety of observers. Finally, it can be argued that the best pedagogical approach is one in which the students incorporate the feedback into a revised speech, practice again, and then reflect on the results. Given the proliferation of smart phones and free hosting services such as YouTube, the technology to record a speech is nearly ubiquitous. By recording the speech, the student has the opportunity to solicit feedback from a variety of sources such as peers, audience members, and the instructor. When considering the online context, the class is not limited to the length of the class time allotted. Therefore, the recorded video component creates an opportunity to capture more of the student’s process, from their first read through or draft to the final performance. Using technology such as an online rubric, the student could also evaluate their own performance, thus encouraging reflective practice. The student can then incorporate the feedback to revise the speech, record it again, and repeat the process of reflection. Notwithstanding the previously described limitations of the mediated context for the performance objective; when applying a TPACK framework, online technology is potentially better suited to support the information literacy component of the learning goal, as it has the potential to go deeper than in the traditional classroom, where classmates are typically asked to rate the speech as it occurs and provide immediate written feedback on an evaluation sheet. Compared to this one-time performance, in the online course students can record several performances with opportunities to self-evaluate, solicit feedback, reflect on the process and improve. By requiring multiple performances and encouraging students to reflect, this approach will lead to deeper learning.

Conclusion

From the discussion above it is evident that the online learning environment offers an ideal space for collaborative metaliteracy, that is, bringing together the TPACK framework and the Framework for Information Literacy to engage with a subject discipline and support student learning. Adopting the Framework and TPACK in providing information literacy instruction online provides a more integrated learning environment than a one-shot visit or a singular online module, turning information literacy instruction into a more organic process woven throughout
the entire course. By fully integrating information literacy exercises into the regular course work, students will regard the information literacy frames as part of a larger whole rather than an “add-on” to their coursework. Activities like “think-pair-share” can easily be adapted to the online environment in the form of discussion forums, honing the metacognitive disposition of learners. Rather than pulling all library tools and resources into one place, introducing them at the point of need as students move through the course improves the learning process. Conditional release technology in the online environment also offers an ideal opportunity to ensure that students have advanced their knowledge and skills before they are able to move on to the next topic. Embracing TPACK can lead to more constructive and guided information literacy instruction. The public speaking course, in particular, offers an ideal opportunity to introduce information literacy skills through both TPACK and the ACRL Framework for Information Literacy, therefore capitalizing on the intersection of technology and content as part of the metaliterate learning experience.

Many factors can get in the way of this idealistic model of collaboration for metaliteracy. Not all teaching faculty are open to integrating information literacy so deeply into their class. Librarians may harbor apprehension toward technology or feel inadequately equipped with regard to their subject expertise. The technology itself may have limitations and introduce restrictions that potentially impede an ideal learning environment. The application of the ACRL Framework is still in its infancy, and the Standards are still the common currency in many information literacy initiatives at university and college campuses.

Furthermore, there has been extensive debate about how to measure an educator’s TPACK knowledge, but there has not been compelling evidence yet of reliability or validity (Koehler et al., 2012). Additionally, the complexity of the framework contributes to the problem. As Koehler, Shin, and Mishra (2012) note, the model lies at the “intersection of multiple constructs” and research requires “sophisticated understanding of multiple constructs and how they interact with each other” (p. 24). This complexity challenge has led to some researchers arguing that the model is too complex to be measured and thus must be considered invalid (Brantley-Dias & Ertmer, 2013). In the language of Goldilocks, (Brantley-Dias & Ertmer, 2013), the framework is too big, yet its individual components are too small. In response to this and other arguments, Cavanaugh and Koehler (2013) propose that contemporary validity theory is a possible framework for measuring the validity of the TPACK framework. Having been introduced in 2006, the TPACK framework is relatively new, thus attempts to reliably measure its validity are newer still. Cavanaugh and Koehler propose that the issue is further complicated in part by confusion about the TPACK method itself (Cavanaugh & Koehler, 2013).

Even though a significant amount of work seems to be needed to reliably measure TPACK and thus to demonstrate its validity, there is little debate that educators must be provided with training in the effective application of technology and that this must be relevant to the educator’s specific content domain and the learning context. Despite their critique of the TPACK framework as an organizational construct, Brantley-Dias and Ertmer stress this throughout their analysis, stating in their conclusion that “our best instruments must be able to capture how teachers actually use technology when teaching specific content to particular students and how that technology enables student learning of that same content” (Brantley-Dias & Ertmer, 2013, p. 20). As it stands, it serves as a useful model for describing the effort to help
teaching faculty and instructional librarians understand the need to align the pedagogy, the content, and the selected technology within the context of the learning environment. Future research will need to assess the validity of the TPACK framework not only in specific subject areas, but also with regard to the integration of information literacy in these subject areas through TPACK.
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PREP: Outreach to Online Learners through Admissions

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Abstract
Librarians have collaborated with academic departments within their institutions for decades now, working with professors and administrators to bring information literacy skills to students. The librarians at National American University decided to extend this collaboration to a non-academic unit, the admissions department of the university. The admissions department had never worked closely with NAU librarians and many admissions advisors did not see the library as relevant to their role in the organization. Librarians worked with administrative stakeholders to create a tool for admissions advisors to use, aimed at increasing retention and academic success, as well as creating better relationships between admissions advisors, new students, and the library. This tool has increased the library’s visibility with new students, admissions, and administrative personnel, as well as built deeper relationships that the library can leverage in future projects. This paper offers a way for libraries to build mutually beneficial relationships with admissions staff.

The librarians at National American University (NAU) have worked hard to create partnerships with various academic departments in order to promote Association of College and Research Libraries (ACRL)-aligned information literacy skills to students across the University. Advisors, deans, and faculty have all become important components of the library’s promotional team, working with the librarians to market both traditional in-class and remote bibliographic instruction, as well as asynchronous methods such as tutorials and subject guides. This campus-wide outreach has helped NAU librarians promote themselves as well as library products and information literacy skills to a much wider university audience. In January of 2014, however, the librarians at National American University decided to take a more active role in the university’s efforts to retain students by working with another department that they had never collaborated with before: admissions.

Institutional Information

National American University is a for-profit educational institution which offers technical and professional degrees at the associate, bachelors, and graduate levels. It is an open-enrollment institution with a wide range of student backgrounds. While NAU supports 36 branch campuses in 11 states, all of its approximately 10,000 students are online learners to some degree, as even those students who are based at on-ground campuses are required to take some of their courses online. Many of our students are adult learners who need extra help with their
college readiness skills. The adult learners have unique challenges, as they have often: tried college unsuccessfully in the past; performed poorly in high school; been ESL learners; been new or uncomfortable with technology; had limited time due to other responsibilities; lacked confidence in themselves and their abilities; and felt anxious and overwhelmed by the new task they are now undertaking (Cannady, King, & Blendinger, 2012). NAU has 10 librarians to support all of these students.

Students are served primarily through two main departments: admissions and academics. Admissions advisors are responsible for recruiting students; once a student is enrolled, admissions advisors continue to work with them in order to set up an academic plan to support the student’s program of study as well. A student’s admissions advisor remains an active participant throughout their academic career at NAU, particularly in the first quarter, and is often a main source of support and someone the student will actively draw upon and consult on a variety of problems. All students, even distance students, will have an admissions advisor assigned to them.

Library Goals

The importance of actively engaging with various communities and establishing collaborative partnerships is a model of librarianship that is increasingly supported in practice and in literature (Arendt & Lotts, 2012). The benefits of working to market library services and resources to academic departments, faculty, and students have been well summarized by others (Thull & Hansen, 2009). Librarians at NAU have worked closely with academic departments for some time now and have long understood the importance of user-centered liaison work with various areas. They have reached out to faculty to incorporate bibliographic instruction into classes; they have worked with academic deans and advisors to hire tutors; they worked with curriculum instructional designers to add library content to online and ground courses; and they have worked on their own and with various subject matter experts to produce tutorials, webinars, online subject guides, and a plethora of other materials to add content and value to the library website. However, all of this outreach focused on academic departments within NAU.

Admissions at NAU is both the largest department, as well as the one with the least interaction with the library. Admissions staff tended to not understand the library or its role in student success. At best, they ignored the library. At worst, they misunderstood what resources and services the library offered, leading to misinformation being given out to students. This resulted in increased confusion by students regarding the library (e.g. believing that the library contained or sold course textbooks) as well as lower usage of the library by students, particularly online learners.

This misunderstanding regarding the library’s services and resources was exacerbated by the high turnover among admissions staff. Admissions advisors, more than any other position, have the highest rate of new hires within NAU. This is due to both the large size of admissions departments, as well as the low retention rate of admissions advisors. The library was often not included in the formal training given to admissions advisors, and while librarians did conduct training and informational sessions for admissions advisors themselves, it often proved to be unequal for the volume needed. That is, librarians were unable to conduct enough sessions
needed to keep up with all the new hires. This was particularly distressing given the important role that admissions advisors played with students. As they were the one to recruit a student, and the first contact the student had with NAU, they were often treated by students as a safe person who they could go to for a variety of information, even after they had started courses and were well into their course of study. This relationship could and often did last for the student’s (or advisor’s) career at NAU.

NAU librarians had informal relationships with admissions advisors, but had not been able to make any formal partnerships within this department. In 2014, however, an academic dean (who was extremely supportive of library services) saw a way to partner with the library in order to help admissions achieve some of their goals, particularly student show rates. This directly led to the librarians at NAU deciding to work with the admissions department in order to achieve one of our top goals, increasing student success. A stronger relationship between the library and admissions would increase admissions advisors’ engagement and use of the library and its services, which would lead to increased student engagement in those areas as well.

NAU librarians also wanted to use this project to work on outreach efforts aimed specifically towards online learners. Although the NAU librarians had created tools that benefitted both on-ground and online learners, the librarians had not marketed many of these resources specifically to online students, particularly newly enrolled online students. Library resources were integrated into online courses and since online students were not exposed to a campus librarian, their interaction with the library would primarily have come via their use of the library website.

While librarians offered a variety of online services (email reference, tutorials, webinars, etc.), many of these were not being fully utilized by students, partially due to a lack of knowledge regarding these services. Furthermore, while the library offered resources and services to students that would support them from enrollment through graduation and gainful employment, many students only learned of these resources upon personal interaction with librarians later on in their college careers. As Huwiler (2015) has discussed, distance students face many challenges when it comes to accessing library materials, often stemming from a lack of knowledge on the part of students regarding what resources and services the library offers. Huwiler believes that this lack of knowledge can and must be remedied by new and innovative outreach strategies by libraries (2015). Marketing resources specifically to students in the front-end of their career at NAU would fill a void and allow students to use library resources much more effectively for their entire time at NAU, setting them up for greater success. Librarians at NAU thus decided to make outreach and marketing to new online students early in their college career a top focus.

Creating Buy-In

Librarians at NAU reached out to admissions advisors to see how they could work together. This was a protracted process, with successive setbacks that followed every step forwards. Key to growing this project and keeping it going were many of the tools discussed in the literature and which the NAU librarians had used effectively in their outreach with academic departments: identifying key stakeholders, creating personal contacts, clear and repeated
Librarians identified key stakeholders among the administration and admissions departments who were willing to work together to create a tool that would serve their needs. While the academic dean who started this project with his support of the library was absolutely key, finding administrators who were willing to put in the necessary time and effort took some work on the part of the librarians. This also required a willingness on librarians’ parts to be persistent about calling various contacts and networking to gather introductions to people who could speed the project along. While librarians could not, in many cases, make face-to-face contacts, phone and online meetings were conducted wherever possible.

Librarians worked with these key stakeholders to identify potential needs among admissions advisors that the library could possibly address. The primary need that was identified revolved around early student enrollment. Students can enroll at NAU at any time; however, the farther out from a quarter start date that a student enrolls, the lower their show rate, or the lower the chance that the student will stay enrolled and show up for the start of classes. For example, if a student enrolled just after the add/drop period for a quarter (which is ten weeks out from the start of a new quarter), an admissions advisor had to maintain the student’s interest and focus on school until the start of the next quarter. This can be a difficult proposition, as NAU has found a direct correlation between a student’s enrollment date and their show rate.

The secondary need identified by admissions was that of increasing the academic skills of incoming students. This included traditional skills such as reading, writing, and math, as well as fundamental skills such as time management, study skills and computer skills. Since many of NAU’s students are either distance or online learners, admissions believed giving incoming students additional information about fundamental study skills could have numerous benefits. Weak academic and fundamental skills were shown to have an adverse effect on the rate of student retention; students with poor skills, particularly computer skills, were much more likely to fail or drop out of classes, particularly in the first quarter. Students that dropped or failed classes in the first quarter had a much higher probability of dropping out of school altogether. The library seemed uniquely situated to help admissions create a tool that would set students up for academic success early in their career at NAU.

**PREP**

Once the admissions stakeholders had identified the needs they wished to address, they collaborated with librarians to create a tool that could address these needs. The tool that grew out of this collaboration was named PREP, which stood for Practice, Readiness, Engagement, and Performance. Eventually it came to represent students being better “prepared” for academic success in their classes. PREP was designed to be used by admissions advisors to help them work with students once they were enrolled at NAU. The first version of PREP was rolled out in October, 2014. That version was used throughout the fall quarter, revised during the winter quarter, and then rolled out again in a new version in June, 2015. It is currently undergoing another major revision, and the third iteration is scheduled to commence during the winter quarter of 2016.
In its current edition PREP is a simple list of 10 targeted tutorials that are automatically sent to students once they have enrolled. After a student enrolls, he or she will receive an automatic email recommending a tutorial to watch, in a cascading order of importance, for 10 weeks. The tutorials contained within PREP cover a variety of skill sets including information literacy, study and time management skills, computer and internet skills, software skills, professional development, and academic fundamentals (see Appendix A).

The tutorials identified for PREP were agreed upon by a committee of librarians, administrators, and admissions directors. The committee drew upon suggestions from admissions advisors throughout the entire NAU system who identified key areas they wished to see included. The committee sequenced these tutorials in order of importance, with more vital skills being addressed in the tutorials that were sent earlier. Many of these tutorials were library tutorials, either created by NAU librarians to highlight information literacy skills, or from one of the library databases on a variety of academic or computer skills. Almost all of these tutorials were, if not from the library, housed on the library’s website. These tutorials were sent out to students automatically via marketing emails, and identified in a friendly manner, a way that a resource/tutorial might help them as a new student (see Appendix B).

Admissions advisors already worked with students throughout the period between their enrollment date through their start date. They were required to have weekly check-ins with students, typically over the telephone, to help them develop a close relationship with that student in an effort answer their questions, and keep them engaged and excited about their courses, which hopefully resulted in increased show rates. Admissions advisors were now encouraged to follow up on their students’ progress in using these tutorials, answer any questions they had, and encourage students to utilize these tutorials in their weekly telephone meetings.

Based upon additional suggestions from admissions advisors, the PREP committee identified another optional 15 tutorials for admissions advisors to use at their discretion. Admissions advisors could, based on their knowledge of their students, recommend these tutorials to supplement or replace the ones that were sent automatically by PREP. This allowed for greater flexibility for the admissions advisor to better tailor these tutorials to an individual student’s needs.

It was hoped that PREP would positively impact NAU’s student success rate via two major methods. Firstly, PREP would better prepare students for their classes by increasing their academic and fundamental skills, reducing their fear of the online environment and computers, and helping them practice setting and achieving goals. Simply accessing and navigating the tutorials from a computer would help the student gain practice with using a computer for academics. Overall, PREP would help raise students’ competence, confidence and comfort levels, which would directly translate into higher student retention rates.

Secondly, PREP would help admissions advisors build a stronger connection to their students. It provided admissions advisors something to discuss with their students during the period between their enrollment and start. They would be able to highlight the support and resources that NAU, particularly the library, had for incoming students. By responding to student needs and individually tailoring PREP for each student, admissions advisors would be
able to build stronger bonds with their students. Even for students who simply followed the proscribed 10 tutorials, admissions advisors could still use PREP to forge discussions around students’ academic skills, fundamental skills, and school expectations. These stronger relationships would hopefully lead to higher student show rates.

**Assessment**

PREP has had mixed results. In terms of its impact on student success, it is hard to judge how effective it has been. PREP does not operate in a vacuum. A variety of other initiatives were launched by NAU at the same time, making it hard to differentiate what results came about through the efforts of PREP, and what resulted from other programs. Similarly, while usage statistics for the library’s tutorials were kept, they were not kept for all of the tutorials offered by PREP, only a few of them. Several initiatives were launched by the library to increase outreach online in the same or similar timespan, so it is difficult, if not impossible, to impute any upswing in tutorial usage simply to PREP. Therefore, no quantitative data on tutorial statistics or show rate data could be attributed to PREP.

A variety of other problems have made it hard to assess the effectiveness of PREP. The greatest problem is that PREP was unevenly implemented. That is, PREP is entirely voluntary, both on the part of the admissions advisor as well as the student. Students are not required to take any of the tutorials, or even to open the emails. In fact, the PREP committee was very careful to make clear to admissions advisors that they should leave the decision of utilizing any of the tutorials up to the student, and that if the student seemed unwilling, they should discontinue discussing PREP. This was decided both to prevent any ill-will or resentment on the part of the student, as much as because the committee could find no way to require that PREP be used.

While admissions advisors were encouraged to use PREP in their weekly meetings with students, it was not required that they do so. While there are overarching policies in place regarding the admissions process for the NAU system, it was up to the director of admissions for each campus to decide how much they wanted their advisors to market PREP to their students. Some campuses used it a great deal, with weekly discussions of PREP becoming a regular part of the routine for admissions advisors’ contact with new students. Some campuses, however, did not use this tool at all. The students were still sent a weekly automated email with the suggested tutorial, but there was no follow-up with an admissions advisor. This lack of follow-through often meant that students simply deleted the emails or, if they did complete any of the tutorials, no data was kept or tracked by NAU staff.

One of the reasons that PREP was so unevenly used across the NAU system is due to the uneven training admissions departments received. The first training on PREP came from the library and was conducted through three live webinars, one for each region. These webinars were recorded and shared with each campus, so they could disseminate among the admissions departments as needed. However, as the PREP tool changed and grew, further training was conducted by admissions administration. This put an additional layer of communication between the admissions advisors and the librarians.
Another factor involved in the uneven utilization of this tool is that PREP training was never inserted into the standardized training that admissions advisors received upon joining NAU. While this was discussed, planned, and a training tutorial created by the PREP committee, they were never able to require this PREP training tutorial to be part of the initial admissions advisor training. Further exacerbating this problem is that admissions departments at NAU have a relatively high turnover rate, as discussed earlier. This means that with PREP not included as part of their required training process when hired, new admissions advisors only learned of this tool based on word of mouth, mostly from other admissions advisors or from a librarian. However, these informal methods were not rigorous enough, particularly for new advisors. This meant that while initial PREP usage was high, the numbers declined and many new advisors never heard of this tool at all, meaning they were unable to take advantage of it.

With all that said, librarians were able to perform some basic assessment of the PREP tool. The greatest assessment tool so far has been informal and anecdotal feedback from admissions advisors and directors regarding the project. It drove the first two revisions of PREP and has led to the current shape of the PREP tool today. This feedback, solicited primarily by the librarians on the committee, has led to both small changes, such as revamping the list of tutorials chosen and adding more tutorial choices to the optional tutorial list, as well as large changes, such as when the entire structure of the PREP tool itself was changed. This anecdotal feedback has so far been primarily positive. Indeed, one campus where PREP was thoroughly implemented had the lowest no-show rate (i.e. students who enroll before the quarter start date but do not show up for classes) in the entire NAU system the quarter for spring of 2015. Again, while this cannot be entirely attributed to PREP, it is very encouraging and will hopefully spur other campuses on in terms of PREP implementation.

Librarians were also able to gather some other assessment data for the current version of PREP through the marketing tool that was used to send out the mass emails. Six hundred and nine (609) PREP emails were sent automatically from April 31 through August 1 in 2015, with 588 successfully delivered. Of these emails, 104, or 17.7%, were opened. NAU follows industry standards and strives for an open rate of 15%-20% for mass marketing emails, putting PREP squarely in the desired range. In these terms PREP functioned exactly as planned and can be counted a success. Of these 588 received emails, however, only 25 students clicked on the link within the email, for a 4.3% click rate (see Table 1).

Table 1

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*Note.* These emails were delivered automatically to all new students at National American University between April 31-August 31 2015.
While this percentage of tutorials clicked is disappointingly low, it is important to realize that 24% of the emails that were opened had their links clicked. It is heartening to know that if a student opened the email, almost 25% of them also clicked on the link. This is a very good percentage and a sign that students who took the time to open and read the emails were interested in the content. The caveat one must be aware of here, of course, is that a clicked link does not necessarily mean that the tutorial was completed. All this data suggests is that the link was clicked, not how the tutorials were used.

Also unfortunately, we do not have data regarding specific tutorials or emails. That is, we do not know which specific emails were opened or which tutorials were clicked, or what differences there were between them, as this was not data that was able to be gathered by the mass email marketing software used at the time. This is disappointing as this data could help us further refine PREP to make sure the tutorials which were included were intriguing, timely, and met the needs of students. It would also have allowed us to keep refining the emails (particularly their subject lines) in order to capture maximum student interest.

Further assessment is clearly needed as PREP moves forwards. This particularly includes more formalized assessment, both in terms of quantitative and qualitative data. There are plans for both these types of data to be gathered after PREP is rolled out in its newest form in winter 2016. This assessment, which will occur throughout winter and spring quarters for 2016, will include both a formal survey for admissions advisors, as well as a new mass email marketing system which will hopefully allow librarians to track individual email open and click rates. Both of these assessment mechanisms, along with continual anecdotal feedback, will allow librarians at NAU to keep modifying PREP.

Lessons for the Future

PREP has taught the NAU librarians a great deal, both in terms of outreach to staff and students, as well as in terms of creating, publishing, and revising a system-wide tool on this scale. The biggest takeaway, and the best result of PREP, was the power and importance of persistent, personal outreach. As Trott and Silver (2014) said, “The importance of personal contact, communication, and visibility cannot be overstated” (p. 9). It required repeated emails and knocking (virtually and physically) on various doors to get PREP off the ground, a team effort sustained by a committed group of individuals who all gave generously of their time and energy. Without the regular and repeated effort of stakeholders across various departments throughout the system, PREP never would have worked or remained the evolving tool it is today. This persistence has resulted in higher visibility for library services and better awareness of how the librarians can help the admissions department. Admissions leadership is now looking at another partnering opportunity with librarians in the future as a direct result of more familiarity with the librarians and our resources.

The second lesson that PREP taught librarians was the importance of being flexible. PREP changed in both small and large ways. Librarians had to learn to take feedback from all sources and adapt PREP to meet the needs of its users within the technical limitations with which it was working. For example, in version one of PREP it was an entirely different tool, consisting of a scalable grid which admissions advisors used to pick and choose what tutorials, out of 12, to
send to students based around when they enrolled at NAU. Feedback from advisors changed the entire PREP tool to simplify and automate the process, so that version two consisted of a simple list of 10 tutorials. This process involved a re-envisioning of the entire PREP process, including its purpose. While frustrating and laborious, adapting the PREP tool proved to be a valuable experience in the end, as it created more buy-in from admissions advisors as well as created more stakeholders interested in helping move PREP forwards. These groups could see librarians responding to their concerns and it helped strengthen these relationships.

It is unclear where PREP will go from here. The admissions department had two major goals with PREP: to increase student show rates, particularly for students enrolled further out from a quarter start date; and to increase student retention through increased academic competence and confidence. Neither of these two goals can be definitively proven to have been met by PREP. There is anecdotal evidence from various admissions advisors that PREP proved helpful for them or their students on an individual basis, but there is no quantitative evidence to back this up. That said, anecdotal evidence is strong and some admissions departments remain positive and committed to using PREP as fully as possible. Furthermore, as an ongoing project one of the major goals for version three of PREP includes a more formalized assessment, as mentioned earlier in the previous section.

The librarians also had two major goals for PREP. They hoped to create relationships with two underserved user groups, admissions staff and newly-enrolled distance learners. Both of these goals were met, particularly for the former. In terms of outreach to distance learners, there is no quantitative data regarding what types of students, ground or distance, were more likely to open the PREP emails or click on tutorial links. It is not clear, therefore, if distance students were impacted in a higher degree by PREP. However, simply marketing library tutorials and services to all new and incoming students, particularly distance students, has been an important step forwards. Traditionally, new student orientations online have not been very successful with on-boarding distance learners. This program allowed NAU to try something new and as PREP continues to evolve, it will keep being assessed for how effective it can be in creating relationships with distance learners.

In terms of outreach to a new department, admissions, PREP has been and continues to be a success. It was instituted across the entire NAU system and while it has not been implemented universally, or created relationships with all admissions advisors and the library, it has created some very important connections and increased visibility for the library with administrators and admissions staff. The success of PREP in building these relationships can be seen in the stakeholders who are still interested in revising and creating a new version of PREP for the winter quarter. While some key stakeholders have left, librarians have found new staff members who are interested and invested in working with librarians to keep working on this tool, even years after it was first conceived. This buy-in from staff is phenomenal and the greatest success of this program. While PREP has not met all of the needs that it set out to, it has proven to be an important win for the NAU librarians.
References


Appendix A
PREP Tutorials List

*Note:* This is part of the contents of the PREP toolkit for admissions advisors.

**HIGHLY RECOMMENDED:**

1. **D2L Overview:** (PDF) How to use D2L
2. **Time Management:** (Website) Time management, motivating yourself, decision making
3. **Study Skills:** (Website) Learning techniques & study habits, online learning & ground classroom skills
4. **Intro to Library:** (5 min): Basic library website use
5. **Intro to Learning Express:** (4 min): How to use the Learning Express Database
6. **Computer Basics 5: Application Basics:** (26:35 min) Basic computer tools: creating documents, spreadsheets, using the internet
7. **Computer Basics 6: Organizing Data:** (50 min) Folders; How to save, share, & delete files
8. **Internet Basics 4: Using 1-on-1 Communication:** (23:44 min) Email, Instant Messaging, VOIP
9. **Library Tips & Tricks:** (5 min): Finding library materials
10. **Smarter Searching:** (5 min): Searching using keywords & subjects

**OPTIONAL:**

1. **Computer Basics 7: Web Browsing:** (46.5 min) Intro to web, how to choose a browser, basic searching, and keeping your information secure
2. **Internet Basics 2: Surfing the Internet:** (1 hr 36 min) Browser options, tabs, favorites, cookies, getting help, Search, download, and Upload files on the web
3. **Internet Basics 5: Email Etiquette:** (1 hr 50 min) Getting started, email compositions, writing skills, efficient emailing, netiquette, email policies
4. **Microsoft Word 2013 Course 2: Basic:** (5 hr 31 min) Basic word elements, editing & formatting text & pages, printing
5. **Microsoft PowerPoint 2013 Course 2: Basic:** (6 hr 44 min) Getting started, creating basic presentations, editing text, views, shapes, objects
6. **Microsoft Excel 2013 Course 2: Basic:** (6 hr 1 min) Basic worksheets, tools, data entry, editing & formatting data & worksheets, calculations
7. **Job & Career Accelerator:** Help with resumes & cover letter, finding job openings
8. **Career Services Center** (Website)
9. **Interview with Confidence:** (Course) Preparing for an interview, test questions, offers
10. **Test Preparation:** (Website) Thinking, memorization, test preparation, test taking skills
11. **Basic Math Tutorial: Review:** (Course) Fractions, Decimals, Percentages, Statistics, Algebra, Geometry
12. **Basic Math Tutorial: Comprehensive:** (Course) Real Numbers, Basic Operations, Exponents, Percentages, Geometry, Measurement, Data Analysis & Probability
13. **Basic Algebra Tutorial:** (Course) Expressions, Equations, Inequalities, Linear Equalities & Applications, Polynomials & Quadratic Equations, Radicals, Lines & Linear Expressions
14. **Writing Skills Tutorial:** (Course) Pre-writing, Drafting, Revising, Editing
15. **Grammar Skills Tutorial:** (Course) Grammar Basics, Usage, Punctuation, Writing Mechanics
Appendix B
PREP Email 1

Note: This is the first email that is sent to students upon enrollment.

Subject: What do all these buttons mean?
Hello Future NAU Graduate!

Do you know how to get to class? Where is the dropbox? Where are those discussions your advisor was talking about?

We want to make sure that you are prepared and ready to go for your first day of class! We have created a Desire to Learn (D2L) overview to help find the things you will need throughout your class.

Follow the link below to check it out:
https://webapps.national.edu/d2l_tutorials/D2L%20Access%20Points.png

See you in class!
Your NAU Admissions Team
Advisors, Faculty, and Librarians: Collaborating for Student Success

Ashley Guy  
Lisa Eimer  
Rasmussen College

Abstract
Librarians have continuously struggled with developing quality relationships with faculty and advisors to support students online. In 2014, Rasmussen College introduced a one-stop student support model of service that makes a student’s advisor their primary point of contact for library resources, academic support, financial aid, course scheduling, and advising conversations. Support services were aligned centrally across all Rasmussen campuses, designating a librarian to assist students by programmatic area, instead of by campus. Librarians developed partnerships and resources to support advisors and faculty in their interactions with students needing academic assistance. Rasmussen College made a concentrated effort to significantly increase its library and learning electronic resources to contribute to student success. As a result of these efforts, we have improved connectivity with faculty and advisors and have seen increased usage of library resources.

Introduction
In November 2014, Rasmussen College aligned student support services across the college, creating more consistency and a streamlined customer service experience for the student with hopes of improving student satisfaction. In the past, students asked questions that may have required an answer from several departments or people within the organization. This “bouncing” between campus departments caused confusion for students as they didn’t know who to direct questions to and ultimately who could serve them. In response to student feedback, the college made a shift to a one-stop support model (OSSM). This transition made the student’s advisor their primary contact for services ranging from financial aid, to library and learning resources, to academic affairs. The uniqueness of the model is its ability to be an OSSM without being housed out of a traditional brick and mortar space. The OSSM allows advisors to serve their online and campus learners equally, without requiring students to visit a physical campus space. This case study will review how distance library services are offered at Rasmussen College following the transition from campus-based support to virtual, programmatic support. Two major themes are covered: how the library supports student advisors and faculty in the new OSSM, as well as the examination of the library and learning services workflow in the new online, programmatic support model.
Background

Rasmussen College offers a range of degrees from certificates to bachelor-level credentials that include areas of study in nursing, health sciences, education, justice studies, business, technology, and design. Students most often participate in their classes online but have supporting campuses available to them over six states. Like many higher education institutions, students are assigned an advisor based on their area of study. Advisors can be a key component in a student’s success. The difference between institutions and their advising role tends to be in how the advisor role is defined and what students can expect in the advisor/advisee relationship. Kuhn, Gordon, and Webber (2006) found that academic advising occurs in “situations in which an institutional representative gives insight or direction to a college student about an academic, social, or personal matter. The nature of this direction might be to inform, suggest, counsel, discipline, coach, mentor or even teach” (p. 3). With an OSSM, advisors can have a holistic approach to advising while encompassing the Kuhn et al. definition. This approach places greater emphasis on the relationship between the advisor and advisee and the quality of service provided.

As Rasmussen College shifted how support services were offered to students, the scope of the advisor role increased in the breadth of contact students have with their advisor. The goal of this shift was to increase student satisfaction and outcomes by clearly identifying one person the student can contact for all of their support needs. Previous survey results from Rasmussen College students indicated they were confused at times about whom they should contact for help and that they were “bounced around” from one department to the next. Feedback like this is what prompted Onondaga Community College to adopt a one-stop shop model to improve their inconsistent student enrollment process (Walters, 2003). This feedback from students matches what Potter (1998) found when surveying distance learners at three Canadian universities about support service needs. Designating a single point of contact for students helps to decrease the tendency to “pass the buck” (Potter, 1998, p. 77). The current literature lacks discussions of one-stop student support models that make a single person, an advisor, a student’s direct point of access for support services, instead of centralizing all of these services at a campus building.

With the majority of students completing their degrees primarily through online classes, it was important to have a service model that also matched the population it is serving. Much of the discourse around one-stop service models focuses heavily on a traditional brick and mortar version centrally located on campus that offers integrated student services. These services may include pre-enrollment counseling, course registration, financial aid, career services, and general academic advising. An increasing number of institutions call these physical locations an information or learning commons, which may or may not be located near or within the campus library. A plethora of literature has been written about the rise and success of learning commons and how they provide a seamless learning environment for students (Accardi, Cordova & Leeder, 2010). In her study of eighteen libraries, McMullen (2007) identified several common components of brick and mortar information/learning commons: computer workstations, collaborative learning spaces, digital media studios, cafes, meeting space, writing centers, and other academic support units. Of the eighteen libraries studied by McMullen, nine had developed partnerships with academic services, such as the writing center, academic advising, and tutoring (McMullen, 2007). Libraries like these offer a central location, or one stop, for
students to receive assistance right within the library; however, the students must still interact with different individuals for each service.

The new student support model at Rasmussen College takes the concepts of a learning commons and combines them with the foundation of a one-stop service center, making a student’s advisor their one-stop learning commons. Potter’s survey (1998) found not only that a single point of contact was preferred by students, but that assistance in accessing learning resources was identified as one of the most important factors aiding in student success. Rasmussen College has melded the ideas behind these two findings by designating a single point of contact which encompasses all academic and learning resources. Though Rasmussen College’s one-stop model may differ from other similar models, its primary goal is still the same: to support students more effectively and efficiently.

**Rasmussen College’s Previous Support Model: Campus-Based Support**

**Library and Learning Services**

Previously, each Rasmussen College campus had a library and learning center, which any student could utilize anytime the building was open. Most campuses had both a librarian and a learning center coordinator who were available to students in these physical spaces. Students who came to campus were able to get help in-person with research and tutoring. Students were “assigned” a librarian based on the campus where they enrolled. Students who enrolled in the National Online program (and not through a campus) previously had a designated online librarian to support them. When the online librarian position was no longer available, students were randomly assigned a librarian and learning center coordinator. This random campus assignment could be confusing for students who may never step foot on the physical campus and may even be living in a different state than their assigned campus. In accordance with the Association for College and Research Libraries (ACRL) Standards for Distance Learning Library Services (2008), the library ensured that distance students had equal access to resources and services as their on-campus peers. If a distance student wanted a physical book from campus, it would be mailed to the student’s home address at no charge and with postage-paid return shipping. Librarians emailed their distance students during their first term with the college introducing themselves and the services available to them. Distance students could receive help from their librarian via email or phone. While this system worked to provide equal access to library services for both distance and campus learners, the librarians were rarely contacted by distance students.

**Faculty**

In the campus-based library support model, faculty teaching online worked with students from a variety of different campuses. This meant the faculty member did not know which librarian was assigned to each student. If the student needed library support, the faculty member would direct the student to identify their librarian and work with them. Faculty who taught on-campus were able to refer students to connect with the librarian while they were on campus. If a faculty member required assistance with research or a course assignment, they would schedule a time to meet with the librarian on their campus, who may or may not be familiar with the area of study.
Advisors

Under the previous service model, advisors worked with campus librarians and learning center coordinators when assisting students with finding academic resources. This handoff of the student would typically have been conducted through a warm transfer over the phone from an advisor to a librarian or by physically walking the student down to the librarian’s desk for assistance. The advisor would be the facilitator of connecting the library and learning center services coordinator to the student and then allowing the librarian or learning service coordinator to assist the student. The advisor’s primary concerns were students’ grades, attendance, and overall academic progress. Advisors tended to be more facilitators of conversations rather than direct support for academic resources.

Rasmussen College’s New Support Model: Programmatic One-Stop Student Support

The new model moved away from providing campus-based support and moved to a model that consists of a librarian and a learning services coordinator who support an entire discipline. For example, there is a librarian and learning services coordinator who support all of the programs in the School of Health Sciences. The new model moved the library and learning services out of the physical spaces on campuses into a role that centrally supports all students by discipline. Previously, library and learning services teams worked together on the same campus, but now that the roles moved centrally, teams may work in entirely different states. The library and learning center spaces on campuses have been transitioned to adaptable learning and study spaces for students.

Advisor, Faculty, and Librarian Collaboration

Most of the College’s classes are either fully online or have an online component, which in turn means many of the faculty members are not often physically on campuses. In the shift to the OSSM, library and learning services also began to mirror this virtual shift. Librarians no longer work from physical campus spaces, where they had the strongest and most influential relationships with those faculty members on campus. The shift to programmatic support has allowed librarians to focus on connecting with their faculty, regardless of physical location, to share needs and resources in a given area of study. The transition also helped advisors provide more consistent information and support to students. The areas for collaboration and efficiency between librarians, faculty, and advisors grew exponentially because of the change in how student services are offered, ultimately providing a better experience for students (See Figure 1).
Library services partners with advisors through programmatic specializations. Advisors may have more than one discipline or program that they serve, however; they have one programmatic library and learning services team for each area of study to collaborate with for resources. With a direct line of support for each discipline, communication has become more efficient and accessible. Advisors (and subsequently students) no longer rely on the more generalized and localized specialties of a librarian that was housed on each specific campus, but now have an expert in their subject area, continuity of information, and specialized resources to cater to course curriculum and needs of a program.

A major shift in how students learn and are educated about library resources was encompassed in the move to the OSSM. Students no longer see librarians physically sitting in libraries on each campus. A general first step for a student to inquire about library resources is either through their faculty members or advisors. Advisors now provide students with a first tier of service for resources by walking students through access and location of resources or
providing supplemental literature to guide them to what they need. Students still have access to librarians through chat services and can receive help with their research questions; however, this communication is only available virtually. This service model provides the student with a single, consistent point of contact they can build a relationship with during their academic career whether they are an online or a campus-based student.

Advisors rely heavily on the expertise of the librarians and learning service coordinators in each area of study for a constant flow of training and information. Part of the challenge in transitioning to the OSSM was to train advisors not only on library resources, but also financial aid and academic counseling. Having direct support from library services has helped to have a system of ongoing feedback and training opportunities between the two departments. Advisors rely on librarians for education and training on library resources and services. In turn, librarians rely on advisors to provide the necessary feedback from struggling students to facilitate the development of appropriate resources. The OSSM makes the advisor the primary communication point for student’s academics, financial aid, and learning resources.

In order to efficiently and effectively communicate with students about library resources, advisors often use the live library chat service. This offers the advisor a quick way to learn about a resource and answer questions quickly if they do not know the answer. They are then able to use the information learned for future interactions with students. Advisors also receive weekly email “packets” which highlight resources relevant to questions students might have at that particular time in the term. Advisors are responsible for forwarding these resource emails to their students. This email communication is probably the most effective way the advisor can promote the resources en masse to the students, especially as new resources are created or new services are offered for the program. The downside of this method is that the librarians are no longer self-advocates. They rely heavily on the advisors to promote and share the information to their respective students. With the additional responsibilities the advisors have taken on in the OSSM it can be challenging to ensure these resources are shared and promoted well.

Faculty

The transition to the new one-stop support model has had the least effect on faculty in the way they interact with students. Faculty continue to be the main point of contact for students and are now playing a slightly larger role in exposing students to the library resources needed for their courses. Faculty may be benefiting the most from the transition to programmatic support as they now have a dedicated librarian who can work directly with them in developing customized learning resources that can be integrated into their online courses. Several faculty members have communicated to their programmatic librarians about how much they have learned about the library resources and how supported they feel in the new model.

Proactive support of faculty has become a primary responsibility of the librarian’s new programmatic role. As mentioned before, weekly emails are sent to faculty and advisors notifying them of useful library and learning resources for students that may be timely and relevant for that week in the term. Faculty are encouraged to post these resources as an announcement in their online courses. Librarians also work directly with faculty to identify high-fail or research-heavy assignments. The library utilizes LibAnswers by SpringShare to
create customized resources that can then be embedded in the course modules or announcements at the time of need. Librarians also work with faculty to identify courses that need information literacy instruction. They collaborate with faculty to identify if live webinar training is needed, or if a recorded training or video would work best. Typically faculty have found that a recorded training is often more convenient for students, so they can watch it at their convenience.

The former campus-based model presented inherent challenges to developing relationships with the course development team. Moving to a programmatic support model allowed librarians to become more deeply involved with curriculum design and course development. The librarians are in initial stages of being integrated into the curriculum design and course development process, which is new territory for everyone involved. This new partnership with the instructional design team allows librarians to proactively integrate library resources into courses so students can access them at the point of need. This encourages students to self-help if they are struggling with the course content. Becoming involved in course development and curriculum design has also allowed librarians to bring attention to the need for scaffolding information literacy skills throughout a program. Librarians can bring a heightened awareness of the library and learning resources available to support students and faculty within the curriculum, including supplemental texts, videos, images, and research. In the last year since the transition to programmatic support, the library team has worked to integrate these types of resources into 96 new or existing courses. The level of integration ranges from finding a single video to complement a lesson, to identifying 52 supplemental articles for use throughout a new course, to creating an entire LibGuide to support a high-fail course.

This programmatic support of faculty and partnerships with curriculum and course development allows librarians to focus on obtaining feedback from faculty about the effectiveness of the resources and immediately adjust or create new resources to better fit the curriculum and course needs. The resources can then be integrated into the course where students can benefit from them most. Discovering these resources within their online course is often how students “meet” the virtual library and its available resources.

Faculty are also a direct point of contact for students to learn about library resources and how to access needed materials. Outreach to students through faculty is an effective method of promoting library resources as students are likely to pay attention to recommendations from faculty (Caspers, 2000; Gandhi, 2003). Faculty offer students access to library resources through course announcements and embedded materials in the lesson areas. Beyond what is posted in the course from the instructor, students can access all other general library and learning center resources directly from the course’s resources tab. Students can seamlessly move from course content to tutoring help or databases for research. This marriage of course content and library resources makes it easier for the faculty member to guide a student to appropriate help without having to track down new web pages or access points. If a faculty member feels that they do not have the correct or appropriate resource readily available for the student, they can ask the programmatic librarian to help rectify the need and make it accessible. This “two-way street” collaboration with faculty allows librarians to improve the programmatic resources the library offers (Gandhi, 2003, p. 150). It is crucial to educate faculty about the services and resources the library can provide and encourage them to promote those resources to their students. Active
promotion of library resources will ensure that Rasmussen’s students are receiving equivalent, if not increased, access to the former campus-based resources.

Faculty members also have the support of the advisors in helping to assist in conversations with the student about utilizing resources and where to access them. Faculty and advisors truly try to work in tandem to support the student and their academic needs. Nursing faculty, for example, typically have a weekly or bi-weekly meeting to discuss program updates, college happenings, and student issues and concerns. In collaboration with the faculty, the advisor also attends these meetings and shares student concerns or issues and comes up with a plan of action for that student between the appropriate faculty member and advisor. Between the faculty and advisor, the student has a direct line of support bolstered by resources provided by the programmatic librarian. It becomes a true collaboration between the faculty, advisor, and programmatic librarian to provide the best academic support for each student.

**Library and Learning Services Student Support Flow**

The one-stop support model puts the student’s advisor in the central support role. As part of the transition to the OSSM, a new library and learning services support model was also implemented. Students needing help with library and learning services are to be directed through a three level support workflow that aligns with the programmatically focused OSSM (See Figure 2).

*Figure 2.* Library and learning services three level support workflow. This figure shows the three levels students are guided through when needing library support.
Level One Support

When a student recognizes that they need help or have a question about their coursework, the goal is for the student to access the online library and learning services to discover the answer on their own. The hope is to create independent learners who are able to self-help by utilizing the resources available online, at the time of need. One of the most useful self-help tools is LibAnswers via Springshare. Rasmussen College uses this online tool as an FAQ database (Answers) covering all aspects of attending school at Rasmussen. Questions are submitted by students, faculty, and staff, or are librarian-created based on common questions seen in library chat or via feedback from advisors and faculty. Answers can be course- or assignment-specific, which are created in collaboration with faculty. Students have begun to realize that Answers is a great starting point when seeking an answer to a question. After finding an Answer relevant to their question, they are able to read the answer, view embedded videos and follow links to gather more information on their topic.

With the majority of Rasmussen College’s students attending classes only online, the library and learning services team has developed a webinar series that is offered live online each term and recorded for those who are unable to attend at the offered time. The topics of the webinar series were selected by looking at attendance statistics of previously offered online workshops and revamped to meet students’ wishes, including length (no longer than thirty minutes). Topics include using the online library, APA citation style, using an online citation tool, basic computer and technology skills, and habits of successful students. Programmatic librarians can supplement these webinars by creating program-specific videos.

Rasmussen College is a strong user of Springshare LibGuides in many areas of the institution, not only for the library. These online guides serve as a one-stop shop for students, faculty, and advisors to find the resources they need. In the new OSM, faculty and advisors are encouraged to point students to their online programmatic guide, which covers a wide range of topics including library and learning resources, tutoring, and career services. The online guides are the main way students can find programmatic support while utilizing self-help resources. For example, the School of Nursing guide contains links to videos to learn nursing skills, books that cover the main subject areas of the National Council Licensure Examination (NCLEX) exam, nursing-specific test-taking and study skills, nursing databases, and ebooks, as well as APA citation help for nursing-specific resources.

With the library department having much less direct communication with students, it is important that the programmatic librarians work closely with their faculty and advisors to keep the online guides relevant and up to date. An example of this collaboration involved a medical library mobile app that contains several nursing references needed for nursing students’ coursework. Students were having difficulty accessing the resources via the mobile app and knowing how to correctly cite the information they used, but didn’t know who to turn to for help as the medical library mobile app was not purchased and maintained by the library. The students expressed their frustration to their faculty and advisors, who turned to the School of Nursing librarian for help. The solution involved creating a dedicated page on the nursing online guide that pulled together all of the information students needed to download, access, navigate, and cite
the nursing resources in the mobile app. Faculty can now link to this page within their courses and advisors can easily email the link to students who need help.

Level Two Support

If a student does not know how to find an answer or find support on their own, the student should then reach out to a faculty member or advisor. The faculty member or advisor then points students to the Level One resources discussed earlier, or determines the student requires Level Two support. Level Two support resources allow students to interact with either a librarian via live library chat or with a tutor. Live library chat is available 54 hours a week and is embedded within the learning management system and throughout the library resources, such as the library homepage, Answers FAQ database, article databases, and online LibGuides. The chat service is staffed by Rasmussen librarians seven days a week, at a variety of times to support students at their time of need.

Students who need support in their coursework or on a specific assignment are instructed to set up an appointment with a peer or professional tutor. Tutor Match via Brainfuse allows students to set up a face-to-face, phone, or online appointment with a peer tutor. The tutors have already successfully passed the courses they tutor and are able to work one-on-one with the student. Live Tutoring via Brainfuse allows students to connect with a professional tutor instantly. Live Tutoring is available in most programmatic areas with some limited availability, although common subjects like math and writing are available 24/7.

As library support was moved off of campuses, one of the major pain points for students and faculty alike was the lack of support for APA citation style. Faculty frequently referred students to the campus librarian to have their papers reviewed for APA. Students came to rely on this service and used it frequently. In the new OSSM librarians are no longer available for APA review. To solve this gap in student support, a librarian and her learning services counterpart created an extensive APA training for tutors. This two-part training required tutors to pass assessments to ensure quality and consistency in providing APA feedback. Students are now able to make an appointment with a peer tutor in Tutor Match for help with APA.

Students can access Level Two support at any time without needing to be referred by their advisor or faculty member. Often students may not know the library chat and tutoring services exist and will seek them out on their own after being directed to them the first time.

Level Three Support

If a student continues to need support after utilizing Level One and Level Two resources, the student’s advisor or faculty member may then reach out to the programmatic librarian to seek additional support for the student. Situations that need Level Three support may involve a student who needs more one-on-one support than live chat or tutoring can provide, or when a student is struggling with academic integrity or plagiarism violations. In these instances, the programmatic librarian might curate resources and links the faculty member or advisor has yet to share with the student, provide feedback on an assignment for the advisor or faculty member to share with the student, or the librarian might reach out to the student via email or phone to
provide additional instruction or support. The library team has begun to offer twenty-minute appointments through the Brainfuse tutoring platform to more easily facilitate Level Three support. This will allow faculty, advisors, and librarians interacting with students on chat to refer a struggling student to make an appointment with their programmatic librarian for more advanced help.

**Increased Resources**

The move to solely online, programmatic library service required several initiatives of the library team to ensure students and faculty felt supported without the physical presence of the library and librarian on campus. A major part of this transition was the removal of all physical materials from the campus library spaces. Books, textbooks, multimedia, and serials were offered to local organizations that could benefit from the materials, such as prison libraries, childcare centers, public libraries, and high schools. Any remaining books were donated to Better World Books, an online organization that collects books and media and then sells or donates the books to literacy initiatives around the world. To replace the donated physical books, each programmatic librarian worked with their faculty and deans to find identical or equivalent ebooks as replacements, whenever possible. Additional subject-specific databases and journal titles were also part of the transition to programmatic support. This significant focus on growing the quality and quantity of our entirely online collection allows students and faculty 24/7 access to the resources they need for their courses. The library and learning services team was also able to focus on completing a full redesign of the online programmatic guides. These online guides are the one-stop shop of all the subject-specific resources, links, tutorials, and websites related to library and learning services, as well as their specific areas of study. Centralizing all of these programmatic resources allows faculty, advisors and library and learning services team members to quickly refer students to an easy-to-find-and-navigate online guide.

The new library and learning services support model encourages students to utilize the vast number of high-quality resources available to them while keeping in communication with those most important to their academic achievement, which is their faculty members and advisor.

**Results**

A year into the one-stop support model, Rasmussen College can report several successes in the new service model. The library has seen a substantial boost in the usage of online resources. Online chat interactions increased 73% between summer quarter 2014 and summer quarter 2015 (see Table 1). While staffing the same number of chat hours per week as before the transition, with less than half of the library staff as before, the library team also saw an increase in student satisfaction reported via a survey available after each chat interaction. LibAnswers saw an 119% increase of usage year over year. This jump in page hits can be attributed to not only students seeking our answers to frequently asked questions, but also the advisors who are using LibAnswers as a tool in supporting students. The resource that saw the most impressive growth was the programmatic online LibGuides. Overall, LibGuide usage increased 94%, whereas some programmatic guides were utilized even more, such at the School of Nursing guide which had a 216% increase in use. These numbers show that the effort that went into
overhauling the online programmatic guides was time well spent. The librarians continue to work with faculty to ensure these online guides contain the information needed for students’ coursework and areas of study.

Another notable success of the transition to programmatic support is the increased communication and connectivity occurring between faculty, advisors, and librarians. While progress is slow in creating lasting partnerships with new college departments, such as curriculum design, headway is being made. On a regular basis, the library team is contacted by a faculty or staff member who was told by a colleague to contact the library for help after they had had a positive experience. The best type of marketing the library could hope for is these word of mouth referrals of what the librarians can accomplish and assist with in their new programmatic roles. The library and learning services team have received emails from faculty saying they are more informed than they were before the transition to the new support model. The ability for librarians to be programmatically focused, instead of campus-based, means that they can proactively educate faculty and advisors on the resources their students need and collaborate to develop customized resources to meet outstanding needs.

**Challenges**

Though the shift to the OSSM overall has been a positive move for the usage of resources and incubating a collaborative environment, it has not come without its challenges. Because of the programmatic focus, librarians and advisors need to learn and become familiar with the curriculum and nuances of each area of study, while advisors and faculty now need to become more adept in library and learning resources. These changes for each position have incurred a larger than expected learning curve and training challenges.

Table 1

**Online Library Resource Usage Statistics Comparing Summer Term 2014 vs. Summer Term 2015**

<table>
<thead>
<tr>
<th></th>
<th>Summer 2014</th>
<th>Summer 2015</th>
<th>YOY</th>
</tr>
</thead>
<tbody>
<tr>
<td>LibChat (transactions)</td>
<td>1013</td>
<td>1757</td>
<td>73%</td>
</tr>
<tr>
<td>LibAnswers (page views)</td>
<td>86,504</td>
<td>189,128</td>
<td>119%</td>
</tr>
<tr>
<td>LibGuides (page views)</td>
<td>138,208</td>
<td>268,044</td>
<td>94%</td>
</tr>
<tr>
<td>School of Nursing Guide (page views)</td>
<td>2,480</td>
<td>7,835</td>
<td>216%</td>
</tr>
</tbody>
</table>
The advisor role in the OSSM has taken on a more broad spectrum of support services than were previously encompassed in the position; most notably financial aid services. This expanded role of support being handled by one individual raises training and expertise concerns. As students now have one point of contact for many crucial components of their education, a strong and confident relationship is crucial between the advisor and advisee to ensure strong academic support. However, getting an advisor knowledgeable in all service areas takes a wealth of time, training, and resources. It also poses a challenge for maintaining the advisors’ knowledge, confidence, and expertise, as policies and resources are continuously being amended and updated. Concerns about ongoing training for advisors were also echoed in the literature. The University of Minnesota, which has been operating an OSSM for approximately ten years, has specifically discussed the need for a holistic and encompassing training program for an OSSM to operate successfully (Peterson & Otto, 2011). Recent feedback from Rasmussen College’s advisors is consistent with the experiences at the University of Minnesota. Currently, Rasmussen College is working towards a more robust and ongoing training plan for its advisors.

As for the library perspective, some expected and unexpected challenges arose. No longer having the opportunity to interact with students on campus, librarians must rely on advisors and faculty to share feedback on where students are struggling and what questions have been asked, so the librarians can then tailor and adjust their support accordingly. Working from a library on campus also allowed for spontaneous conversations with faculty and advisor at the time of need. The new OSSM necessitates that communication happens via phone or email, which may not have the same immediate response. To receive an immediate response, many faculty and advisors utilize the live library chat, where they have a small chance of catching their programmatic librarian online. Most often another programmatic librarian will attempt to help them with their immediate need.

This issue leads into perhaps the largest challenge for librarians in the new support model, as programmatic librarians continue to serve as generalists when staffing the live library chat. Providing excellent information service requires that each librarian stays informed on new resources in each programmatic area, as well as any major assignments that may bring students to chat for assistance. The campus-based support model made librarians generalists on their campuses but kept any one librarian from becoming a subject expert. In contrast, the new model is beneficial for faculty in that they have one point of contact for support, but has made it difficult for librarians to support students on chat who may have very program-specific questions.

These challenges have provided a learning experience for everyone involved. With so much to learn in a short amount of time, it was essential to admit when the answer to a question was unknown and to reach out for help. This process often involved some redirection as staff attempted to identify the appropriate contact. These interactions identified an area of opportunity for training and topics that demand the sharing of knowledge and experience.

**Next Steps**

As Rasmussen College fine tunes the training aspects for advisors and adjusts into this new service model, the hope is that the model will allow the services to be more proactive rather
than reactive to student needs. As librarians become more involved in course development and continue to build relationships with the instructional design team, library and learning resources will become better integrated into courses to better serve the students. Further, collaborating with faculty ensures that resources are timely and tailored to course objectives. This proactive approach helps also to encapsulate the feedback loop of instructor’s needs for specific resources within a course while also having subject-area experts to assist with needs as they arise.

With feedback solicited from advisors, librarians, learning service coordinators, and academic management one year into the new model, a refresh project is underway to make adjustments. With many areas of the OSSM functioning well (increased usage of resources, more efficient lines of communication, and clearer points of contact for students), there is a need to improve training and ensure our advisors are equipped with the resources needed to provide excellent customer service. Beyond the advisors, communication with the College as a whole is essential to ensure that all staff are familiar with how the support model works, so students are no longer “bounced” between departments. Over time, and with continual introspection and full integration of the OSSM, Rasmussen College hopes to see a continued increase of resource usage, better communication across student services departments, and Improved overall student satisfaction.
References


Active Learning Works! Until it Doesn’t: Measuring the Effectiveness of Activity-Based Learning Exercises on Information Anxiety

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Abstract
This study served to investigate how information literacy instruction can alleviate information anxiety in online learners. While there has been much research to demonstrate that hands-on or activity-based learning is beneficial in reducing library anxiety, those studies have not been conducted for the online classroom. Using a required, first-semester course in the University of Southern California’s School of Social Work online program, this study hypothesized that activity-based online library instruction sessions will result in a measurable reduction of information anxiety. Using a pre- and post-session survey instrument, this study discovered that activity-based instruction for online students may not be as effective in reducing information anxiety as previous research suggested.

Introduction

Online and hybrid degrees are becoming ubiquitous, which means librarians often work directly with students who are not on campus. One of the fastest growing populations in higher education is students taking courses or completing their entire degrees online, with 46% of students who have graduated in the last 10 years completing at least one online course (Parker, Lenhart, & Moore, 2011). There are a variety of reasons why online education is appealing, among them the flexibility to maintain employment and family responsibilities. Online education requires a different kind of discipline than an on-campus program, as students are expected to not only manage their other work and family responsibilities, but complete many of their assignments and tasks independently from classmates or instructors while combating online distractions. Online students, like on-campus students, have diverse learning styles and competencies, but unlike the on-campus student, those differences can hinder the learning experience (Mestre, 2010). Due to the difference in needs and expectations of the online student, education scholars have developed online-specific pedagogies.

Though embedded information literacy instruction is quite different than teaching a full course, academic librarians, like other post-secondary educators, are adopting activity-based learning strategies to facilitate collaborative, peer-based learning in their online and face-to-face courses (Ross & Furno, 2011). Information literacy instruction is typically delivered in a one-hour, once-a-semester format and studies indicate that active learning for information literacy in the classroom environment is more effective than a didactic approach for student engagement, assessment of learning objectives, and alleviating library anxiety (Detlor, Booker, Serenko, &
Julien, 2012; Ross & Furno, 2011; Simpson, 2012). However, few studies have been done to assess if these active learning strategies produce the same results in the online classroom. Because the online learning environment is different from the on-campus environment, and because online students have more variability in age, comfort with technology and research, and motivations for learning than do on-campus students, the effectiveness of activity-based learning should be assessed for this specific population. This study explores the research question “is activity-based learning more effective in reducing students’ information anxiety than lecture-based learning in an online classroom?”

**Literature Review**

**Adult Learners and Active Learning**

Since Malcolm Knowles’ book on adult learning theory—termed, by Knowles, as andragogy—was published in the 1970s, institutions of higher learning have considered how to meet the needs of adult learners on campus. Knowles’ work identifies several ways that adult learners, defined as students 25 years old and older, are distinct from traditional-aged students: adult learners tend to have family obligations; are able to be self-directed and are highly motivated; appreciate acknowledgment of existing skills sets and expertise; and require context to a real-world scenario (Knowles, as cited in Currie, 2000). Because of these social and cognitive differences, teachers who work with adult students tend to support a constructivist approach to their lessons. Constructivist approaches often blur the line between lecture and homework and strive to make a learning environment student-centered through peer-to-peer learning opportunities, contextualizing course concepts into real-world applications, and hands-on activities (Cooke, 2010; Gold, 2005; Rapchak & Behary, 2013).

Techniques for teaching adult students overlap quite well with techniques for teaching in an online environment, which may be a reason many online educators use andragogical approaches. Current best practices for synchronous, online classrooms involve peer-to-peer teaching and learning opportunities, process-oriented lessons, and multi-modal uses of audio, visual, and interactive course components (Hampel, 2006).

**Active Learning Approaches in the Academic Library**

Indeed, it is the impact and popularity of activity-based instruction that is the subject of this research. Activity-based or problem-based learning has been in pedagogical vogue among educators for several decades. Activity-based learning (ABL) takes a constructivist approach to teaching and understands human learning as a primarily social interaction (Jonassen & Rohrer-Murphy, 1999); ABL also engages students in more higher-order learning objectives like critical thinking and problem solving (Detlor et al., 2012). Researchers have found that by having students engage in problem-based activities throughout a lesson, students are better able to integrate new knowledge into existing knowledge (Capon & Kuhn, 2004), reduce learner anxiety

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by having a space to “test out” new skill sets (Cooke, 2010), and can facilitate the development of multiple literacies such as multimedia literacy, information literacy, and critical thinking (Allen, 2008; Currie, 2000). An interesting study by Detlor, Booker, Serenko, and Julien (2012) found that regardless of how long the active learning information literacy instruction sessions were, on-campus students who received activity-based sessions were more confident about using library resources, had improved perceptions of librarians, and reported being more efficient researchers than students who received more traditional library sessions.

Clearly, activity-based learning strategies complement andragogy and adult learning theories, making activity-based information literacy sessions popular in academic libraries that serve adult students. ABL allows adult learners to apply skills and concepts at the time of instruction, to learn from peers and assert their own expertise, and, in the case of asynchronous learning activities, work at their own pace. ABL has been shown as an effective tool in combating library anxiety (Cooke, 2010; Detlor et al., 2012), which is a challenge many adult learners face (Cooke, 2010; Eklof, 2013; Jiao & Onwuegbuzie, 1998). Library and information anxiety are closely related concepts, but have important distinctions: where library anxiety refers to the nervousness surrounding the use of the physical library space and collections, information anxiety refers to the nervousness surrounding the use of, and access to, information sources (Eklof, 2013). Information anxiety is the result of many different factors: technological barriers, information overload, unfamiliarity with library databases, and, as is the case for many adult students, the expectation to find just the right piece of information on the first attempt (Eklof, 2013; Jiao & Onwuegbuzie, 1998). Information anxiety is an issue all librarians should be aware of and be prepared to help alleviate, as it causes “students [to] become so anxious about having to gather information in a library for their research paper that they are unable to approach the problem logically or effectively” (Mellon, as cited by Bostick, 1992, p. 4). Thus, pedagogical methods that can reduce or alleviate information anxiety should be of high importance to instruction librarians.

Online Learning and Activity-Based Instruction

Is activity-based learning compatible with online pedagogy? While many education researchers have found that the online environment lends itself very nicely to activity-based learning, library instruction sessions are characteristically different than full courses. Library sessions are typically much shorter than the typical class session and very often only occur once in a semester. The literature on activity-based learning in online information literacy instruction focuses primarily on asynchronous learning modules. Asynchronous learning modules afford opportunities for peer-to-peer collaboration and problem solving (Pelz, 2010), assignment- or task-based activities (Blummer & Kritskaya, 2009), and create a symbiotic relationship of teaching, working, and assessment (Green et al., 2010). However, very little research has been done on active learning in synchronous online library sessions. As online classes have students with varying degrees of technological or research comfort, it is unclear if activity-based sessions are effective in a live, virtual environment. This study aims to bridge that gap and assess if active learning-based library sessions are more effective for alleviating library anxiety in adult online learners than a lecture-format session.
Methodology

This research study was conducted at the University of Southern California’s School of Social Work online Master’s program, called the Virtual Academic Center (VAC). The VAC is a large program, with nearly 3000 graduates since its inception in 2010. The program has students living in 49 states and 15 countries. The VAC is fully online; each course has a weekly total of three hours of coursework comprised of one 90-minute synchronous session and approximately 90 minutes worth of asynchronous material students complete independently.

The targeted curriculum for this research study was Policy and Practice in Social Service Organizations (SOWK 534). SOWK 534 is a required course for all first-semester students enrolled in the VAC. By the second week of the semester, students submit a Community Immersion research paper. This assignment requires students to locate demographic, statistical, community, and scholarly sources of information on a particular neighborhood or city. Because it is the first course the students take, and because it has a substantial research component, the VAC librarian often conducts a 45-minute in-class information literacy instruction session in each section. The semester this study was conducted, there were 25 sections of SOWK 534 with approximately 12 students in each section. The librarian conducted an in-class session in 17 sections. In addition, the librarian conducted three drop-in sessions for students who couldn’t attend an in-class session, and the librarian provided a recording of a session for those students who could not attend any live sessions. In total, the librarian conducted 21 live sessions reaching approximately 250 students.

The researcher conducted an experimental study to measure the impact of library instruction on information anxiety. The study was conducted to test two hypotheses:

- **Hypothesis 1**: Synchronous library instruction in online classrooms reduces information anxiety for adult learners.
- **Hypothesis 2**: Activity-based library instruction will have a greater impact on reducing information anxiety than traditional lecture-based instruction.

To test these hypotheses, every student who participated in a library session was asked to complete a Multidimensional Library Anxiety Scale (MLAS) prior to the session. Using a random number generator, the librarian assigned each session to a session type: a control format, of a traditional lecture-based instruction session; and an experimental format, of an activity-based session. Approximately two weeks after the library session, after the assignment was due, the librarian asked every student to complete the MLAS again. Both the pre- and post-session MLAS had exactly the same questions, with the post-session MLAS asking the students to indicate which session they attended, so that the librarian could correlate the response with the type of session they received (see Appendix A).

Library Session Design

Live sessions were conducted in Adobe Connect, Adobe’s web conferencing platform. Adobe Connect is a popular tool among online educators because it gives the instructor several
tools to enable activity-based learning. Many of these interactive tools are called Pods, which are similar to widgets and comprise the layout of the Connect classroom. For example, if the instructor enables the Chat Pod, students will have a space in the classroom to chat with each other. Similarly, a Question-and-Answer Pod allows the instructor to pose a question to the class, and have students respond to the question without interrupting the flow of the class.

The activity-based sessions involved about 15 minutes of lecturing, with the librarian giving brief overviews of the types of sources the assignment requires and of the SOWK 534 LibGuide, which has tutorials and resources specific for the types of information required for the Community Immersion paper. Throughout the session the librarian asked open-ended discussion questions, such as “what makes a source reputable?” and then compiled the answers in the Whiteboard Pod to create strategies to evaluate sources. After the librarian introduced each type of resource (demographic data, local news sources, and peer-reviewed journal articles), the students were given a “pop quiz” using the Polling Pod where they were asked to identify and locate an information source.

The control lecture-format sessions involved more lecturing, totaling about 35 minutes of lecturing, with the librarian giving an overview of the SOWK 534 LibGuide, and a demonstration of a statistical database and scholarly database. The final 10 minutes of the class were dedicated to answering questions.

**Instrument Development**

A modified version of the Multidimensional Library Anxiety Scale (MLAS) was used for the data collection. The scale is based on the widely popular Bostick Library Anxiety Scale (LAS), which measures five dimensions of library anxiety: barriers with staff, affective barriers, comfort with the library, knowledge of the library, and mechanical barriers (Bostick, 1992). Because the instrument was developed prior to the proliferation of electronic library resources and off-campus library services, and, as Van Kampen astutely notes, does not address a “user’s perspectives on the research process” (2004, p. 29), Van Kampen developed the MLAS. The MLAS is intended to capture information related to the use of electronic sources and overall anxiety about information seeking, in addition to the other dimensions captured in the LAS. The dimensions captured by the MLAS are: comfort and confidence when using the library; information search process and general library anxiety; barriers concerning staff; importance of understanding how to use the library; comfort level with technology and how it applies to the library; and comfort level while inside the library building (Van Kampen, 2004).

The MLAS uses a series of Likert-scaled responses to questions capturing the various dimensions of information anxiety. A number of those responses must be reverse-coded, as they are worded negatively (for example, the question “I am not aware that the library offers online reference services for students” needs to be reverse-coded). The summed total of a participant’s responses gives the total MLAS score; the lower the score, the higher the amount of anxiety the participant experiences.

In her dissertation, Bowers (2010) retooled the MLAS to meet the needs of law students. Following her lead, with Van Kampen’s permission, and because the focus of this research project measures information anxiety for fully online students, the dimensions on comfort while
inside the library building and most questions regarding interactions with staff were excluded by
the investigator in the final survey. Of 53 questions in the original MLAS, this study used 29
with an additional 4 demographic questions (see Appendix B). The overall highest score a
participant can have is 145, which would indicate no information anxiety. As Bowers (2010)
did, this survey was divided into three subsets applicable to fully online students:

- **LibResearch**: comfort with library-based research, highest value possible is 85
- **Tech**: comfort with technology, highest value possible is 25
- **Value**: extent to which students value the tools and services of the library, highest value
  possible is 35.

The survey also included demographic questions where participants were asked to select from
various categories:

- **FirstTime**: participants were asked to identify if the online Master of Social Work
  (MSW) program is their first fully-online degree program in which they’ve participated.
  Participants could select yes or no.
- **LastSchool**: participants were asked how long ago they received their last degree.
  Participants could select less than a year, between 2-5 years ago, 6-10 years ago, or more
  than 10 years ago.
- **Age**: participants were asked to identify their age. Participants could select 20-29 years
  old, 30-39 years old, 40-49 years old, or 50 or older.

**Results**

In spring 2015, the semester this study was conducted, there were 33 sections of SOWK
534 with a total of 314 students. Eighty-six pre-session surveys were returned, with 69 of those
being usable, for a usable response rate of 22%. Sixty-three post-session surveys were returned,
with 46 of those being usable, for a usable response rate of 15% (see Table 1 for a full
breakdown of demographic characteristics of the sample).

Results were analyzed in a number of ways. First, the researcher used Student’s t-test of
difference of means to determine if there was a statistically significant difference between the
mean MLAS scores among the pre-session and post-session surveys, which tests the first
hypothesis. The t-value was then used to calculate the two-sided p-value, which is the
probability that the t-value happens by chance. The lower the p-value is, the greater the
statistical significance of the data, with a p-value of less than .05 considered statistically
significant. The same tests were then calculated between the MLAS scores from the
experimental post-session tests and the control session post-session tests to test the second
hypothesis. Finally, the process was repeated for scores from the ABL session post-session tests
and the control session post-session tests among the three subsets and three demographic
categories.
Table 1

Demographic Breakdown of Respondents

<table>
<thead>
<tr>
<th></th>
<th>Pre-session (n=69)</th>
<th>Post-session (n=46)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>15</td>
<td>22%</td>
</tr>
<tr>
<td>Female</td>
<td>54</td>
<td>78%</td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20-39</td>
<td>37</td>
<td>54%</td>
</tr>
<tr>
<td>40+</td>
<td>32</td>
<td>46%</td>
</tr>
<tr>
<td>LastSchool</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-5 years</td>
<td>48</td>
<td>70%</td>
</tr>
<tr>
<td>6+ years</td>
<td>21</td>
<td>30%</td>
</tr>
<tr>
<td>FirstTimeOnline</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>52</td>
<td>75%</td>
</tr>
<tr>
<td>No</td>
<td>17</td>
<td>25%</td>
</tr>
</tbody>
</table>

Note. This is a table to show the demographic makeup of the study’s participants.

The most straightforward result of this study is that regardless of session type, a library session significantly reduces information anxiety in online students (see Figure 1 and Table 2 for complete statistics comparing pre- and post-session MLAS scores), supporting the first hypothesis. Recall that when reading these results, in MLAS, the higher the score, the less anxiety the student reports.

In total, and across two of the three subsets, students showed a statistically significant reduction of anxiety simply by having a library session. The third subset, Value, remained unchanged because it was very high even before the library session. The subset that experienced the largest reduction of anxiety after a library session was Tech ($p < .00001$), supporting many other studies’ claims that online students experience a large amount of technology-related anxiety, and that having a librarian demonstrate the use of some technologies decreases that anxiety (Eklof, 2013).

The statistical significance ends there (see Table 3 for complete statistics comparing experimental and control post-session MLAS scores). Across all subsets and demographic categories, whether or not a student received activity-based instruction made no statistical difference, which fails to support the second hypothesis (see Table 4).
Figure 1. Difference in anxiety pre-session to post-session. This figure is a graphical representation of the difference in anxiety experienced by the sample after participating in a library instruction session.

Table 2

Statistics on Difference in Anxiety Pre-Session to Post-Session

<table>
<thead>
<tr>
<th></th>
<th>Pre-session (n=69)</th>
<th>Post-session (n=46)</th>
<th>Paired Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>Standard deviation</td>
<td>Mean</td>
</tr>
<tr>
<td>Total (out of 145)</td>
<td>100.32</td>
<td>10.78</td>
<td>112.35</td>
</tr>
<tr>
<td>LibResearch (out of 85)</td>
<td>51.41</td>
<td>8.04</td>
<td>59.33</td>
</tr>
<tr>
<td>Tech (out of 25)</td>
<td>16.9</td>
<td>3.42</td>
<td>20.3</td>
</tr>
<tr>
<td>Value (out of 35)</td>
<td>32</td>
<td>3.14</td>
<td>32.72</td>
</tr>
</tbody>
</table>

Note. This table provides the statistics for the difference in anxiety experienced by the sample after participating in a library instruction session.
Table 3

Statistics on Difference in Anxiety between Control and Experimental Groups

<table>
<thead>
<tr>
<th></th>
<th>Control sessions</th>
<th>Experimental sessions</th>
<th>Paired difference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(n=21)</td>
<td>(n=25)</td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>Standard deviation</td>
<td>Mean</td>
<td>Standard deviation</td>
</tr>
<tr>
<td>Total (out of 145)</td>
<td>111.71</td>
<td>112.88</td>
<td>0.27</td>
</tr>
<tr>
<td>LibResearch (out of 85)</td>
<td>57.76</td>
<td>60.64</td>
<td>0.81</td>
</tr>
<tr>
<td>Tech (out of 25)</td>
<td>20.81</td>
<td>19.88</td>
<td>1.04</td>
</tr>
<tr>
<td>Value (out of 35)</td>
<td>33.14</td>
<td>32.36</td>
<td>0.93</td>
</tr>
</tbody>
</table>

Note. This table provides the statistics for the difference in anxiety reported by the experimental-exposed sample compared to the control-exposed sample.

Discussion

The results of this study are rather surprising, as they differ substantially from research on the same topic. On the one hand, it is beneficial for students that library sessions demonstrably reduce information anxiety for online learners; on the other hand, and the most surprising conclusion, is that the pedagogical approach of that session seems to matter less. There are a few suppositions as to why this may be the case. First, the activity used in the ABL sessions may not have been “hands-on” enough. ABL in online platforms comes with a host of technological limitations, and much of the techniques often used by ABL practitioners in on-campus settings are difficult to translate in the online environment. It is entirely possible that the use of various interactive pods in Adobe Connect just does not provide enough interactive to be effective activities.

Secondly, because the librarian conducting these sessions typically uses an ABL approach, it is possible that even the control sessions (that is, those without activities) was still effectively active learning. The librarian left lots of time for questions, and demonstrated the use of databases and search engines from students’ own research topics. Though the intention was for these sessions to be wholly non-interactive, the reality is that even the control sessions had a lot of opportunities for peer-to-peer learning.
### Table 4

**Statistics on Difference in Anxiety between Control and Experimental Groups Broken Down by Subset and Demographic**

<table>
<thead>
<tr>
<th></th>
<th>Control sessions</th>
<th>Experimental sessions</th>
<th>Paired difference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>Mean</td>
<td>Standard deviation</td>
</tr>
<tr>
<td>LibResearch (out of 85)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FirstTimeYes</td>
<td>18</td>
<td>59.28</td>
<td>12.23</td>
</tr>
<tr>
<td>FirstTimeNo</td>
<td>3</td>
<td>43.5</td>
<td>7.78</td>
</tr>
<tr>
<td>LastSchool0-5</td>
<td>10</td>
<td>57.6</td>
<td>13.66</td>
</tr>
<tr>
<td>LastSchool6+</td>
<td>11</td>
<td>57.91</td>
<td>11.71</td>
</tr>
<tr>
<td>Age20-39</td>
<td>13</td>
<td>57.23</td>
<td>12.5</td>
</tr>
<tr>
<td>Age40+</td>
<td>8</td>
<td>58.63</td>
<td>12.92</td>
</tr>
<tr>
<td>Tech (out of 25)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FirstTimeYes</td>
<td>18</td>
<td>21.22</td>
<td>2.21</td>
</tr>
<tr>
<td>FirstTimeNo</td>
<td>3</td>
<td>18.33</td>
<td>2.89</td>
</tr>
<tr>
<td>LastSchool0-5</td>
<td>10</td>
<td>21.6</td>
<td>1.96</td>
</tr>
<tr>
<td>LastSchool6+</td>
<td>11</td>
<td>20.09</td>
<td>2.74</td>
</tr>
<tr>
<td>Age20-39</td>
<td>13</td>
<td>21.38</td>
<td>2.4</td>
</tr>
<tr>
<td>Age40+</td>
<td>8</td>
<td>19.88</td>
<td>2.42</td>
</tr>
<tr>
<td>Value (out of 35)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FirstTimeYes</td>
<td>18</td>
<td>33.44</td>
<td>2.06</td>
</tr>
<tr>
<td>FirstTimeNo</td>
<td>3</td>
<td>31.33</td>
<td>3.51</td>
</tr>
<tr>
<td>LastSchool0-5</td>
<td>10</td>
<td>33.4</td>
<td>2.32</td>
</tr>
<tr>
<td>LastSchool6+</td>
<td>11</td>
<td>32.91</td>
<td>2.43</td>
</tr>
<tr>
<td>Age20-39</td>
<td>13</td>
<td>33</td>
<td>2.45</td>
</tr>
<tr>
<td>Age40+</td>
<td>8</td>
<td>33.38</td>
<td>2.26</td>
</tr>
</tbody>
</table>

Note. This table provides the statistics for the difference in anxiety reported by the experimental-exposed sample compared to the control-exposed sample, broken down by subset and demographic.

Lastly, it is possible that the research on efficacy of ABL practices does not match the reality of adult online learners’ preferences. Darden (2014) suggests that the andragogy model for adult learners is not necessarily the best approach for online adult learners; in particular, he argues that for students who lack confidence or motivation, the hands-on, experiential approach may actually be a hindrance. Since the majority of study participants are older than traditional university students, and have been out of school for several years, the ABL approach for their
first research assignment may not prove to be the most pedagogically sound for that population. One surprising finding of this study supports Darden’s thesis: while there was no significant reduction in anxiety for students who are already familiar with online learning environments, that demographic of student did demonstrate the greatest anxiety reduction in the LibResearch subset. Perhaps because these students have more comfort with technology and digital learning environments, they were better able to focus on the activities to develop research skills.

Like any research project, this study has limitations. The low response rate on the surveys created a sample size that is not large enough to be able to make any general conclusions. Because of the sample size, return rate, the aggregation of responses, and that only one course in one program was surveyed, this study serves more as a case study than any kind of conclusive best practice. As discussed above, the study is similarly limited by the format of both the ABL and control sessions. Having multiple librarians conduct the sessions, or using varied activities, would likely provide varied results.

The biggest implication for this study is that instruction librarians offering synchronous online library sessions need to do more research on effective pedagogies. While this population of student is increasing, library literature continues to focus on on-campus students, or online students doing asynchronous activities. There needs to be more research on how adult online students learn, how they interact with librarians and library resources, and which pedagogical frameworks are most appropriate in synchronous online settings.

Another implication of this study is that just because something has been shown to work well for on-campus sessions does not necessarily mean it will work in an online environment. Online students are different from on-campus students in many ways; likewise, online environments have technological and logistical limitations that make translating some of our instructional best practices into the online environment difficult, if not impossible. As librarians, we need to be more critical in designing lesson plans and activities for online learners. This study shows there is a lot of work to be done, a lot of knowledge to be uncovered, and that relying on approaches used in on-campus or asynchronous sessions might not be optimally serving online learners.
References


Appendix A

MULTIDIMENSIONAL LIBRARY ANXIETY SCALE (MODIFIED BY PI)
© 2002 Doris J. Van Kampen and Sharon Bostick

Below is a list of statements, which represent aspects of an academic library and the information search process that are most likely to cause anxiety in graduate/law students. Please rate the items using the following scale:

1 = Strongly Disagree (S/D)  2 = Disagree  3 = Undecided  4 = Agree  5 = Strongly Agree (S/A)

(Circle the number that best fits your answer)

I understand how to begin my research in the library
There is so much information available, I am sure I will miss something important
The library is not easy to use
When I use the library for research, I feel overwhelmed
I enjoy using the library to find information
Narrowing my research topic is not easy
When I think about my research as it relates to the library, I feel stressed
There are too many possible sources of information
Locating information for my research has been a comfortable process
I feel intimidated when I walk into the library
When I think about using the library, I feel anxious
The library does not offer enough services for law students
The library is an important part of my research
I am comfortable using a computer
I am comfortable using my computer at home to access the library’s resources
I am not comfortable using the library’s online catalog
I am not comfortable using the library’s website
Knowledge of the library is valuable

S/D.................S/A

1  2  3  4  5
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<tr>
<th>Statement</th>
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<tr>
<td>Knowledge of how to look for specific information is valuable</td>
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<tr>
<td>Being comfortable using the computer for searching the library’s resources is valuable</td>
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<td>Knowledge of how to access the library’s website is valuable</td>
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<td>The library’s resources for my area of interest are satisfactory</td>
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<td>The staff in Interlibrary Loan is helpful</td>
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<td>I am not comfortable asking for help from a staff member</td>
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<tr>
<td>Instructions on using my home computer to access the library are helpful</td>
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<td>I am comfortable calling the library for help</td>
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<td>I do not understand how to connect from home to the library databases</td>
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<td>I can use Interlibrary Loan for access to materials not in my library</td>
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<td>I would rather use the library in person</td>
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<td>It is not easy to locate materials I need in the library</td>
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<tr>
<td>I am comfortable using Interlibrary Loan to get materials from a different library</td>
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<td>In general, I think my ability to use the library has affected my research negatively</td>
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Appendix B

Demographic Questions at the End of the Post-session MLAS

Please select the gender with which you identify.

- Male
- Female
- Trans*
- Not listed

How old are you?

- 20-29
- 30-39
- 40-49
- 50 or older

When was the last time you were in school, prior to enrolling in the USC MSW?

- Less than 1 year ago
- 1-5 years ago
- 6-10 years ago
- More than 10 years ago

Is this your first time participating in a fully online degree program?

- Yes
- No
Flipping Out Over Online Library Instruction: A Case Study in Faculty-Librarian Collaboration

Sandra Lee Hawes  
Jane Mason Adamson  
Saint Leo University

Abstract
This case study shines a light on both the flipped classroom paradigm and exemplifies successful faculty-librarian collaboration. The co-authors leveraged an existing collegial relationship into a productive partnership to create a multi-faceted flipped classroom module. The module, developed over the course of three and a half years, was designed to address reported student difficulty using the online library for graduate research. The case study also examines the special needs of online learners and adult/non-traditional students in graduate programs, and addresses research support for the various types of instructional materials described.

This case study illustrates the organic means by which an instructional professor (“the instructor”) and an online services librarian (“the librarian”) at a mid-sized Catholic, liberal arts university collaborated to develop a flipped classroom library instruction session for students who were taking an online graduate course in instructional design. Library instructional materials were developed by the librarian over the span of three and a half years, during which the instructor taught the same graduate course a total of 11 times from May 2012 to October 2015.

The library instruction was provided in 10 of the 11 terms in which the course was offered, nine by the co-author and once by a substitute reference librarian during the co-author’s sabbatical.

The instructor teaches in a program that offers online graduate courses in six eight-week terms per calendar year. Courses are delivered online via a course management system and each class includes access to a university-licensed virtual meeting room. Because this virtual meeting room is only available to those enrolled in the course, the librarian shared the participants’ link to

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2 Keywords: faculty-librarian collaboration, flipped classroom, information literacy, learning objects, video tutorials, active learning, instructional technology and design
her virtual classroom with students and the instructor. This became the de facto method to deliver live library instruction for this course.

When the instructor first began teaching the class, she received feedback from students indicating that they were spending inordinate time on locating articles via the online library and found it to be a “challenging assignment.” The class is writing-intensive; all four writing assignments plus two of eight discussions require students to locate and discuss journal articles that describe an innovative, effective instructional strategy. The students are then to incorporate the findings into their instructional strategy. These skills relate directly to the Association of College and Research Libraries (ACRL) “Information Literacy Competency Standards for Higher Education”, Levels 1 through 4 (Association of College and Research Libraries [ACRL], 2000). For Levels 1 and 2, students need to be able to access and locate specific articles, using search terms. For Levels 3 and 4, students need to be able to identify information and use it to make a product, such as an instructional design (ACRL, 2000).

To provide help with the first challenge upon which the second one rests, the instructor looked for a way for a librarian to share her expertise with students before the students needed to begin looking for articles. The present case study addresses the process by which the instructor and librarian developed learning objectives together for the library instructional materials that the librarian created for the course, as well as the iterative nature of the materials developed over the three-and-a-half-year-period under discussion.

After each time that the librarian conducted a live session over the course of this case study, she and the instructor reviewed what had gone well and what could be improved. The subsequent sessions, over the next 10 classes, were a result of this collaboration, and each successive iteration of the instructional materials provided more student engagement with the material and evidence of accountability by the students. As one student commented after the Fall 2014 term: “[The LibGuides® and activities] were helpful. In some ways it was like playing detective. It was one thing to match the presentation and the videos but if you didn't actually walk the real site, there are many things that one would never find. It ‘forced’ us to walk the sites and learn where the resources were located.”

Literature Review

Faculty-Librarian Collaboration

The online services librarian has provided reference and research support for the institution’s online-only program since joining the faculty in 2002, and began embedding in writing- and research-intensive online courses in 2008. She is well-versed in the use of instructional technology, comfortable delivering online webinars, and has both undergraduate and graduate degrees in education. The instructor has undergraduate degrees in psychology and art, graduate degrees in design and education, and a doctorate in curriculum and instructional technology. The complementary nature of the co-authors’ skill sets contributed to the development of a collegial relationship and facilitated creation of the instructional materials that were developed, tested, evaluated, revised, and reused in the case under study, and is similar to
that described by Diel and Flett as they worked together to create an online library tutorial (2003).

That pre-existing relationship, based on common interests and complementary skill sets, enabled the co-authors to sustain a working relationship throughout the period under review (2012-2015). It also facilitated the emergence of an interdisciplinary synergy within which both instructor and librarian successfully taught graduate students the necessary research and information literacy skills required for them to succeed, not only in the instructor’s class, but also within the degree program; this is similar to other studies in the literature (Boisselle, Fuss, Mestre, & Zinn, 2004; Bowers, et al., 2009; Cassidy & Hendrickson, 2013). Specifically, the instructor and librarian recognized the need for information literacy instruction for students at the graduate level, and used a collaborative framework for integrating information literacy into the instructor’s graduate course and for assessing the results (Cooney & Hiris, 2003). Additionally, the instructor attended and participated in each library webinar conducted by the librarian, modeling a high level of collegial respect that encouraged students to extend the same courtesy to the librarian, and further toward the library and its services.

Designing Instructional Materials for the Flipped Classroom in an Online-Only Environment

To compensate for the lack of synchronous opportunities to interact with learners in an online environment, educators include various types of instructional materials when developing a flipped classroom learning experience. A review of the literature, however, provides a research landscape that is full of contradictions about best practices for implementing the strategy in an online-only environment, as well as differences of opinion on the best methods for using the strategy with undergraduate versus graduate students. This case study reflects numerous attempts to incorporate the best of the research into the materials and activities designed to achieve the learning objectives of a single course in a graduate degree program in an online-only format. As such, it illustrates the tenuous and iterative process of developing similar materials for other courses and in other settings. Overall, the authors believe that the process is more engaging for online students than a research webinar alone would be and that the increased self-efficacy of the students following the flipped classroom activities supports the continued use of instructional videos as part of the process, particularly those that demonstrate skills valued by the course instructor (Enfield, 2013).

Universal Design for Learning (UDL) principles can be applied to increase the odds of student success when engaging with the modules and activities provided prior to the synchronous (live) interaction among students, instructor and librarian (Webb & Hoover, 2015). UDL essentially provides multiple means of representation, engagement, and expression (Webb & Hoover, 2015), a concept explored in a recent usability study (Mestre, 2012) that offers specific guidance to educators, including reference and instructional librarians, for developing tutorials based on sound pedagogy as well as student preferences.

In addition, the librarian employed the idea of “bite-size” tutorials within the five LibGuide modules, as suggested by Dieterle (2006, p. 555), in an attempt to place each tutorial within the context of the larger learning objective for the module.
Information Literacy Competency Standards for Higher Education and Graduate Student Learning

It is important for graduate students to master information literacy competency standards in order to succeed in their programs. Much of that support comes from the library services provided by the institution. Many such students lack prior experience with the online academic library environment and need sufficient scaffolding as they acquire the necessary 21st-century research skills (Calkins, 2007). As stated in the ACRL Information Literacy Competency Standards for Higher Education:

Information literacy, on the other hand, is an intellectual framework for understanding, finding, evaluating, and using information--activities which may be accomplished in part by fluency with information technology, in part by sound investigative methods, but most important, through critical discernment and reasoning. Information literacy initiates, sustains, and extends lifelong learning through abilities which may use technologies but are ultimately independent of them. (ACRL, 2000, “Information Literacy and Information Technology”, para. 3)

Additionally:

As students progress through their undergraduate years and graduate programs, they need to have repeated opportunities for seeking, evaluating, and managing information gathered from multiple sources and discipline-specific research methods. (ACRL, 2000, “Information Literacy and Pedagogy”, para. 3)

The LibGuide and accompanying flipped classroom activity encourages a form of self-directed learning, incorporating the need for students to reflect upon the activities and draw conclusions about better ways to conduct their research in the future as a result of their experimentation in the worksheets (guided practice). The worksheets are intended as an opportunity for students to engage with the module content through guided practice and the questions on the worksheets were chosen by the librarian to illustrate competence in all of the learning objectives for the class: familiarity with layout and navigation of the university library website; ability to conduct a “discovery” search and harvest applicable subject headings; conduct subject searches of discipline-specific databases and ebook collections; find and use citation help, including the ability to export citations directly to citation programs; differentiate between scholarly, peer-reviewed reports of research, trade publications, and general interest periodical articles; and access print-only resources using available library services for document delivery and interlibrary loan.

The librarian designed the modules and associated learning materials and activities with the ACRL Information Literacy Competency Standards for Higher Education (ACRL, 2000) and the Guidelines for Distance Learning (DL) Library Services (Association of College and Research Libraries Distance Learning Section Guidelines Committee, 2004) requirements in mind. The guidelines for DL library services have been in place and used by various accrediting agencies, such as the Southern Association of Colleges & Schools (SACS), since 2004. The
Distance Learning Section of ACRL is presently engaged in establishing Standards for Distance Learning Library Services. If approved by ACRL, these will supplant the guidelines.

Calkins (2007) identifies and annotates six key articles from her search of the literature on faculty-librarian collaborations at the graduate level, all of which utilize ACRL Information Literacy Competency Standards for Higher Education (ACRL, 2000) as elements of the assessments used. The authors found it useful to review a few of the case studies Calkins identified and examine examples of any instructional assessments provided, along with comparing their learning objects as they were being developed with those mentioned in the Calkins article (2007). According to Chiappe Laverde, Segovia Cifuentes, and Rincón Rodríguez, “the design of learning activities is the main cause for success or failure of the autonomous learning process for students” (2007, p. 677), a key component of the flipped classroom instructional strategy.

Needs of the Adult and Non-Traditional Learner in a Graduate Program

Many adults and non-traditional learners returning to academia to complete a graduate program, as stated above, lack prior experience with the online academic library environment and need sufficient scaffolding as they acquire the necessary 21st-century research skills (Calkins, 2007; Cooke, 2010; Rapchak, Lewis, Motyka, & Balmert, 2015). After reviewing the literature, Canady, King, and Blendinger (2012) reflect:

With a solid commitment to learning, the adult learner returns to school but often struggles with research and using library resources. Their struggles may be related to their location away from campus, unfamiliarity with technology, lack of basic research skills, limited time due to other responsibilities, lack of confidence, feelings of anxiety, and lack of knowledge about resources available in the library. (p. 158)

The instructional materials developed by the librarian and instructor provide, early in the course, hands-on activities that are grounded in a real-life context, thereby providing the crucial information for all students to be successful in their assignments that require accessing relevant journal articles (Choo, 2007). These procedural skills can be learned through guided instruction with just-in-time scaffolding, such as that described in the present case study. The instructional materials are directly related to the task at hand and not only model the procedure, but provide practice by requiring students to engage with a set of exercises. After completing the exercises, they can refer back to the instructional materials again as needed.

Active Learning, Learning Objects, and the Adult Learner

Incorporating active learning components into a course requires students to engage with course content and promotes personal responsibility by students for their own learning (Zayapragassarazan & Kumar, 2012). Phillips (2005) notes:

When online active learning strategies are implemented, the role of the learner changes from passive to one who is self-directed and takes responsibility for his or her own
learning. Therefore, the educator’s role changes from that of the authoritarian expert to coach or facilitator. (p. 78)

The instructor and librarian endeavored to create a clear connection between the relevance of the required information literacy activities and subsequent assignments in which these skills would be of value (Herrington, Reeves, & Oliver, 2006; Herrington, Reeves, Oliver, & Woo, 2004). To this end, the librarian structured the learning tasks to mirror what students are required to do for their course assignments. She developed a series of worksheets that added the authentic task component to the overall learning activity presented in the LibGuide modules. To complete the worksheets, students had to follow the procedures modeled in the mini-video tutorials and slide decks, thus reinforcing the procedures and giving the librarian the opportunity to catch any misunderstandings about the process in her feedback.

Digital learning objects are reusable instructional resources that can provide valuable enrichment for learning (Cramer, 2007; Mestre et al., 2011; Tono & Lee, 2011). In classifying types of learning objects, Todaro (2005) distinguishes between content resources and learning tasks, both of which can take a variety of forms including slideshows, videos, audio clips, images, games, and interactive exercises. The learning objects for this case study include both content resources – the slide decks and videos that demonstrate the procedures, and learning tasks – the exercises that require students to actually perform the procedures.

The librarian developed learning objects designed to provide step-by-step procedures for locating peer-reviewed journal articles and housed them in a LibGuide. The librarian saw the mini-video tutorials as an expedient method for demonstrating complex tasks that require critical thinking skills to accomplish. Tono and Lee (2011) and Churchill (2007) discuss criteria for good design of learning objects and exercises, which the instructor communicated to the librarian as materials were developed. An added benefit of using learning objects is that digital resources can be repurposed for a variety of learning objectives (Todaro, 2005). From the librarian’s perspective, any materials created could be repurposed for another class.

The LibGuide permitted use of a variety of learning objects, including mini-video tutorials, slideshows, audio clips, and text-based instructions. In addition, the LibGuide format met their design specifications, conformed to the existing literature, and was available as a university-licensed platform that could be used for this case study. The co-authors hoped that the students would find using the LibGuide prior to the live webinar helpful and make it easier for them to participate in guided instruction, with just-in-time scaffolding that augmented the live webinar experience and could be referenced again as needed. Using a LibGuide required the students to practice accessing library materials, reinforced familiarity with the library site, and provided successful practice at accessing academic information from the online library.

After conducting a series of studies using learning objects (LOs) in different contexts, Nurmi and Jaakkola (2006) concluded, “It is the context of use, together with instructional arrangements, which define the pedagogical value of LOs” (p. 245). The co-authors provided a comprehensive context for the learning objects by:
1. Encouraging students to become familiar with and manipulate the databases through hands-on exercises tied directly to skills needed to succeed in writing assignments for the course.

2. Requiring learners to complete and submit the exercises, incorporating student accountability into the process. (Adding point value to the worksheets defined that accountability.)

3. Providing a live session in which the librarian modeled the research process and offered an opportunity for students to interact in real time with both the librarian and instructor.

Discussion

The authors, both of whom presently work with online students at the same university, had an existing collegial relationship from prior years employed in closely related departments on the university campus. When the instructor began teaching for the M.S. in Instructional Design program, she realized that her graduate students lacked essential research skills required to succeed in her course. These skills relate directly to the Literacy Standards, Levels 1 through 4. As stated above, for Levels 1 and 2, students need to be able to access and locate specific articles, using search terms. For Levels 3 and 4, students need to be able to identify information and use it to make a product, such as an instructional design (ACRL, 2000). The instructor realized that asking a librarian to share her expertise would be a step in the right direction. She contacted the librarian and they decided to develop an instructional module for her class. The librarian eventually decided to use LibGuides as the platform for delivering the module, since it was being licensed by the university and she was familiar with it.

That project evolved over several terms. What started as a live one-hour webinar in the instructor’s online virtual office by the librarian, who later offered a pre-recorded webinar with a live question-and-answer forum for students in the online classroom, ultimately incorporated a LibGuide with various instructional activities divided into five modules, each with a different learning objective. The LibGuide was added for the Summer 2013 class when the librarian proposed developing the lesson using a flipped classroom instructional strategy.

What began as a simple LibGuide with five text-based modules as a first attempt at a flipped classroom strategy developed over several terms to the present iteration of the LibGuide, which includes not only information literacy activities, but also video tutorials, slideshow demonstrations, examples of various instructional design resources, and incorporates an active learning component through the use of module worksheets. Because the librarian was not officially assigned to support the instructor’s program, she tried to meet the students and the instructor in the instructor’s online classroom first during the class’s regularly scheduled online office hour outside of the librarian’s regular work schedule, and settled on using the librarian’s online classroom for the live sessions in this and later terms.

Literature was emerging about the flipped classroom methodology at that time and both authors were intrigued with how the strategy might play out in their situation (Johnson, Adams Becker, Estrada, & Freeman, 2015). By providing the LibGuide module in advance of the
webinar, students had the opportunity to explore the concepts, apply them in practice using the worksheets that were tied to learning objectives, and then attend the virtual classroom webinar during which it was hoped that all participants (faculty, librarian and students) could be involved in hands-on exploration of the resources and skills addressed in the library module.

The co-authors quickly realized that a simple voice-over with a slide deck uploaded to an online server was insufficient to demonstrate the intricacies of post-graduate research methods and materials. The librarian suggested creating a supplementary series of video tutorials that could be embedded in the LibGuide for the class. In order to get the necessary embed codes for the video tutorials, she uploaded them to a screen-sharing site for videos up to four minutes in length and to her video-sharing channel for the ones between five and 15 minutes in length. However, rather than splicing in fresh segments to reflect those pesky, ever-present changes to the library’s interface between terms, which presented a problem in terms of work flow, it was decided to simply add a voice-over slideshow with screen grabs of the changes to the library interface.

Since both the instructor and the librarian have backgrounds in educational theory and practice, they felt that using worksheets as an assessment tool was a logical way to gauge content mastery of the selected information literacy and research skills. Originally the worksheets were optional activities, then were offered as extra credit, and are now a required activity for a fixed number of points toward the grade earned in the class. The librarian grades the worksheets and returns them with comments to the instructor and provides a brief written summary to the class as a whole regarding the content that should be demonstrated in their work, addressing problems that seem to affect most of the students. This summary also provides the instructor and librarian with feedback upon which to redesign and re-craft sections of the modules where students consistently have had trouble.

In addition to adding an assessment component in the Summer 2014 term, the librarian and instructor opted to create and distribute a survey to students for feedback on the project and its effectiveness as a learning tool in the Fall 2014 term. They used the librarian’s subscription survey account, which allowed them to compare feedback across multiple terms, or to view results for only a specific term to evaluate effectiveness of subtle changes to the instructional materials as the project developed, morphed, and matured.

Graduate classes in the M.S. of Instructional Design program at the institution are small, with as few as four and as many as 20 in a single section of the course, which is offered in alternating eight-week terms. With such small sample sizes, the survey results are not generalizable. While student responses to the survey were generally positive (agree/strongly agree) regarding targeted research skill acquisition, they also provided candid criticism of what they considered to be flaws in the materials and methods: one student felt there should have been instructions in the first module to download all of the worksheets and print them out in advance of completing the exercises on each module; another criticized covering “value added” content in the live webinar that was not covered in the LibGuide prior to class. The instructor and librarian used students’ constructive criticism to modify their instructional materials and delivery methods, but were gratified by comments such as this one from the Spring 2015 class: “I found the librarian’s lib guide [sic] to be extremely beneficial. I am grateful for the support.”
In particular, respondents indicated satisfaction with the flipped classroom experience, which entailed working through a modular LibGuide with worksheets prior to attending a live webinar (or reviewing its recording). They also stated that the experience had taught them a new way to search for information using the online library, had shown them databases and ebook collections they previously had not known were available to them, and were likely to take advantage of the citation, writing, document delivery, and interlibrary loan services provided by the library.

Open-ended comments were also positive and provided insight for the instructor and librarian about ways to improve the learning experience for future classes. One student wrote, “For me, the procedures [the librarian demonstrated] became a bit confusing and rushed [during the live webinar]. Maybe [she could provide] additional practice demonstrations or further breakdown of each step?” This comment led to the co-authors’ investigation of Universal Design for Learning principles, which promote creation of instructional activities that address multiple learning styles (Mestre, 2012; Webb & Hoover, 2015).

Table 1 summarizes the development of the LibGuide and accompanying instructional materials and activities from inception (SU1-2012) through the date of this paper (FA1-2015).

Conclusions and Suggestions for Future Study

The project as it developed over three and a half years has given the graduate students in this course increased opportunities to succeed with assignments and facility with manipulating and navigating the online library’s sources and services. This is of particular importance because graduate study entails extensive use of the scholarly literature and graduate students generally do not ask for help with research (Earp, 2008). An ancillary benefit of the project is the organic means by which this familiarity with resources and services is spread by word-of-mouth from students in this course to those taking other courses in the program with them. Although the grade point average for the course has increased over the period under study, there are too many confounding variables to attribute the improvement in grade point average for the course in one term over that in the following term to the flipped classroom experience with the librarian.

As with any such project, there is always room for improvement. The instructor is considering a request for a librarian to be embedded in future classes, which will help eliminate technical barriers to full access within the course and facilitate collaboration with the librarian in the context of information literacy standards for higher education. Including the librarian as part of the teaching team will help accentuate for students the importance of using published research in their writing assignments. Also, the librarian can then participate in class discussions, helping to lower further any barriers students might feel about contacting the library for help with research and resources.
Table 1

Summary of LibGuide Development

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<td>Standard library tutorial in syllabus</td>
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<td>Slideshow about library databases embedded in course (later removed by instructor)</td>
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<td>Librarian invited to present live research methods webinar</td>
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<td>Librarian provided pre-recorded webinar and live QnA session online</td>
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<td>Librarian/instructor webinar with hands-on activities/mini-tutorials</td>
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<tr>
<td>LibGuide created for course with embedded learning objects</td>
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<td>Graded work sheets added to course LibGuide (optional activity)</td>
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SU1 refers to the first eight-week term of the Summer session; FA1 refers to the first eight-week term of the Fall session; and SP1 refers to the first eight-week term of the Spring session.

Additionally, the LibGuide needs to be totally revised and aligned more intentionally with Universal Design for Learning (UDL) principles and graduate student preferences for the type of materials described in Mestre’s 2012 usability study. Interestingly, Mestre found that students preferred screen-shots of web pages with step-by-step text instructions or steps labeled on the screen-shot when attempting to complete a task, versus viewing a short video tutorial prior to completing the task (2012). Clearly, a combination of audio, visual, kinesthetic, text, and navigation elements need to be included in any flipped class tutorials designed to prepare students to complete a specific research task (Mestre, 2010). Simply recording a five- to 15-minute demonstration with voice-over is inadequate to accomplish the larger goals of a flipped classroom tutorial. Despite these drawbacks, the LibGuide has been useful as defined by the number of active views (1,055) since launched (see Figure 1). This warrants further investigation: Does the number of views reflect a larger audience than the students in this course, or does it indicate that each student accessed the LibGuide five or more times to complete the modules?

| LibGuide work sheets (bonus points awarded) | X |  |
| Libguide work sheets (mandatory; part of course grade) | X | X |
| Student feedback survey added | X | X |

*Note.* SU1 refers to the first eight-week term of the Summer session; FA1 refers to the first eight-week term of the Fall session; and SP1 refers to the first eight-week term of the Spring session.

**Figure 1.** This chart illustrates usage of the course LibGuide (FA1-14 through FA1-15) once it became a course requirement.
Another interesting option would be to incorporate the Guide on the Side interface to future iterations of the class LibGuide. Guide on the Side (GotS), developed by Leslie Sult and Gregory Hegedon, can be downloaded from the University of Arizona Libraries site, http://code.library.arizona.edu/gots (Becker, 2013, p. 259). This interface facilitates the students following a very structured path through the instructional materials and actively engaging with guided questions and content as they watch the tutorial, helping them to focus on salient points. After the tutorial, the student would have an opportunity to do independent practice to reinforce the skills.

In order to get a better assessment of student learning and progress, a pre- and post-test should be included in the LibGuide to supplement the five modular learning activities that use the downloadable worksheets. And, as a further step, the co-authors would like to propose a research study based on this case study. In order to assess whether the instructional activities and materials actually influenced student success in terms of the rubric used to grade the final term paper, such a research project might entail collecting the students’ reference lists from the course term papers in all of the terms upon which this case study is based, and then coding the resources by type: (P) peer-reviewed articles, (S) scholarly articles, (T) trade journal, and (Po) popular articles. The aggregated numbers from individual coded tallies of discrete classes (terms) could be collated in an electronic spreadsheet in order to investigate whether or not there was a significant statistical difference in how well students performed on the research part of the final term paper assignment. Or, a simpler method of evaluating the success of the research instruction developed for the flipped classroom case study herein described might be to simply ask students to self-report on the amount of time students spent finding the required journal articles for the course assignment, to see if there was a correlation to the library instruction.
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Hunting and Gathering: Attempting to Assess Services to Distance Learning Students

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Louisiana State University

Abstract
This case study presents the experiences of a newly hired distance learning librarian at a large academic library. Faced with taking over a position that lacked a dedicated staff member for two years, the librarian wanted to understand the current state of services. In the course of investigating and collecting data and while working through challenges, the librarian began to build her operations map and clarified her vision and values.

Introduction
Assessment is necessary when taking over an established program, but what happens when information is incomplete or simply nonexistent? In an ideal world, every librarian put in charge of an existing program would begin with a comprehensive review of existing data, but the ideal and the actual are rarely the same. In March 2015, a new distance learning (DL) librarian was hired by Louisiana State University Libraries, which serves approximately 30,000 students at Louisiana State University (LSU) in Baton Rouge, Louisiana (Louisiana State University Office of Budget & Planning, 2014). Because of funding and organizational changes, the position had been vacant for two years. Although personnel had been assigned to serve student needs, no one individual had been designated to carry on the managerial aspect of the position. The new librarian’s responsibilities were split between DL and liaison work with the College of Human Sciences and Education, limiting her available time for investigating the state of services. Her first priority as DL librarian was assessing the current state of services provided to the DL community. A cursory review of the information on the LSU Libraries’ website indicated that the program needed updating and that a full review of assessment data would be needed to find the best way to restructure an outmoded service model. Unfortunately the new DL librarian onboarded with little to no prior assessment data from the unit and had to start fresh in her quest to overhaul services to meet the needs of today’s distance students.

Although much current research on assessment and DL focuses on information literacy instruction programs for distance learners, instruction is only one service libraries provide to DL communities (Ritterbush, 2014). There are fewer sources of recent information about assessing the management of services to these communities. A literature review turned up articles outlining characteristics of effective assessment plans for evaluating library DL services. Blankenship (2008) argues for using the Nash model to align the assessment process. Similarly, White (2010) calls for aligning assessment of distance education service delivery to organizational performance. Block (2008) views assessment of services as an extension of assessment of instruction. Tobias and Blair (2015) offer innovative ideas for assessing DL services that do not involve obtaining direct feedback from users, but these methods yield more
granular information than needed for an initial overview. Matesic (2009) recognizes and describes the challenges of taking over an established program, learning the culture and services, and implementing changes, but unlike Matesic, the LSU librarian did not have access to documentation or a repository of institutional knowledge. As helpful as these articles are for future planning, none addressed assessing a program that is already in place.

Assessing the current state of services was necessary not only to move a stagnant program forward but also to prevent the current services from declining. In addition, insufficient assessment of library services to an institution’s DL community can negatively affect its accreditation review. Louisiana State University is accredited by the Southern Association of Colleges and Schools Commission on Colleges (SACSCOC). The SACSCOC policy statement regarding distance education details the need for assessment not only of library resources but also of services: “The institution regularly assesses the effectiveness of its provision of library/learning resources and student support services for distance or correspondence education students” (Southern Association of Colleges and Schools Commission on Colleges, 2014, p. 3).

Approach

Lacking clear guidelines from library administration, the DL librarian created modest goals using fundamental questions and the Association of College and Research Libraries (ACRL) “Standards for Distance Learning Library Services” (2008) emphasis on determining whether library services are meeting the needs of its DL community as a starting point. She identified four main objectives:

1. Identify the number of DL students served
2. Identify and evaluate the services provided to DL students by the library and the policies governing those services
3. Measure DL student awareness and use of library resources and services, and
4. Assess DL student satisfaction with library services.

She planned to conduct informal interviews with LSU Libraries staff and to review existing outward- and inward-facing documentation about policies, procedures, and processes, as well as existing usage and user-satisfaction data.

Identifying Distance Learners

Although the first goal (identifying the number of DL students served) seemed like the most straightforward item, accomplishing it was not. The web page devoted to library services for distance learners was unclear as to who exactly was eligible to receive special services. The site stated that students must “be currently enrolled” in a distance education (DE) class at LSU or:
…be designated a DE student by the Distance Learning Librarian. Students in unique situations may qualify for distance services even though they are not in courses usually considered distance education courses. Examples are students living out of state while enrolled for dissertations hours or an independent study course. (Lousiana State University Libraries, 2015b, para. 2)

The first step in determining who is a DL student requires a definition of a distance learner, yet the description on the website did not provide that information. Requesting clarification from library staff did not resolve the question. Staff seemed to be divided into two camps: half thought distance learners were comprised of only LSU Online students, and the other half held onto the framework of a dated and discontinued compressed video (CV) model; neither took the students in 100% web-based semester classes into account.

The librarian requested the definition from the Office of the University Registrar. The University Registrar replied by suggesting a meeting because the question was “a little too complicated to answer in an e-mail” (R. K. Doolos, personal communication, April 2, 2015). He also requested that the Associate Registrar attend the meeting.

At this meeting, the DL librarian learned that LSU has several different DL programs. The easiest program and population to identify is LSU Online, which hosts 100% online graduate degrees in business administration, kinesiology, social work, education, human resource development, and construction management. LSU Online also offers several certificate programs. In addition to LSU Online, the university offers semester-based classes that are 100% online. These classes cannot require students to come to campus for assignments or exams. There is a third DL program offered through LSU Continuing Education. These students take self-paced, asynchronous online or correspondence courses through LSU Continuing Education. The current fee structure does not allow these students to be counted toward LSU’s FTE, so these students are currently ineligible for library services.

Taking all of this information into account, the DL librarian drafted a working definition of distance learner to determine who is eligible for DL library services: any LSU Online student or any student who is enrolled in a 100% web-based class but is not also enrolled in a campus-based class.

Creating a working definition was a huge step forward, but it did not provide the number of DL students. LSU Online has 451 students enrolled in classes, and approximately 45% of those students do not list their permanent address in Louisiana (Louisiana State University Office of Budget & Planning, 2015b). The School of Library and Information Science does not offer classes through LSU Online, but all of its classes are 100% web-based, so all of its 119 students are DL students (Louisiana State University Office of Budget & Planning, 2015a). The minimum number of DL students is 570. Determining the number of other eligible students is more difficult. The registrar’s office can provide a list of course numbers and sections that are 100% web-based, but the librarian has been unable to find a way to determine the exact number of students who are enrolled in these classes but are not concurrently enrolled in on-campus classes.
Identifying and Evaluating Library Services and Policies for DL Students

The most accessible documentation about library services and policies for distance learners was the LSU Libraries website. The webpage describing services that LSU Libraries was committed to providing students listed the following: access to electronic books and journals, delivery service for books and journals owned by LSU Libraries, a delivery service for full-text articles not owned by LSU Libraries, reciprocal borrowing agreements with many other academic libraries in the state, a toll-free number for reference services, and a distance education librarian for individual assistance and problem solving.

The DL librarian supplemented the information she found on the site with a review of internal library documentation and informal interviews. Initial information was gathered when staff members forwarded emails that her predecessor sent outlining systems before retiring, but there was no centralized location or formal briefing about this information when she started her job. Six months after she was hired, the DL librarian found additional information by chance when she requested access to her predecessor’s digital files that were not associated with DL. The placement of DL information in unrelated folders instead of in a designated primary location indicates the low emphasis put on the program even before it became dormant during the absence of a dedicated librarian.

**Contact information and reference services.** The head of Collection Development had been designated as the point-person for problems while the DL librarian position was vacant. All contact information pointed to him. There was a toll-free telephone number listed on the site for DL students for reference help, but that telephone number had been disconnected in October 2014 (I. R. Comardelle, personal communication, October 6, 2015). In addition, the reference services available were not enumerated or explained.

**Electronic books and journals.** A brief statement let students know that LSU Libraries provides access to electronic books and journals, but there was no information about how or where students can access these items. There was a brief section about off-campus access to resources, but it was mainly a troubleshooting guide dealing with sign-in problems.

**Document delivery.** The website directed students to use Ingenta to request articles not owned by LSU Libraries, but this information was outdated. DL students were actually supposed to request these items through LSU Libraries’ Interlibrary Loan (ILL) department. The Libraries’ ILL department also provides access to articles and book chapters owned in physical but not digital format. These chapters and articles are then provided through document delivery. Statistics for ILL and document delivery requests were only available for the 2015 fiscal year, when a total of eight article requests were reported, indicating underuse of the service.

**Book delivery.** Book delivery refers only to books owned in physical format by LSU Libraries. At the time of the initial review of services, the procedure for book delivery was hard to follow because of outdated terms, and the practice no longer worked with LSU’s current DL models. Students were asked to fill out a request form for books. Books were sent to a receiving site library. The DE student would then pick up the books at the receiving site library. The receiving site library did not keep checkout records, so there was no record of whether the
student actually picked up the books. The DE student needed to return the books to the site library.

Although there was a list of site libraries, there was no definition of a site library. The list of site libraries included both academic and public libraries within Louisiana. When contacted, the identified site libraries were unable to explain what the term meant. An informal interview between the DL librarian and the head of Circulation at LSU’s Middleton Library did not clarify the matter. The closest thing to a definition was found in an internal document. It stated that a site library was a library where CV classes were held, or the library closest to a student if the student was in an online class. This legacy wording dated to an era when DL classes were still delivered through CV. LSU Online students and students in 100% web-based classes do not receive instruction at a site library. The term site library had become meaningless.

The description of the book delivery service went on to explain how books were delivered if a site library was not available. This procedure was straightforward:

Books owned by LSU Libraries will be sent directly to you at our cost. A return mailing label will be enclosed for your convenience, but you will be required to pay the return postage. Books must be returned by the due date. (LSU Libraries, 2015a, para. 2)

Going forward, it made sense to base all book delivery services to the DL community on this description.

It was difficult to determine how heavily the book delivery service was used. Statistics for the service were reported directly to the previous librarian; they were not submitted to the assessment librarian. The head of Circulation was only able to provide statistics for three of the previous five fiscal years. Although incomplete, the statistics showed a sharp downward trend of use, from 13 books in fiscal year 2012 to one book in fiscal year 2015 (E. Plank, personal communication, September 14, 2015). There are several possible reasons for the drop in use (including the uptick in ebook use), but the convoluted description of the service may have frustrated potential users.

Assessment of Student Awareness and Satisfaction

Given the difficulty of trying to determine concrete items such as enrollment and services, the hope of quantifying goals three (measure DL student awareness and use of library resources and services) and four (assess DL student satisfaction with library services) was slim. A copy of survey results about library services for distance learners from 2005 was located, but the data were not helpful for many reasons. The context of the survey was not available. Questions that referenced specific items on the website were irrelevant because of changes to the site. The scale used for questions was not explained; for example, respondents were asked to rate the ease of finding the distance education web page from the LSU Libraries’ website on a scale of 5 to 1. The number and percentage of responses were available, but a key to the scale was not. It is impossible to determine whether a five meant that students found it very easy or very difficult to find the page.
Fortunately, the LSU Libraries’ assessment librarian served on the LSU SACSCOC Reaffirmation of Accreditation Steering Committee and helped to craft a survey in 2014 for LSU Student Life & Enrollment as part of the SACSCOC reaffirmation of accreditation process. The survey covered many aspects of student services, but several questions were specifically about LSU Online students’ experiences with library services (Hester, Daugherty, & Major, 2015). The survey was repeated in the spring of 2015. In the spring of 2015, 139 students responded (a 26% response rate). This survey provided valuable insights into users’ experiences.

A review of the answers reveals many areas that need work. When LSU Online students were asked how satisfied they were with the quality of library resources, 62.59% were “very satisfied” or “somewhat satisfied,” but 49 (35.25%) answered that they had “no opinion/no basis to judge.” Twenty-five percent of respondents were unaware of the LSU Libraries web page detailing services for LSU Online students and faculty. Only 12% of students sought the help of their library subject specialist, and 27% were unable to access the online databases. Almost 10% of respondents answered “yes” to the question “Did you encounter any problems accessing the online databases?” Some elaborated:

“All the time. However the staff do help when I have questions. Also, the webpage sucks. They need to fix that.”

“Could not access the database. Had to spend an hour on the phone in order to get access.”

“Finding a link to the library site is not an easy thing to do.”

“I didn't know there were online databases for me to access much less how to access them.”

This feedback is useful, but it only reflects the experiences of the LSU Online students, not other members of the DL community. In addition, the survey does not measure whether the students can effectively use library resources, a guideline set forth by both SACSCOC and ACRL.

Findings

The information the DL librarian was unable to locate was as important as or more important than what she did locate. Missing information points to deficiencies in documentation, evaluation, and, in some cases, services. The lack of user feedback, instruction information, missing metrics, and missing documentation of definitions and processes were of prime concern. The overall lack of vision points to the need for a serious review of LSU Libraries’ mission and purpose in regard to the DL community. This review should include library administration, Access Services, and Research & Instruction Services.

The DL librarian plans to collaborate with the assessment librarian to craft a comprehensive assessment plan that includes ongoing evaluation, regular student surveys, and needs analysis. The student surveys should move beyond measuring only student awareness and
satisfaction to measuring students’ ability to use information resources effectively. The metrics collected should be meaningful; counting items just because they can be counted is pointless.

The lack of information for DL instructors was conspicuous. The services and resources that LSU Libraries can use to support DL instructors need to be marketed. Although librarians from the Research & Instruction Services department have embedded in online courses in the past, there was no internal documentation of these activities. It was not possible to identify librarians who had embedded or the classes in which they had embedded without asking each librarian about past experiences. An objective of the DL librarian is to develop a program promoting embedded librarianship to both subject librarians and DL instructors.

**Immediate Impact**

Although the review revealed many services and practices that could be updated and improved, the DL librarian focused on three for immediate attention: updating the book delivery system; revising the web page and building a research guide; and creating a central, internally accessible area for information about DL services, policies, statistics, and plans.

The head of access services and the DL librarian worked together to revise the wording and the process of book delivery. Language about site libraries was removed. All DL students now simply request books through an online form, and books are then be mailed to students with a return mailer enclosed.

The web page was revised and simplified. Contact information and links were updated, as was wording. A new research guide with additional information for searching the catalog, databases, and discovery service was created and linked to the web page.

The process of looking for information and having to gather it from so many disparate sources emphasized the need for one internal, central location for statistics, policies, and information for clarity and continuity. The DL librarian set up a SharePoint site for collaboration across departments, and all relevant, existing documents were added to its library. Information will continue to be added as new documentation and information is created.

**Conclusion**

Assuming responsibility for a program with limited background information is daunting. Instead of viewing the experience as a series of unnecessary frustrations, it is more productive to use the experience as a chance to sharpen assessment and management skills. Apart from the inherent usefulness of assessment for measuring and improving services, it preserves institutional knowledge of departmental functions during periods of change and staffing shortages and is necessary for strategic planning. Planning for DL services is something many libraries struggle with in part because “many distance learning library services developed organically in response to colleges and universities offering programs off campus or online rather than being implemented as part of a library’s long-range planning” (Casey, Cawthorne, & Citro, 2014, p. 182). Taking stock of an existing program is the first step in long-range planning. It helps to define goals, refine services, and highlight program deficiencies. Once these are identified, long-
term planning can begin, and libraries can become proactive in devising and providing services instead of merely attempting to keep up with changes to DL programs.
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Don’t Get Left Behind: Moving Library Instruction Online

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Abstract
With the growing number of online courses and programs across the higher education spectrum, the need to train faculty to effectively design and deliver online courses has become essential to many institutions. However, many professional development options do not include information or support in order to transition the same library services and resources faculty might use in their face-to-face classes to this new environment. The following case study describes professional development for faculty preparing to teach online at one small, private, doctoral-granting institution; how library resources and services were incorporated into the professional development experience; and the overall impressions from faculty who have participated.

Introduction

Faculty are increasingly moving towards online formats to deliver instruction, but are often unsure of the best ways to organize, create, and deliver course content in this new environment. Allen and Seaman (2013) found 6.7 million students are taking at least one online course, and nearly 70% of academic administrations see online learning as strategic to their institution’s mission. With this explosion of online course enrollment and push for more online courses and programs, the importance of librarians to serve this population has also grown. How do we offer library services, including library instruction, to faculty when they may no longer be physically present in our libraries, classrooms, and offices? At one small, private, doctoral-granting institution, the Assessment and Online Program Librarian and the Educational Technologist teamed up to showcase the spectrum of services librarians can offer in support of the design and delivery of a fully online course.

With the institutional decision to offer the first fully online program beginning in the fall of 2012, it was necessary to provide professional development and ongoing support for faculty who would be transitioning current face-to-face courses to the online environment. In an effort to provide this level of service, the Educational Technologist role was created within the Office of Academic Affairs in the summer of 2011. As one of the major tasks of this role, the Educational Technologist developed a training experience, modeled after the Online Learning Consortium (formerly the Sloan Consortium, http://onlinelearningconsortium.org/learn/basic-teaching-program/), for the training and development of online faculty. The course, called “Fundamentals of Online Teaching”, is offered by the Educational Technologist to all faculty who are planning or considering the idea of teaching an online course. Faculty participate in a
four-week online experience where they are exposed firsthand to everything from pedagogy, to
time-on-task, to the possibilities an online course can offer to both faculty and students.

The main objectives for using an online method of professional development include: the
ability for faculty to experience what it is like to be an online student; an introduction to a variety
of best practices, strategies, and technologies faculty may adopt in their own course design; and
an exposure to current literature and practice with asynchronous communication among their
peers. This online professional development opportunity was first offered in the summer of 2011
and has been offered ten times with over 100 faculty from across the institution completing the
course experience. Many of those faculty have gone on to teach a fully online course, while
some have used the skills gained from the experience in the design and delivery of technology-
enhanced or hybrid course offerings.

With the growing number of online courses offered at the institution, the part-time
Assessment and Online Program Librarian position was created in the summer of 2013. This
role was designed, not as the direct liaison and sole support for faculty teaching online, but as
support for the current liaison librarians collaborating with online faculty. The position also
functions as a coordinator of library efforts to provide services to online and distance faculty and
students alike. As the Assessment and Online Program Librarian began to organize a repository
of digital learning objects for faculty and students, it became clear that many online faculty were
not aware of the type of research support librarians could provide within fully online courses.
Though many faculty may have been frequent patrons of the Library and collaborated with
liaison librarians during face-to-face courses, many were unsure how this collaboration might
continue when the course was moved online. Therefore, through a partnership between the
Assessment and Online Program Librarian and the Educational Technologist, the model used in
the Fundamentals of Online Teaching was extended to the role librarians can fill for online
information literacy instruction (ILI).

Literature Review

Delivering library services and resources to students and faculty, regardless of proximity
to campus, is mandated by the “Standards for Distance Learning Library Services”, published by
services to students and faculty vary from institution to institution, but what is made clear is that
librarians do need to support these constituents. ILI is one such service students and faculty may
have trouble obtaining. Whether through a lack of marketing on the part of library personnel, or
lack of faculty collaboration with library instructors, inclusion of library materials and
instruction with other materials in online courses is often overlooked (Courtney & Wilhoite-
Mathews, 2015; Ismail, 2010; Landry-Hyde & Cantwell, 2013; Shell et al., 2010; Thomsett-Scott
& May, 2009). Marketing library resources (e.g. ILI, research support) to faculty can also be a
challenge, as typical channels such as email, newsletters, or campus listserv announcements can
be easily overlooked or forgotten by faculty. Carrico and Neff (2012) discuss the inherent
problems with librarians making contact with distance faculty due to instructor turnover and the
oftentimes decentralization of distance education programs from their on-campus counterparts.
In fact, many of the researchers discussing successful faculty-librarian collaborations taking
place in online courses indicate a previous relationship with the faculty member (Easter, Bailey,
Klages, 2014; Owens & Bozeman, 2009), thus promoting and making the transition to online ILI easier for both the librarian and the faculty member.

So, where do we form these relationships, and how do we reach unknown faculty members in order to promote inclusion of ILI for online courses? Professional development opportunities for faculty, many times part of a Teaching and Learning Center, offer a wonderful opportunity to market library services to faculty. In particular, workshops and classes offering teaching and training for faculty in online learning pedagogies allow librarians the chance to showcase just how much librarians are able to do in an online class as it relates to ILI. The literature discussing best practices for training faculty how to teach online indicates immersion into the learning management system (LMS) as a student to be one of the best ways faculty learn what works and does not work in an online classroom (Baran, Correia, & Thompson, 2011; Coaplen, Hollis, & Bailey, 2013; Kinnie, 2012). Coaplen, Hollis, and Bailey (2013), in their discussion of creating a training experience for online instructors, point out “the importance of experiencing the role of being online students” (p. 9) as vital to creating the online learning environment. In their examination of the literature concerning online teaching competencies, Baran, Correia, and Thompson (2011) found that being placed in the student role helped faculty push the boundaries of their own learning and internalize the new approaches to teaching they were faced with during training and professional development opportunities. In this same vein, including an embedded librarian in these professional development courses allows faculty to view the librarian as a partner in the instructional process (Easter et al., 2014; Miller et. al., 2010) and thus transfer this new knowledge to their online teaching practice.

As faculty learn to teach online there are many pedagogical and technological changes with which they are confronted when first developing online courses, including how to make use of the library services in this new environment. Miller et al. (2010) discuss the role librarians play in a five-week, asynchronous workshop for faculty gearing up to teach online. The librarian role is meant to educate faculty about information literacy goals and the integration of information literacy into course assignments. Specifically, Miller et al. (2010) discuss the Center for Teaching and Learning workshops led by subject librarians in cooperation with academic department leaders, where librarians will respond to questions about “library resources, search techniques, facilitating students’ use of databases” (p. 834), and department leaders will address “issues of assignment design, [and] classroom management” (p. 834). Using an embedded librarian approach in professional development courses for faculty is one way by which to market library services to distance faculty and gain visibility across campus. Examples of faculty-librarian collaborations abound in the literature for face-to-face classes, and increasingly, the concept of embedded or blended librarians have shaped how services are offered to online and distance students (Bell & Shank, 2007; Courtney & Wilhoite-Mathews, 2015; Easter et al., 2014; Landry-Hyde & Cantwell, 2013; Mune et al., 2015; Tumbleson & Burke, 2010). Still, marketing these services to faculty, and also teaching faculty how they can be implemented for a virtual classroom setting, can be a challenge. Ritterbush (2014) noted that faculty believe students already know how to use library resources, and subsequently do not include library resources or refer students to the library for instructional support. Additionally, lack of awareness by faculty regarding the array of library services, as noted earlier, is another factor impeding librarian involvement with online courses.
Discussion

Partnership in Professional Development

The Fundamentals of Online Teaching course pre-dated the creation of the Assessment and Online Program Librarian position, and thus far had not included a librarian or library module. Following a meeting discussing how best to market the growing library services tailored to the institution’s growing population of online students and faculty, the Educational Technologist and Assessment and Online Program Librarian began developing the idea of integrating a library module into the Fundamentals of Online Teaching course. In the spring of 2015 offering of the course, the library module was introduced in the training experience with two main objectives: first, to model the possibilities and best practices of an embedded librarian for a fully online course to teaching faculty; and, second, to showcase the wide variety of services, including video tutorials and assessments, librarians are able to add and customize for courses through collaboration with the teaching faculty. Based on the positive feedback from faculty during the first iteration of the library module in the Fundamentals of Online Teaching course, the partnership was continued and offered again during the summer of 2015.

In the first experience of the library module in the Fundamentals of Online Teaching course, the Assessment and Online Program Librarian and Educational Technologist created a learning module to be completed during the third week of the four-week course. This is also the week in which faculty are asked to: participate in a synchronous discussion via Blackboard Collaborate; learn the importance of time management when teaching online, followed by discussion board postings; and read two chapters from the course text, again followed by discussion board postings. For the library learning module, faculty were able to explore the various activities current liaison librarians are offering for online and hybrid courses, read current literature about successful collaborations between librarians and faculty teaching online, and interact directly with the Assessment and Online Program Librarian via discussion boards. In keeping with the purpose of the course – learning by experience – the learning activities adopted for the library module allowed faculty enrolled in the course to interact with the embedded librarian in a similar fashion to that of their future students.

An initial introduction video (link to welcome video: [https://youtu.be/KZU_R2AuOeo](https://youtu.be/KZU_R2AuOeo)) was created by the Assessment and Online Program Librarian as a way to introduce herself to enrolled faculty. The video briefly outlines the learning module objectives, and highlights successful liaison librarian-faculty collaborations already happening at the institution. Following the introduction video, faculty were asked to read selected literature, for which citations and direct links to full-text were provided, and respond to two discussion board threads. The first of these questions asked faculty to reflect on the two readings: “What surprised you?” and “What was new, or what did you already know about faculty-librarian collaboration?” Specifically, faculty were asked to relate their responses to the selected literature. The second discussion prompt asked faculty to consider how their own teaching practice, especially how it relates to online teaching, might benefit from collaborating more closely with their liaison librarian. They were also encouraged to ask questions of the embedded librarian relating to how they might embed their liaison librarians in the future. By prompting faculty to ask questions of the Assessment and Online Program Librarian, the discussion board additionally allowed the
embedded librarian to respond to faculty questions, comments, and concerns about the role librarians play in instruction, further modeling the behavior of an embedded librarian for online courses and showcasing the back and forth conversations that develop in discussion board threads.

**Faculty Perceptions**

In the spring of 2015, 10 faculty participated in the Fundamentals of Online Teaching course, seven of whom completed the evaluation survey following the course experience. In the summer of 2015, seven faculty completed the course, five of whom completed the evaluation survey. This survey provides overall feedback to the Educational Technologist and Assessment and Online Program Librarian on the course experience, specifically what aspects were helpful to faculty learning to teach online for the first time, and what aspects need further adjustment. The following results, from a specific survey question focused on the library module portion of the course, are combined from both the spring and summer 2015 respondents (see Figure 1). Over 90% of the faculty indicated the library module was an exemplary model of how an embedded librarian might be involved in the delivery of an online course. This highly positive response indicated the partnership between the Educational Technologist and Assessment and Online Program Librarian, and the general training approach, was valuable to faculty and confirmed that this collaborative teaching method should be continued going forward.

![Faculty survey results for library module, combined spring and summer 2015 ("I found the Library module to be an exemplary model of an embedded librarian experience in an online course").](image)

*Figure 1.* Faculty survey results for library module, combined spring and summer 2015 ("I found the Library module to be an exemplary model of an embedded librarian experience in an online course").
Following the generally successful spring 2015 librarian integration, the Educational Technologist and Assessment and Online Program Librarian reviewed faculty concerns regarding the length of the library module which came to light in the post-workshop survey. Faculty, while positive about the readings provided by the Assessment and Online Program Librarian, indicated time-on-task for these readings and follow-up discussion questions was very lengthy, when taken alongside the other assignment for week three. This was something the Educational Technologist noted early in the planning process, and efforts to minimize readings were made on the part of the Assessment and Online Program Librarian. Following the faculty feedback, and subsequent redesign of the library module, the readings were limited to one updated, required case study. Discussion board questions were also revised to one discussion thread. This decision was made based on the repetitive nature of the discussion board prompts and faculty responses during the spring of 2015 offering original two discussion threads. In place of a second reading, faculty were offered the opportunity to review available library learning objects, including video tutorials and quizzes. At this point faculty were not required to watch the videos or take the self-assessments, but were encouraged to view the selected learning objects as possible building blocks to a future online library session. Changes made to the summer of 2015 offering were well-received by faculty who participated in the library module; however, only three out of seven enrolled faculty completed the discussion board questions for the library module, leaving some concern about the length and or applicability of the library module to this cohort.

Conclusion

The addition of the library module to the Fundamentals of Online Teaching course has been well-received by both faculty and librarians alike as a method for promoting and teaching faculty about library services. The Assessment and Online Program Librarian, during initial planning, anticipated faculty responding positively to published case studies and research, but found faculty in fact responded better to the examples from current practices within the institution. With this in mind, more examples of successful online collaborations between librarians and faculty have and will be shared in the Fundamentals of Online Teaching library module.

These success stories include liaison librarians working in partnership with online teaching faculty to create scaffolding learning modules and research support for students, as in the case of the Education Librarian’s collaboration with School of Education faculty for online graduate courses. The library module for one such online education course was featured in a campus blog, *Geeking Out at Fisher*, and detailed the collaboration between the Education Librarian and faculty member as they transitioned a 55-minute library instruction session into an online environment. The success stories will also include liaison librarians working with teaching faculty in hybrid and technology-enhanced courses to promote ILI, as in the case of the Science Librarian’s collaboration with Biology faculty. In this successful collaboration, the Science Librarian led a short, in-person library session, but performed most student-librarian interaction through the private journaling platform available in Blackboard in a sustained six-week assignment.
In addition to the required reading changes and inclusion of success stories, having the Assessment and Online Program Librarian take part in the introductions during the first week set the tone for periodic librarian involvement during all weeks of the course. This was an activity both the Educational Technologist and Assessment and Online Program Librarian believed valuable, as it continued to reinforce the idea of the partnership between librarian and faculty as well as mimic the role of “lurking librarian,” a term Markgraf (2004) used to describe the role of the online librarian, and which a former student in the Fundamentals of Online Teaching course found particularly helpful for understanding the positive side of including their librarian in their Blackboard courses. It was likewise important to understand the students’ (faculty) motivations, particularly why they had chosen to enroll in the Fundamentals of Online Teaching, and librarian participation in week one allowed for this knowledge. Along these same lines, knowing the departments and or schools to which they belong, and their subsequent relationships with the library and their liaison librarians, has been valuable for marketing library services.

As the Educational Technologist and Assessment and Online Program Librarian continue planning for future iterations of the Fundamentals of Online Teaching course, continued improvements will be made to the library module. For the fall of 2015 offering of the course, some of the changes made include due dates for initial discussion board posts and required responses to classmates. These changes are seen as important for encouraging better discussion between faculty enrolled in the course and the Assessment and Online Program Librarian. One can assume that fostering better discussion between practicing faculty will result in better brainstorming for ways to include a librarian in their online courses. In an effort to further foster this brainstorming and innovation, stories of successful librarian-faculty collaborations across campus will be included to aid in faculty’s understanding of how to include a librarian in an online course.
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Removing the Road Block to Students' Success: In-Person or Online? Library Instructional Delivery Preferences of Satellite Students

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Abstract
Arguably, the dilemma for many small college libraries is delivering face-to-face library instruction to satellite students without having the resources and/or staff to do so. In order to channel energies to where they are needed most, this institution conducted a survey of its satellite students to determine what their library instruction delivery preferences are, and what their comfort levels are regarding new and emerging online technologies. In doing so, this study is also able to determine if these preferences are influenced by the age of the student. Results from the study revealed that, regardless of age or technology comfort levels, satellite students’ most preferred library instruction delivery method is face-to-face. Delivery methods via individual consultation using email/phone or online are preferred the least, along with “no instruction.” None of the students indicated any disinclination towards using various technologies for instruction delivery, leaving this institution with several possible options to pursue.

Introduction

When we hear of distance learning or distance education, we usually think of the online environment and students interacting with their instructors and each other via a myriad of web-based communication tools and devices. It is not often that we think of the off-campus student taking classes at a branch or satellite campus. Although currently the latter may not be an escalating trend like its online counterpart (Hoyt & Howel, 2012), education at a distance – in satellite or branch campuses – plays an important role for many adult learners across the country, as Bird so eloquently points out:

Although online programs may be changing things, branches often are the best option for place bound students who want to continue their education, suggesting to me that branches are places where seeds are planted and their growth nurtured. (Bird, 2014, para. 3)

The role of the academic library in a satellite or branch campus student’s life is therefore an important one. But unlike providing services to the online student, where there is no doubt that resources have to be accessed via the Internet, it is more challenging to provide similar services to students who chose the classroom program over the online program because of their
preference for “classroom interaction” (Hoyt & Howell, 2012, p. 114) and therefore face-to-face interactions. Arguably, the dilemma for many small college libraries facing this challenge is the desire to meet such needs, particularly in the area of library instruction, but not having the resources and/or staff to do so.

In order to channel energies to where they are needed most, libraries, whether from big or small colleges, should proactively seek feedback from students so as to provide “options that best fits [the] institution’s course offerings and student needs” (McLean & Dew, 2006, p. 329). This study attempts to do just that by asking satellite students at Limestone College what their library instructional delivery preferences are, and how comfortable they are with new and emerging online technologies. In doing so, this study is also able to determine if these preferences are influenced by the age of the student.

**Background**

Limestone College is a four-year private, liberal arts college in Gaffney, South Carolina, which is located about 55 miles south of Charlotte, North Carolina. Limestone is unique in that it has more distance students enrolled in their Extended Campus (EC) program than they do in their on-campus Day program. Limestone’s EC program comprises both the Evening Classroom (ECC) program and the Internet (ECI) program (which now includes the MBA program, Limestone’s only graduate offering). Both the ECC and ECI programs currently enroll approximately 2,500 students. The Evening Classroom program is offered at eight satellite locations throughout South Carolina, namely Columbia, Charleston, Florence, Kingstree, Greenville, Aiken, Yemassee, and Gaffney.

Limestone’s Evening Classroom program is not new. In fact, it was established in 1976 to cater specifically to working adults who are not otherwise able to attend college. Each term or session ran for four weeks. It was only a little recently (over two years ago from this current writing) that the four-week terms were extended to eight weeks so as to be consistent with its Internet counterpart, which was established as an EC program in 1997. This long history of distance learning at Limestone, however, does not necessarily preclude it from experiencing the same current challenges colleges offering distance programs face, including providing student and academic support services equally to distance and on-campus students. Libraries in such colleges continue to struggle with determining how best to deliver library services and instruction to their off-campus students, particularly in the present climate where more and more online tools become available, but librarians still face a student population of mostly adult distance learners who prefer “face-to-face assistance” (Lillard, 2003, p. 207).

**Literature Review**

The delivery of equitable library services to distance students is a challenge that continues to perpetuate even after the first decade of the 21st century has come and gone. Many in the library field had envisioned at the dawn of the new millennium that indubitably, online tools and other emerging technologies would surely render in-person or face-to-face librarian-student interactions obsolete or close to it. Many however underestimate the power of “one-on-one” or “classroom interaction” time (Hoyt & Howel, 2012, p. 114) for students who hold full
time jobs and/or have family responsibilities, namely the adult learners who tend to prefer the “structure and support of a face-to-face environment” (p. 113). Furthermore, Finch and Rahim (2011) point out that a study by Gold (2005) revealed that “adult learners have many technical challenges compared to their traditional counterparts” as a result of their “lifestyle, work, and time constraints” that impede upon their time to learn and/or use new technologies (Finch & Rahim, 2011).

Adult learners have been a focus of distance education researchers due to the fact that arguably, many if not most distance learners fall into the nontraditional college age of 25 years old and above (Cercone, 2008; Chen, Gonyea, & Kuh, 2008; Hoyt & Howel, 2012; Kirkwood & Price, 2005). Determining how best to provide instruction as well as support services to these students comprise much in both the distance learning literature as well as in the adult education literature. Much has also been said about determining how best to provide library services to this user group in the library literature. However, determining delivery preferences of library research instruction for this group appear less prevalent, with an even more salient absence pertaining to satellite distance students’ preferences.

There are several studies that address the medium of library instruction delivery and students’ preferences. A study on the general academic library user’s preferences of library instruction delivery methods related to communication media was conducted by Robertson and Jones in 2009 at the University of North Texas. The media methods studied were: a paper-based pamphlet, a 2D webpage, a 3D immersive GUI (which is used in digital gaming user interfaces), audio-only communication (such as a podcast), and a survey which included a graphic representation. Participants ranged in age from 18 and above, with a majority being in the 19-30 age group. Results indicate enthusiasm for the 3D immersive GUI medium with an overall lack of preference for the audio-only medium. Robertson and Jones (2009) recommend that digital gaming interfaces needed further exploration when designing information literacy instruction, particularly with regards to “communicating spatial information of the physical library” (p. 267).

Zimmer and Ziph (2009) surveyed students at the University of Michigan about the library’s instruction podcasts that librarians introduced in order to provide an instruction delivery method that would meet the needs of busy Business students on the go. These podcasts were in various formats and may include audio (voice), video, images and links to websites. The podcasts ran between 7-30 minutes. Students were asked to rank their preferences for the following formats: video podcasts, live library instruction, audio podcasts, and printed handouts. Survey results indicated that students liked the podcasts and preferred the video podcasts most, followed by live library instruction, with the audio podcast in third place, echoing Robertson and Jones’ finding that students did not like the audio-only instruction method (2009).

Graduate students (and faculty) were the focus of a needs assessment study conducted by Hoffman, Antwi-Nsiah, Feng, and Stanley (2008) at the University of Western Ontario’s Allyn and Betty Taylor Library. One of the questions that graduate students and faculty were asked was their preferences for learning about library research. Although these students overwhelmingly preferred the online instruction method, they also found the in-person workshops valuable, the drawback being making the time to attend these workshops. Interestingly, faculty preferred their students to attend in-person, hands-on library instruction
workshops. Another graduate students’ survey, this time on determining the effectiveness of online instruction for teaching research skills, was conducted by Shaffer at the State University of New York Oswego library (2011). A pre-/post-test was administered to students in the graduate research method courses in the Curriculum and Instruction Department. Test results indicate that participants did learn new skills “regardless of delivery mode” (p. 45). There also seemed to be no difference with regard to students’ age with the nontraditional students, which the authors labeled as “over 25 years old”, appearing just as “confident as their younger classmates” (p. 45). However, when participants were asked to rate their satisfaction with the instruction experience, students who had the face-to-face instruction were “significantly more satisfied” (p. 45). The authors concluded that the inability of the online participants to attend the instruction at their convenience could be a factor in their satisfaction levels.

The combination of face-to-face and online methods of delivery is a common thread that keeps resurfacing. A study by Johnston (2010) explored the effectiveness of an online information literacy tutorial to meet a graduation requirement of Social Work students at James Cook University. Although a “high number” of off-campus students surveyed indicated their preference for “the self-paced, flexible nature of online delivery”, others still liked the “face-to-face” instruction (p. 217). Johnston concluded that the option for providing a combination of delivery methods could be the solution. This was echoed by Jackson (2014) in his study of students’ preferences regarding a multimodal format for the delivery of an information literacy course. Student responses include specific preferences for course content access and the ability to choose how they accessed the content. Both Jackson (2014) and Gonzales (2014), in her review of the literature pertaining to the effectiveness of information literacy instruction “conducted in academic libraries” (p. 46) versus those conducted via web-based tutorials, recommend that more studies are needed to determine student preferences with regard to online information literacy instruction.

But perhaps the most germane to this discussion of library instruction delivery preferences is the presentation by Jodi Poe and John-Bauer Graham at the Alabama Library Association Annual Convention Best Practices Session (Martin, 2007). Poe and Graham “compared library instruction delivery methods” at Jacksonville State University by surveying “six classes of undergraduate students” regarding their “preferred method of instruction” as well as how effective the instruction was (p. 11). The unexpected findings revealed that 70% of students surveyed preferred face-to-face instruction over online and CD-ROM delivery methods, with over 90% of those surveyed indicating that the library instruction was “helpful or very helpful” (p. 11). An important result of these findings was the suggested expansion of the traditional instruction program.

The studies mentioned above have demonstrated that library instruction delivery methods are an important consideration in the present climate. But the literature still lacks studies that reflect the specific preferences of satellite or branch distance students in this regard. This study aims to fill this gap and shed light on the preferences of a user group whose voice needs to be heard. Obtaining feedback from these students before introducing or changing any library instruction service or program is the best remedy to address their needs. Bird (2009) astutely commented on this subject:
Student support services are critical, but institutions should keep close watch on which services make a difference to their students. If a service contributes to recruitment and retention—and you have the data to document that fact—then it is valuable. Too often, however, campuses invest in services that either go unused or make almost no difference to student success. Don't get caught up in someone's passion for providing a service, in the absence of evidence that the service makes a difference, or because it represents something he or she personally considers to be "part of what a college or university just should do." (para. 6)

**Methodology**

Two separate surveys to determine library instruction delivery preferences were administered at different time periods to satellite students of Limestone College. The first survey was conducted during the Fall Terms of 2011 (which ran September – December) and the second survey was administered during Term 2 (March – May) and Term 3 (May – July) in Spring 2014. The reason that the survey was conducted at two separate time periods was because the author felt that since technologies were rapidly changing, technology use and comfort level could also change within a span of over two years. Furthermore, the number of library instruction sessions for EC classroom students (via both face-to-face and online delivery methods) has greatly increased since 2011. This may have an impact on students’ preferences as well. There were a total of 1,017 students enrolled in Fall 2011 (Terms 5 and 6). In Spring 2014, the total student enrollment for Terms 2 and 3 was 2,059.

Although the surveys were designed using the online tool Survey Monkey, they were administered by hand. It was believed that a printed survey would have a higher response rate among this particular user group than if the survey was sent via email or administered online. The author sent out the surveys via email to each of the site coordinators of the satellite campuses, and they in turn printed them out and gave them to instructors teaching a course or courses for the above mentioned Terms. The instructors were then asked to distribute the surveys to their students. The completed surveys were mailed back to the author by inter-office mail and/or slow mail. As with such a method, not all instructors complied. There was no incentive given to students. Site coordinators and instructors were asked to encourage their students to complete the survey as the results would benefit them with regards to library services provided to EC students. However, students could opt not to take the survey. The survey instrument was comprised of multiple-choice, rating scales and open-ended questions, and responses were anonymous (see the Appendix).

**Findings**

The response rate for the 2011 survey was about 48% (n=491) of the total number of students enrolled in the ECC program, and the response rate for 2014 was 14% (n=293).

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1 Two respondents did not answer all the survey questions.
Demographics

In 2011, the majority of respondents were in the 40-49 age group (n=158 or 32%) followed closely by 30-39 year-olds (n=150 or 30.4%). Those who were in the 50-59 age group comprised 13.6% (n=67). Similarly, the majority of respondents in 2014 were adult learners aged 30 and above with the 30-39 year-olds leading this time at about 31% (n=90). Additionally, the majority of respondents were also returning students – they were not brand-new or incoming students (72% in 2011 and 82% in 2014).

Instruction Preferences

Respondents were asked to rate their preferences for (a) library orientation, (b) course/assignment specific instruction, and (c) having an assigned librarian for their course as Strongly Agree, Agree, Neutral, Disagree or Strongly Disagree.

Library orientation. A majority of students surveyed (38% or n=189) in 2011 “strongly agreed” to being given library orientation at the beginning of their studies closely followed by those who “agreed” (35% or n=173). Almost 20% of respondents did not have an opinion (see Table 1). The percent of those who “strongly disagreed” was negligible. When responses were filtered by age group, a majority of responses for Strongly Agree came from 40-49 year-olds (about 15%) followed by 30-39 year-olds (about 11%). Both these age groups also led in responses for Agree. None of the age groups had any strongly negative responses to this question that were significant.

Table 1

<table>
<thead>
<tr>
<th>Library Orientation Preferences (2011)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Responses to the statement: I would like to be given a library orientation (introduction to library resources and services) at the beginning of my studies at Limestone College.</td>
</tr>
<tr>
<td>I am: Answer Options</td>
</tr>
<tr>
<td>Strongly Agree</td>
</tr>
<tr>
<td>Agree</td>
</tr>
<tr>
<td>Neutral</td>
</tr>
<tr>
<td>Disagree</td>
</tr>
<tr>
<td>Strongly Disagree</td>
</tr>
</tbody>
</table>

answered question | 491 |

skipped question | 2 |
In 2014, the majority of students surveyed indicated Agree for this question (36% or n=103) with almost 34% (n=98) who indicated that they “strongly agreed” (see Table 2). Almost 15% of respondents were “neutral” on this subject. When age groups were compared, as in 2011, the majority who responded strongly and positively to this preference were the 40-49 year-olds followed by the 30-39 year-olds. Again, just as in 2011, there was no marked disagreement to this preference.

**Course/Assignment-specific instruction.** Responses to this survey question were similar to the ones above. A majority of students in 2011 responded positively to this preference (about 37% or n=181 indicated Strongly Agree and 41% or n=202 indicated Agree) with about 18% (n=87) having no opinion (see Table 3). Those who “disagreed” or “strongly disagreed” were relatively small in number. When age was taken into consideration, the older adult learners (30 to 59 year-olds) were again the ones who strongly desired this form of instruction with the 40-49 year-olds leading the group again; no one age group had a strong aversion to this instruction delivery method.

Responses to this question in 2014 mirror the responses from 2011 with almost the same percent of students indicating Strongly Agree and Agree (See Table 4). Likewise, the older adult learners in 2014 indicated the same preferences as their 2011 predecessors.

**Course-assigned librarian.** A majority of respondents in 2011 indicated that they “agreed” with this instruction preference (35%) with the percent of those indicating that they “strongly agreed” or were “neutral” being almost identical (29.3% and 28.7%) (see Table 5). Those who “disagreed” comprise 6.5% of responses. When age of respondents was considered, the 30-39 year-olds led the responses for Strongly Agree (10%) and Agree (12%) followed by the 40-49 year-olds. The percent of responses that were opposed or strongly opposed to this preference was negligible.

Table 2

**Library Orientation Preferences (2014)**

<table>
<thead>
<tr>
<th>Answer Options</th>
<th>18-22 years old (n=26)</th>
<th>23-25 years old (n=28)</th>
<th>26-29 years old (n=26)</th>
<th>30-39 years old (n=90)</th>
<th>40-49 years old (n=86)</th>
<th>50-59 years old (n=31)</th>
<th>60 years old and older (n=6)</th>
<th>Response Percent</th>
<th>Response Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Agree</td>
<td>3</td>
<td>8</td>
<td>7</td>
<td>23</td>
<td>37</td>
<td>19</td>
<td>1</td>
<td>33.4%</td>
<td>98</td>
</tr>
<tr>
<td>Agree</td>
<td>11</td>
<td>8</td>
<td>13</td>
<td>34</td>
<td>25</td>
<td>8</td>
<td>4</td>
<td>35.2%</td>
<td>103</td>
</tr>
<tr>
<td>Neutral</td>
<td>10</td>
<td>6</td>
<td>4</td>
<td>23</td>
<td>12</td>
<td>4</td>
<td>1</td>
<td>20.5%</td>
<td>60</td>
</tr>
<tr>
<td>Disagree</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>5</td>
<td>5</td>
<td>0</td>
<td>0</td>
<td>4.8%</td>
<td>14</td>
</tr>
<tr>
<td>Strongly Disagree</td>
<td>0</td>
<td>4</td>
<td>2</td>
<td>5</td>
<td>7</td>
<td>0</td>
<td>0</td>
<td>6.1%</td>
<td>18</td>
</tr>
</tbody>
</table>

answered question 293
skipped question 0
Table 3

**Course/Assignment-Specific Instruction (2011)**

<table>
<thead>
<tr>
<th>I am:</th>
<th>18-22 years old (n=32)</th>
<th>23-25 years old (n=37)</th>
<th>26-29 years old (n=48)</th>
<th>30-39 years old (n=150)</th>
<th>40-49 years old (n=158)</th>
<th>50-59 years old (n=67)</th>
<th>60 years old and older (n=1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Agree</td>
<td>11</td>
<td>8</td>
<td>14</td>
<td>51</td>
<td>62</td>
<td>34</td>
<td>1</td>
</tr>
<tr>
<td>Agree</td>
<td>12</td>
<td>17</td>
<td>20</td>
<td>64</td>
<td>65</td>
<td>24</td>
<td>0</td>
</tr>
<tr>
<td>Neutral</td>
<td>7</td>
<td>8</td>
<td>11</td>
<td>28</td>
<td>27</td>
<td>6</td>
<td>0</td>
</tr>
<tr>
<td>Disagree</td>
<td>1</td>
<td>4</td>
<td>1</td>
<td>5</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Strongly Disagree</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

*answered question 491
skipped question 2*

Table 4

**Course/Assignment-Specific Instruction (2014)**

<table>
<thead>
<tr>
<th>I am:</th>
<th>18-22 years old (n=26)</th>
<th>23-25 years old (n=28)</th>
<th>26-29 years old (n=26)</th>
<th>30-39 years old (n=90)</th>
<th>40-49 years old (n=86)</th>
<th>50-59 years old (n=31)</th>
<th>60 years old and older (n=8)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Agree</td>
<td>4</td>
<td>8</td>
<td>7</td>
<td>30</td>
<td>38</td>
<td>18</td>
<td>1</td>
</tr>
<tr>
<td>Agree</td>
<td>12</td>
<td>13</td>
<td>16</td>
<td>33</td>
<td>27</td>
<td>10</td>
<td>5</td>
</tr>
<tr>
<td>Neutral</td>
<td>8</td>
<td>3</td>
<td>2</td>
<td>14</td>
<td>13</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>Disagree</td>
<td>2</td>
<td>3</td>
<td>0</td>
<td>8</td>
<td>5</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Strongly Disagree</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>4</td>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

*answered question 291
skipped question 2*
Responses in 2014 were similar with those in 2011, with the exception of the percent of those indicating Strongly Agree and Agree being almost identical (32% and 33%) and those having no opinion at 23.5% (see Table 6). The percent of those who “disagreed” was identical to that in 2011, 6.5%. When determining responses by age, the 30-39 year-olds had the most responses that indicated Strongly Agree (11%). No particular age group indicated a disagreement with this preference (strong or otherwise).

Library Instruction Delivery Preferences

Respondents were asked to rank their preference (first, second, and third choices) for library instruction delivery. Ratings were averaged from a scale of 1 (which is the first choice ranking) to 3 (which is the third choice ranking). The respondents were given the following options:

- Face-to-face in-classroom instruction
- Online/webinar instruction
- Combination of face-to-face and online instruction
- Individual in-person consultation with a librarian
- Individual consultation with a librarian by phone and/or email
- Individual virtual consultation with a librarian via skype, chat, etc.
• Self-motivated online library instruction via videos, tutorials, etc.

• No instruction.

Respondents for both 2011 and 2014 (see Tables 7 and 8) indicated similar preferences, with their first choices being “face-to-face instruction” with a rating of 1.53 in 2011 and 1.49 in 2014; “combination of face-to-face and online instruction” with a rating of 1.75 in 2011 and 1.81 in 2014; and “individual in-person consultation” with a rating of 1.82 in 2011 and 1.85 in 2014. The respondents’ least preferred instruction delivery methods were also similar. The least preferred option for both 2011 and 2014 was “no instruction” (2.64 in 2011, 2.57 in 2014), followed by “individual consultation via phone and/or email” (2.24 in 2011 and 2.28 in 2014) and “individual virtual consultation” (2.22 in 2011 and 2.20 in 2014).

When age of the respondents were compared, “face-to-face instruction” ranked favorably across all age groups for both 2011 and 2014. The lack of preference for a strictly online instruction delivery method and for “no instruction” was also generally evident across all age groups for both time periods, although in 2014, the 18-22 year-olds was most favorable to “self-motivated online library instruction” (rating=1.84) and “online class/webinar instruction” (rating=2.00) compared to the other age groups.

Table 6
Course Librarian Preferences (2014)
Table 7

Library Instruction Delivery Preferences (2011)

<table>
<thead>
<tr>
<th>Answer Options</th>
<th>18-22 years old</th>
<th>23-25 years old</th>
<th>26-29 years old</th>
<th>30-39 years old</th>
<th>40-49 years old</th>
<th>50-59 years old</th>
<th>60 years old and older</th>
<th>Rating Average</th>
<th>Response Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Face-to-face in-class instruction (librarian comes to your class at least for one session)</td>
<td>1.63</td>
<td>1.63</td>
<td>1.49</td>
<td>1.56</td>
<td>1.52</td>
<td>1.52</td>
<td>1.60</td>
<td>1.57</td>
<td>1.53</td>
</tr>
<tr>
<td>Online class/webinar instruction (librarian provides live real-time instruction via the internet for your class)</td>
<td>2.04</td>
<td>2.04</td>
<td>2.12</td>
<td>2.06</td>
<td>2.02</td>
<td>1.96</td>
<td>2.11</td>
<td>2.08</td>
<td>393</td>
</tr>
<tr>
<td>Combination face-to-face in-class and online instruction</td>
<td>1.71</td>
<td>1.74</td>
<td>1.78</td>
<td>1.75</td>
<td>1.88</td>
<td>2.00</td>
<td>1.98</td>
<td>1.75</td>
<td>424</td>
</tr>
<tr>
<td>Individual in-person consultation with a librarian</td>
<td>2.08</td>
<td>2.00</td>
<td>1.99</td>
<td>1.81</td>
<td>1.67</td>
<td>1.06</td>
<td>1.78</td>
<td>1.82</td>
<td>372</td>
</tr>
<tr>
<td>Individual consultation with a librarian via phone and/or email</td>
<td>2.39</td>
<td>2.33</td>
<td>2.58</td>
<td>2.26</td>
<td>2.22</td>
<td>1.96</td>
<td>2.18</td>
<td>2.24</td>
<td>354</td>
</tr>
<tr>
<td>Individual virtual consultation with a librarian (via online chat, skype, etc.)</td>
<td>2.12</td>
<td>2.31</td>
<td>2.31</td>
<td>2.08</td>
<td>2.33</td>
<td>3.00</td>
<td>2.23</td>
<td>2.22</td>
<td>358</td>
</tr>
<tr>
<td>Self-motivated online library instruction via online video tutorials, YouTube videos, interactive online tutorials, etc.</td>
<td>2.33</td>
<td>2.15</td>
<td>2.83</td>
<td>2.14</td>
<td>2.20</td>
<td>2.00</td>
<td>2.11</td>
<td>2.14</td>
<td>385</td>
</tr>
<tr>
<td>I prefer no instruction.</td>
<td>2.74</td>
<td>2.42</td>
<td>2.50</td>
<td>2.66</td>
<td>2.74</td>
<td>3.00</td>
<td>2.66</td>
<td>2.64</td>
<td>317</td>
</tr>
<tr>
<td>Other (please specify)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>answered question</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>490</td>
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<tr>
<td>skipped question</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

Note. Several respondents indicated a first preference for more than one option.

Table 8

Library Instruction Delivery Preferences (2014)

<table>
<thead>
<tr>
<th>Answer Options</th>
<th>18-22 years old</th>
<th>23-25 years old</th>
<th>26-29 years old</th>
<th>30-39 years old</th>
<th>40-49 years old</th>
<th>50-59 years old</th>
<th>60 years old and older</th>
<th>Rating Average</th>
<th>Response Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Face-to-face in-class instruction (librarian comes to your class at least for one session)</td>
<td>1.55</td>
<td>1.45</td>
<td>1.44</td>
<td>1.43</td>
<td>1.36</td>
<td>1.50</td>
<td>1.50</td>
<td>1.49</td>
<td>244</td>
</tr>
<tr>
<td>Online class/webinar instruction (librarian provides live real-time instruction via the internet for your class)</td>
<td>2.00</td>
<td>2.52</td>
<td>2.11</td>
<td>2.08</td>
<td>2.05</td>
<td>2.25</td>
<td>2.15</td>
<td>2.12</td>
<td>211</td>
</tr>
<tr>
<td>Combination face-to-face in-class and online instruction</td>
<td>1.78</td>
<td>1.82</td>
<td>2.00</td>
<td>1.77</td>
<td>1.77</td>
<td>1.67</td>
<td>1.83</td>
<td>1.81</td>
<td>224</td>
</tr>
<tr>
<td>Individual in-person consultation with a librarian</td>
<td>1.84</td>
<td>1.76</td>
<td>1.85</td>
<td>1.89</td>
<td>2.06</td>
<td>1.25</td>
<td>2.02</td>
<td>1.85</td>
<td>202</td>
</tr>
<tr>
<td>Individual consultation with a librarian via phone and/or email</td>
<td>2.31</td>
<td>2.52</td>
<td>2.13</td>
<td>2.26</td>
<td>2.35</td>
<td>2.25</td>
<td>2.24</td>
<td>2.28</td>
<td>193</td>
</tr>
<tr>
<td>Individual virtual consultation with a librarian (via online chat, skype, etc.)</td>
<td>2.19</td>
<td>2.48</td>
<td>2.02</td>
<td>2.12</td>
<td>2.25</td>
<td>2.00</td>
<td>2.23</td>
<td>2.20</td>
<td>193</td>
</tr>
<tr>
<td>Self-motivated online library instruction via online video tutorials, YouTube videos, interactive online tutorials, etc.</td>
<td>1.84</td>
<td>2.19</td>
<td>2.00</td>
<td>2.25</td>
<td>2.29</td>
<td>2.75</td>
<td>1.16</td>
<td>2.14</td>
<td>204</td>
</tr>
<tr>
<td>I prefer no instruction.</td>
<td>2.44</td>
<td>2.65</td>
<td>2.81</td>
<td>2.57</td>
<td>2.75</td>
<td>2.75</td>
<td>2.45</td>
<td>2.57</td>
<td>188</td>
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<td>257</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>36</td>
</tr>
</tbody>
</table>

Note. Several respondents indicated a first preference for more than one option.
Comfort Level with Computer Technology

Respondents for both time periods reported being generally comfortable with the computer technology mentioned in the survey (see Tables 9 and 10). However, findings indicate that these respondents were least comfortable with “using online library resources for class assignments” (2.17 in 2011 and 2.04 in 2014) and “online video calling/conferencing” (2.26 in 2011 and 1.98 in 2014). When age of the respondents were taken into consideration, the 60-69 year-olds in 2014 reported being the least comfortable with a majority of the computer technologies mentioned, but “social networking” and “online video calling/conferencing” in particular (respondents in this age group for 2011 numbered only one). There also is an increase in comfort levels for 18-22 year-olds between the two time periods with regards to “using online library resources” and for 26-29 year-olds with regards to “online video calling/conferencing”.

Table 9

Technology Comfort Levels (2011)

<table>
<thead>
<tr>
<th>Answer Options</th>
<th>18-22 years old</th>
<th>23-25 years old</th>
<th>26-29 years old</th>
<th>40-49 years old</th>
<th>50-59 years old</th>
<th>60 years old and older</th>
<th>30-39 years old</th>
<th>Rating Average</th>
<th>Response Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Word Processing</td>
<td>1.25</td>
<td>1.38</td>
<td>1.31</td>
<td>1.62</td>
<td>1.89</td>
<td>2.00</td>
<td>1.46</td>
<td>1.53</td>
<td>485</td>
</tr>
<tr>
<td>Internet Searching</td>
<td>1.28</td>
<td>1.22</td>
<td>1.21</td>
<td>1.45</td>
<td>1.88</td>
<td>2.00</td>
<td>1.29</td>
<td>1.41</td>
<td>487</td>
</tr>
<tr>
<td>Using Email</td>
<td>1.25</td>
<td>1.25</td>
<td>1.16</td>
<td>1.30</td>
<td>1.55</td>
<td>2.00</td>
<td>1.30</td>
<td>1.31</td>
<td>475</td>
</tr>
<tr>
<td>Using online library resources for class assignments</td>
<td>2.00</td>
<td>1.89</td>
<td>2.11</td>
<td>2.17</td>
<td>2.57</td>
<td>4.00</td>
<td>2.12</td>
<td>2.17</td>
<td>483</td>
</tr>
<tr>
<td>Texting</td>
<td>1.19</td>
<td>1.08</td>
<td>1.17</td>
<td>1.51</td>
<td>2.06</td>
<td>3.00</td>
<td>1.29</td>
<td>1.43</td>
<td>486</td>
</tr>
<tr>
<td>Social Networking (such as Facebook, Twitter, etc.)</td>
<td>1.19</td>
<td>1.19</td>
<td>1.45</td>
<td>2.02</td>
<td>2.64</td>
<td>4.00</td>
<td>1.71</td>
<td>1.84</td>
<td>485</td>
</tr>
<tr>
<td>Online video calling/conferencing (Skype, GoToMeeting, etc.)</td>
<td>1.63</td>
<td>1.76</td>
<td>2.04</td>
<td>2.30</td>
<td>2.80</td>
<td>3.00</td>
<td>2.31</td>
<td>2.26</td>
<td>487</td>
</tr>
<tr>
<td>answered question skipped question</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>491</td>
</tr>
<tr>
<td>skipped question</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>
Table 10

Technology Comfort Levels (2014)

<table>
<thead>
<tr>
<th>Rating of comfort level with regards to using the computer for the following (1=Very Comfortable, 2=Comfortable, 3=Somewhat Comfortable, 4=Not Comfortable):</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>I am:</strong></td>
</tr>
<tr>
<td><strong>Options</strong></td>
</tr>
<tr>
<td>Word Processing</td>
</tr>
<tr>
<td>Internet Searching</td>
</tr>
<tr>
<td>Using Email</td>
</tr>
<tr>
<td>Using online library resources for class assignments</td>
</tr>
<tr>
<td>Texting</td>
</tr>
<tr>
<td>Social Networking (such as Facebook, Twitter, etc.)</td>
</tr>
<tr>
<td>Online video calling/conferencing (Skype, GoToMeeting, etc.)</td>
</tr>
</tbody>
</table>

**Discussion**

A stark finding is the strong preferences for library orientation, course-specific library instruction and course-assigned librarians for both 2011 and 2014, and across all age groups. Students want library instruction provided to them and they welcome such instruction at the beginning of their studies, during their studies specific to each course they are taking, as well as having a librarian assigned to each of their courses throughout the term. This finding is heartening, as we have determined the need for such instruction. This leads to the question – what are students’ preferences for the delivery of such instruction?

The most glaring finding in this regard is the preference for “face-to-face” library instruction across all age groups for both 2011 and 2014. This preference is followed by the preference for a combination method of face-to-face and online instruction and “in-person consultation with a librarian”. This strong preference for in-person interaction is not surprising as studies such as those from Lillard (2003), Gold (2005), and Hoyt and Howell (2012) all indicated as such (see above). Perhaps what was most unexpected was the lack of preference for a strictly online instruction delivery method, including online instructional videos and tutorials (self-motivated online instruction), in spite of the comfort levels with computer technology as reported by the respondents – a majority of the students surveyed, regardless of age group, were at least fairly comfortable with all the technologies mentioned in the survey including social media and online conferencing (in fact, there was a slight improvement for the latter). The most
concerning was the respondents’ lack of comfort with “using online library resources for class assignments” but even that was not rated on the extreme end of discomfort. In fact, there was a slight improvement in this area for those in the 18-22 age group.

Therefore, comfort level with the various technologies employed by the library or even age group has no real impact on the respondents’ preference for personal interaction with librarians for research instruction. The good news is that none of the students surveyed indicated an extreme dislike of other instruction delivery methods either. This leads the author to ponder if improved communication and education about the benefits of online instruction delivery (in whatever form) would help increase the willingness of these students to accept such instruction. Additionally, on the librarians’ part, it would be prudent to also introduce a more “personal” approach to online instruction delivery. As Smith (2013) shrewdly points out in his article on graduate Teacher Education students’ preferences for asynchronous content delivery:

Survey findings suggest that even though the distance between instructor and student may be greater in the online learning environment, respondents highly value focused instructor interpretation of content as a crucial aspect of any delivery method. (p. 489)

Smith suggests delivering online instruction in “manageable chunks” (2013, p. 493) and preferably for instructors to also include a video of the instructor (as opposed to voice-over narration).

Furthermore, besides increased communication and education about the library online instruction delivery services to students, librarians also need to increase collaboration with distance learning faculty in this regard. If faculty members are on board with encouraging their students to take advantage of online library instruction resources and services, students may be more inclined to do so. Assignments that are tied with some form of online instruction method would also be helpful. Librarians at Limestone College have had some success with faculty buy-in for certain courses such as ID 201 (which is the introductory course for all EC students) where a library orientation is offered via GoToWebinar at the request of the instructor.

Another service that librarians at Limestone offer is instructional webinars that individual students can sign up for on their own. These webinars cover research for a particular subject (such as English Literature, Social Work, etc.) on a weekly basis. So far, EC students (both Classroom and Internet) have signed up for these. Although the numbers are still small, it is encouraging that students are taking advantage of this service. These webinars are in addition to visits made to the satellite campuses every semester by the instruction librarian. However, such visits are dependent on the instruction librarian’s schedule, whose other responsibilities include providing instruction for the Day (on-campus) students as well, which is why online instruction delivery is still an important service offering option.

In a recent article, Maddison (2013) reiterates the challenges faced by today’s academic librarians when providing equitable services to their distance learners. Defining all modes of learning that is beyond the “normal scope of the classroom” as “distributed learning” (p. 266) (this includes learning in a variety of formats and modes of delivery), Maddison (2013) points out that the challenges in providing instruction to “distributed learners” are (a) “how best to
deliver the instruction materials”, (b) recognizing the importance of understanding and utilizing “technology effectively”, and (c) “how to market this learning activity successfully” (p. 266). This paper has touched upon all three and has shown the appropriate steps Limestone College librarians need to take in order to meet these challenges. However, this would not have been possible without feedback from our satellite/branch campus students.

**Conclusion**

In a climate where most academic libraries, particularly in smaller institutions, are invested in distance learning but lack the resources, namely staff, to carry out the ideal face-to-face instruction that satellite students demand, it is necessary to determine what their students’ preferences are for both instruction delivery and for computer technologies. Armed with the results of the two surveys, librarians at Limestone now have a clearer direction with regards to meeting the instruction delivery preferences of EC students in the face of limited resources. Having determined that these students are not disinclined towards using various technologies for instruction delivery, Limestone College librarians realize that a possible solution is introducing a more “personable” approach when creating online instructional videos and tutorials. If a face-to-face instruction delivery method is not always possible, other instructional methods that create some form of personal interaction or “personal touch” should be considered.
References


Appendix

Library Instruction Preferences Survey Instrument

Survey Agreement

1. I have read and agree to participate in the survey.
   - [ ] I approve
   - [ ] I do not approve (PLEASE EXIT ONLINE SURVEY OR RETURN PRINTED SURVEY AT THIS POINT)
2. I would like to be given a library orientation (introduction to library resources and services) at the beginning of my studies at Limestone College.
   - [ ] Strongly Agree
   - [ ] Agree
   - [ ] Neutral
   - [ ] Disagree
   - [ ] Strongly Disagree

3. I would also like to be given instruction on library research specific to my course needs and assignments.
   - [ ] Strongly Agree
   - [ ] Agree
   - [ ] Neutral
   - [ ] Disagree
   - [ ] Strongly Disagree

4. I prefer to have a librarian assigned to my courses so I know who to turn to for research help.
   - [ ] Strongly Agree
   - [ ] Agree
   - [ ] Neutral
   - [ ] Disagree
   - [ ] Strongly Disagree
5. Rank the following according to your preferences. Rank your first and second choices, and your least favorite option.

If I had a choice, I prefer to receive library instruction in the following ways:

<table>
<thead>
<tr>
<th>First Choice</th>
<th>Second Choice</th>
<th>Least Favorite</th>
</tr>
</thead>
<tbody>
<tr>
<td>Face-to-face in-class instruction (librarian comes to your class at least for one session)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Online class/webinar instruction (librarian provides live/real time instruction via the internet for your class)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Combination face-to-face in-class and online instruction</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Individual in-person consultation with a librarian</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Individual consultation with a librarian via phone and/or email</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Individual virtual consultation with a librarian (via online chat, Skype, etc)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self-motivated online library instruction via online video tutorials, YouTube videos, interactive online tutorials, etc</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I prefer no instruction</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6. Please comment on your preferences above. Why did you prefer one form of instruction over another?
Demographics

7. I am:
   - a full-time Evening student
   - a full-time Internet student
   - a part-time Evening student
   - a part-time Internet student

8. I am:
   - a returning student (was a Limestone student in the previous semester)
   - a new or incoming student

9. I am:
   - 18-22 years old
   - 23-25 years old
   - 26-28 years old
   - 30-39 years old
   - 40-49 years old
   - 50-59 years old
   - 60 years old and over
10. Rate your comfort level with regards to using the computer for the following:

<table>
<thead>
<tr>
<th>Activity</th>
<th>Very Comfortable</th>
<th>Comfortable</th>
<th>Somewhat Comfortable</th>
<th>Not Comfortable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Word Processing</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Internet Searching</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Using Email</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Using online library resources for class assignments</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Texting</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social Networking (such as Facebook, MySpace, etc)</td>
<td></td>
<td></td>
<td></td>
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Library Instruction for First Year Students Using a CMS Meta-Course: 
Scalable and Customizable!

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Abstract 
This case study reports on the process for creating a self-paced 
non-credit information literacy (IL) course delivered via a 
university’s course management system. The four online modules 
are designed to contextualize information literacy competencies 
within the curriculum taught in First Year Seminar (FYS) courses. 
The meta-course approach changes the model of delivery of 
instruction for IL from a traditional face-to-face “one-shot” session 
to a hybrid model, with the responsibility for content delivery 
shifting from the librarian to the instructor of the FYS course.

Introduction

The hypothesis of this project is that library instruction for freshmen in a specific First 
Year Seminar (FYS) course (UC 1200) is best delivered in a hybrid manner, using the flipped 
classroom approach. In creation of the content for the information literacy (IL) modules, 
information literacy librarians and four FYS instructors collaborated in the a) identification of 
learning outcomes, b) development of information literacy content, c) setting benchmarks of 
student progress, and d) creation of sample assignments.

Some potential benefits of using a meta-course in the university’s course management 
system (CMS) are:

1. Standardization of the foundational IL curriculum being delivered to incoming freshman.
2. Integration of the IL instruction over the weeks that first year students are completing 
their research-based assignment.
3. FYS instructors become more aware and familiar with the resources available to their 
students, which allows the librarians’ work to shift to collaborating on assignment design 
rather than face-to-face (F2F) instruction.

Belk Library & Information Commons is located at Appalachian State University in 
Boone, NC, United States. It is one of 16 Universities in the UNC (University of North

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Carolina) System and enrolls approximately 1,800 students and offers more than 150 undergraduate and graduate majors.

**Why Move Away from Face-to Face Instruction?**

First Year Seminar is a required course in Appalachian State University’s General Education Program and approximately 140 sections of FYS are offered each academic year. Historically, about 80% of these sections received library instruction delivered face-to-face; the session was designed to introduce students to information literacy skills, focusing on finding, locating, and evaluating information sources. Between 2005 and 2014, the library maintained tutorials with an associated quiz that students were expected to complete before they came in for their F2F session. Another expectation was that the students have a specific research assignment to work on during the F2F session. Compliance with these expectations was generally good, especially during years in which the tutorial content had a fresh design or it was being heavily promoted.

Through the years, on average, about 75% FYS students completed the “pre-session” tutorial and associated quiz. However, there was little evidence that students actually retained the content or concepts they were exposed to. Research supports this observation; Mery, Newby, and Peng (2012) stated “information literacy is best taught through a well-designed online course where students have multiple opportunities to engage with IL concepts” (p. 375). Although many instructors like the idea of librarians giving freshman face-to-face instruction, there is no evidence to suggest students learn research skills better face-to-face versus online instruction, and studies have shown that learning online can lead to a greater sense of self-efficacy (Shea & Bidjerano, 2010).

Another indicator that the F2F approach may have had weaknesses was the quality of the sources in student bibliographies (the students’ bibliographies were “just a list of crappy websites”, as one professor succinctly put it). FYS professors often thought that the research part of their course was “covered” in a 50- or 75-minute session, and the expectations of what constituted acceptable research were often not made explicit in the assignment itself. Because of the Library’s long standing relationship with the FYS program, this introductory course was identified as an ideal opportunity to pilot delivery of information literacy content in a modular form using e-learning tools.

**Scalability**

At Appalachian State University Libraries, the approach of using an online meta-course through the University’s course management system is far more sustainable than librarians teaching approximately 150 sessions of FYS library instruction face-to-face each academic year, and it will allow librarians time to systematically develop more complex instructional materials for upper level courses. Librarians often see freshman F2F in other foundational courses, such as Expository Writing, and librarians have many interaction opportunities with all levels of students, from online chat to scheduled research consultations. The beauty of a meta-course is it can scale up to accommodate any number of sections, and grades, or how active students in each section are, can be easily accessed.
Information literacy is a lifelong skill that evolves over time, and today’s employers want to hire college graduates who can successfully navigate and evaluate a world of information, media, and technology, and apply their learning in creative and thoughtful ways. It is a goal of the University’s General Education Program to assess how well students acquire these skills as they progress through their academic careers. The General Education Program is supportive of the Library’s meta-course effort and will be using the data from the final test in the course to benchmark IL skills.

Customizable?

This project has gone through several iterations. In Spring 2014, FYS instructors were offered the opportunity to choose optional modules to include in addition to the core content. Although the course management system (Moodle) does allow for this, and it worked well, after interviewing faculty involved in that semester’s pilot, the librarians and the coordinator of the General Education Program decided to provide all sections with exactly the same content to help simplify the messaging and to ensure standardization. In thinking about using this for other courses, though, optional modules or being able to “test out” of certain parts of the course are appealing tools in a sophisticated course management system.

Desired Outcomes

In addition to the benefits listed in the introduction, a desired outcome of this project is to help FYS faculty develop the skills to at least start the research they are expecting their students to complete, and to become open to collaboration in assignment design with a librarian. A benefit of this collaboration could be an improvement on the quality of sources students use in their bibliographies.

First Year Seminar and Inquiry-Based Learning

First Year Seminar (FYS) is a foundation course of Appalachian State University’s General Education Program. There are up to 70 FYS topics for freshman to choose from, including “American Women in Global Perspective”, “Polarized Politics”, or “Thinking through Networking.” FYS courses are designed “to help students make the transition to academic life at Appalachian by developing creative and critical thinking abilities, cultivating effective communication skills, and introducing students to a variety of research tools” (Appalachian State University, 2015b, para. 1). Since all FYS courses are taught face-to-face, it could be argued that introducing freshmen to the University’s course management system tools helps prepare them for online learning.

First Year Seminar is premised on a model of inquiry-based learning (IBL) around a broad interdisciplinary topic or question. IBL is a student-centered, active learning approach focusing on questioning, critical thinking, and problem solving. It is associated with the idea “involve me and I understand.” Common inquiry-based research assignments in individual FYS courses include an annotated bibliography, a research paper, a presentation, or a digital project; all of which lend themselves to modular learning and librarians collaborating with the instructor on assignment design and resources to support active learning.
Course Design in Relation to General Education Program Goals

In the design of this linked library course, the Library collaborated with colleagues in the General Education Program, and jointly decided to focus broadly on the first two of Appalachian State’s four General Education Program Goals. The first goal is “thinking critically and creatively” and the criteria for meeting this goal are, basically, IL skills: “Analyzes information i.e., identifies, gathers, evaluates, sifts, and organizes information” (Appalachian State University, 2015c, Criteria 3). The second General Education Goal is “communicating effectively”, and one of the rubric criteria for this is also an IL skill: “Investigates context, situation, and information. Uses information sources for discovery; explores diverse viewpoints with an open mind; analyzes context and situation; evaluates and selects source” (Appalachian State University, 2015a, Criteria 2).

Course Design in Relation to ACRL’s Framework

In support of these goals, the librarians and four FYS instructors wrote the course and the student learning outcomes for each module. The Association of College and Research Libraries (ACRL) “Framework for Information Literacy” (2015) was the starting place for these modules. The working group created student learning outcomes and objectives for each module, and suggested activities for each piece of content. The module names in the course map to an ACRL framework; for example, the module named “Explore” maps to “Searching as Strategic Exploration” (Association of College and Research Libraries, 2015).

Considerations

Budget

Time is the major investment for this type of project. The development of online content, activities, valid questions for assessment of skills, and administering to the back end of the course are all substantial commitments. Software may be a budget item for some libraries depending on format of materials to be included. In Appalachian State University’s case, the framework used was the University’s CMS Moodle, which has rich quizzing and interactive tools. Local “how-to” videos were shot with Camtasia, and several “conceptual” videos created by other libraries were used. (Special thanks goes out, in particular, to the team at North Carolina State University libraries (NCSU) for their development of the videos “Picking a Topic IS Research”, “Peer Review in 3 Minutes”, and “Evaluating Sources for Credibility” (North Carolina State University Libraries, n.d.)). Ongoing costs will include the time involved in offering workshops, evaluating results, and improving the content based on the assessment of outcomes and feedback received.

Marketing

The ongoing marketing of this project to FYS faculty and to librarians responsible for working with faculty will also be a key factor to its continuing success. To help with the marketing, in fall 2014 the author applied for and received an internal grant for four FYS instructors to each receive a $500 stipend. These instructors worked in collaboration with e-
learning workforce librarians to create information and they delivered peer-to-peer workshops on
how to use the content. These instructors are expected to continue to help “evangelize” for the
linked library component.

Assessment

This course is designed so that FYS faculty can assign the library modules before a class
session, then discuss or have the students do an in-class activity to make the learning contextual.
The Library and the General Education Program will be collaborators in assessment, and work
together to explore how to best improve IL instruction for FYS. The linked library course has
quantitative assessment of IL in the form of a graded final test, which will be used by the
General Education Program to establish benchmarks for the attainment of introductory
information literacy skills. Librarians will use quantitative data to inform subsequent redesign of
the curriculum and/or content of the modules.

Concerns

Librarians are turning the responsibility of delivering IL content to a group of FYS
faculty. The roughly 80 instructors who teach FYS have varying skill levels using library
resources, and some are part-time adjuncts with a high turnover rate. In addition, successfully
using a flipped classroom approach requires an understanding of the underlying pedagogical
intention, and it can take practice. FYS instructors who have not taught with a flipped classroom
before may not feel comfortable with this approach.

Finally, this course is set up in a closed system (Moodle) that students only have access
to while enrolled in FYS. Most of the content is available elsewhere on the Library’s website,
but several tools like the quiz banks, or the “Lesson” tool are only available in Moodle.

Discussion

Preliminary evidence indicates that using an online meta-course can provide a vehicle for
standardized delivery of information literacy content. Content for modules will continue to
evolve to ensure that the development of effective research strategies and critical thinking skills
are fostered. Since the General Education Program will use the final test score as a formal
assessment measure, FYS instructors are incentivized to use the linked content, but they may not
be open to getting feedback from librarians on research assignment design.

Preliminary examination of the questions in the final quiz has reinforced the importance
of creating a robust and rigorous question bank. As of this writing, 900 students are enrolled in
the course in 21 sections. By Fall 2016, it is anticipated there will be 3,000 students in the class.
The data so far has shown most students take the randomized practice quizzes with each module
more than once, and their scores improve with repeated attempts. The quiz banks in these
practice quizzes are rather small, so improving the quantity of the questions would be a worthy
effort.
As of this writing, 289 students have attempted the final graded test, which has 20 questions. Students can take this test twice, and scores go up between the first and second attempt. The average grade for the last attempt is 84 out of 100 available points. Although that sounds great, it also indicates that some of the questions may be too easy. The software used for quizzing has a statistical analysis of the questions, which includes a facility index. Generally, if the question has a high facility index, it is an easy question. If over 90 percent of the students who take the quiz answer the question correctly, perhaps the question is not rigorous, or it does not challenge students to reflect or reinforce the development of an IL skill. Conversely, questions where less than 40 percent of the students do not answer it correctly could be poorly worded, or the content in the course could not adequately address the question. The statistical information in the quiz banks can be used to help improve the questions themselves and the content of the course.

Next Steps

- The library has had a long-term goal of partnering with the General Education Program to deploy a nationally standardized IL test to benchmark Appalachian State students’ development of IL skills over the course of their academic careers. This course could be used to further demonstrate the usefulness of such an initiative.

- Librarians will offer “pair and share” workshops, where FYS instructors can read each other’s research assignment, grade the assignment using a rubric for constructive feedback, and attempt to start the research for each other’s assignment using the library resources.

- Offer drop-in consultations with FYS faculty on assignment design, and then collaborate with the faculty member on attempting the research they have assigned students.

- Library Guides exist for many of the UCO 1200 sections, but use is uneven. In cases where the faculty member has requested a library guide, it is sometimes helpful to make the instructor a co-editor, so they feel ownership and investment in the guide’s usage.

- Develop a robust pre-test to compare with the final test in the course to see if there is a statistically relevant amount of improvement.

- Make the IL modules, sample assignments and interactive exercises created during this pilot available in an open online repository published under a Creative Commons License.
References


Translating Information Literacy: Online Library Support for ESL Students

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Abstract
Describes information literacy struggles of ESL college students within the context of four information literacy components: Identify, Locate, Evaluate, Use. Experiences from an online freshman composition course are used to illustrate these struggles, along with techniques academic librarians use to help ESL students from a distance.

Distance education creates exciting opportunities and challenges for academic libraries. One challenge is English as a Second Language (ESL) student accommodation. More ESL students enroll in American higher education institutions each year (Kim & Kim, 2012). They also struggle with English (a problem for libraries since communication is pivotal to information literacy facilitation). Add different cultural perceptions regarding information literacy concepts, and the problem grows in complexity.

This study’s goal is to help those who facilitate information literacy to ESL students from a distance. Experience with ESL students enrolled online in a university freshman composition course (LENG112) is used for illustration. Common ESL student information literacy struggles are shared, along with techniques to help them overcome those struggles.

Literature
Distance librarianship literature is growing, and covers many areas such as staffing, technology, and user behavior. Ritterbush (2014) offers a comprehensive literature review arranged by perspectives of librarians (staffing, instruction), faculty (needs, view of library instruction), and students (usage, anxiety); the consensus is that the library is underutilized. Steilow (2013) discusses the hybrid nature of academic libraries, and contemplates if they can exclusively support online environments. Stephens (2013) considers Australia’s “Learning 2.0” distance education initiative, and stresses the importance of staff awareness and training. Tang and Tseng (2013, 2014) describe relationships among self-efficacy, library usage, and online performance. Mon (2012) describes how librarians can build trust in online environments using Second Life contexts, but warns it makes it difficult establishing professional personae. Gannon-Leary, Fontainha, and Bent (2011) discuss advantages of online communities for those who feel isolated in distance research situations. Sewell (2011) sees promise in public and academic library collaboration to serve distance education students.

ESL literature mostly considers librarian and student attitudes, and effective support approaches. A common theme is library anxiety: Patton (2002) and Jiao, Onwuegbuzie, and Daley (1997) find second-language students, regardless of first language, suffer library anxiety.
more than native learners. Johnston, Partridge, and Hughes (2014) believe ESL students experience information literacy in four ways – process, quality, language, knowledge – and recommend considering this when developing curricula. Martin, Reaume, Reeves, and Wright (2012) find ESL students do not initially approach librarians, and thus encourage librarians to approach them; collaboration with ESL instructors helps, along with cultural awareness. Carlyle (2013) also stresses cultural awareness, along with patience, and prescribes visual aids to reinforce lessons.

Literature that considers ESL and distance librarianship combined is mostly school or public library oriented. Examples include Ferlazzo’s (2010) library media center for school-aged ESL students (the author finds computers helpful for learning), and Baker’s (2012) programming and collection development experiences (the author stresses the importance of a welcoming environment). One that deals with higher education is Johnston and Marsh (2013): they share a successful collaboration experience with faculty, embedding information literacy into a college course using IPads and IBooks.

There is definite need for additional consideration of this topic, especially with an academic library focus.

Methodology

LENG112 ESL students were observed pursuing the course’s information literacy learning objective. Their struggles are categorized below according to four information literacy process components – Identify, Locate, Evaluate, Use. These are based on characteristics one must possess to be considered information literate as defined by the Association of College and Research Libraries (ACRL) in 2000. Along with struggles, library support examples are provided.

Identify

ACRL (2000) states information literate people must be able to “Determine the extent of information needed” (“Information Literacy Defined”, para. 2). This involves understanding something about one’s self and at least minimal understanding of topic and reason for analysis. If one does not Identify, then there is little point going further in the information literacy process.

LENG112 online students were asked what their biggest information literacy struggle was; almost half the ESL students responded “Identify”. The proposal assignment performance substantiates this: students must propose a research paper topic, explain why they choose it, and how/where they plan to Locate information. It is pass/fail, and students cannot proceed until they pass. More than half the ESL students initially fail (a significant number need to resubmit multiple times). One instructor believes the problem is cultural: many have never completed such an assignment, do not understand their relationship to the topics (or what that means), and have trouble perceiving how to research.

The literature stresses librarian/ESL faculty collaboration, and Identify is an ideal place to begin. Librarians should be familiar with assignments ahead of time (and ideally work with
faculty to help develop them). For the LENG112 Proposal assignment, librarians suggest feasible topics; one posts examples in the learning management system (LMS) class shells, along with examples of those not feasible. According to tracking and grades, ESL students who view them do better on their proposals, especially topic selection.

Pachter (2013) finds people from high context cultures (e.g. Arab, Asian) prefer to first develop personal relationships before doing business. Librarians can take advantage of this by creating personal profiles in LMS class shells. Many have LibGuide profiles, but one librarian tracked more visits to profiles in the course shells than to LibGuides (this could be due to course association with grades). During the Identify phase, students ideally come to understand why they want and how they intend to pursue their proposed topics (i.e. the self-awareness aspect); if students know something about the librarian, according to Pachter, they then are more likely to provide information about themselves needed for the librarian to help (2013).

**Locate**

When locating sources, obstacles for ESL students include database expectation, keyword searching, and database layout.

LENG112 ESL students generally expect databases to produce sources exactly addressing their topics. If the topic is “Steroids in Baseball” or “Legalization of Marijuana”, then no problem; however, LENG112 faculty require topics that illicit original thought (e.g. “Would Confucius be Republican or Democrat?”). Unlikely are there academic sources that focus on such unique topics, and thus ESL students become frustrated when they type in exact phrases for zero results; they complain “there is nothing on my topic” and/or turn to lower quality sources. Librarians must thus explain the need to search topics by more general components (examples for the above could be Confucius, Democratic Party, Republican Party), then connect ideas from these to validate or corroborate points relevant to the specific topic. One librarian uses screen share technology to demonstrate, along with student topics as examples. He types them on a word processor, breaks them down into searchable term components, then searches by terms in appropriate library databases. It should be noted that LENG112 experience indicates it is better to teach this during rather than before Locate.

Watching this process on screen helps better database searching, and general keyword search string construction. Keyword search strings are sometimes difficult for ESL students to construct; they receive rigorous grammar training before college admission, and are thus unaccustomed to using English in grammatically incorrect ways of keyword searching (paring words from a correctly learned second language to searchable keyword strings can be difficult). Therefore, screen-shared searches not only teach how to conceptually approach research on a topic, but also linguistic issues of keyword searching. Another aspect of keyword searching is identifying useful synonyms (e.g. teenagers, juveniles, adolescents). Many ESL students are overwhelmed by the amount of available words for one idea in English. One librarian finds Google Translate helpful here; however, it should first be cleared by instructors because some consider it a crutch for ESL students and forbid usage.
It should be noted that in terms of relevance and comprehensiveness, controlled vocabulary search is superior to keyword. However, not all databases provide controlled vocabulary search capability, or the mapping is ineffective, thus making alphabetical scanning difficult for those struggling with English. If ESL students can keyword search, then they can search any Web-based database.

Database screens themselves can also be barriers, especially for someone whose language syntactically differs from English (e.g. Arabic readers read right to left). It is best to select databases with simple search screens, and set default to Basic; Kim and Kim (2012) find larger screens improve English comprehension for Koreans. Additionally, some vendors offer multiple language options (likely more common in future due to ESL student growth). Again, though, some instructors may object for the same reasons they do Google Translate, thus it is wise to first communicate with the instructor.

**Evaluate**

LENG112 ESL students struggle no more than English-speaking peers with this part of the process. Most, regardless of language, prefer convenience over quality; however, one criterion ESL students struggle more with is relevance. They grasp proper authority and timeliness, but sometimes let those underscore relevance. Evidence of this is found on Works Cited pages: up-to-date, peer-reviewed journals are cited, but the ideas quoted or paraphrased do not always relate to the point. This could also be a language issue; it is one thing to limit by date or peer-reviewed journal in the database, another to comprehend source meaning or purpose.

Sometimes Google Translate helps, but not as well as it does for Locate. Some LENG112 ESL students with stronger English were asked to copy and paste abstracts and translate into their native language; according to them, results are not as good as when their languages are translated to English. A more effective option is for librarians to read and explain the abstract (if there is one), and ask students topic-related questions pertaining to it. Both one-on-one phone or email dialogue can work for this, but one librarian finds email more effective due to its asynchronous nature; one proceeds at one’s own pace (in this regard, distance support can be more effective than traditional). Additionally, Ismail (2013) finds ESL students prefer email communication, as corroborated by Tang and Tseng (2014).

**Use**

ACRL (2000) states people must be able to: “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” (“Information Literacy Defined”, para. 2). LENG112 ESL students have relatively little trouble with the first criterion; however, the second and third can be difficult.

It is well documented that Eastern cultures view intellectual property differently than Western; for example, Japan. Keiko Clarence-Smith explains its tradition of imitation; from a Japanese perspective, copying can be a form of tribute and appreciation (Cox, 2008).
Fredriksson (2014) explains copyright is a Western convention, embedded in culture and history, whereas the East lacks that context. Further:

The Eastern ideology posits that the words of masters or sages are sacrosanct and are to be preserved exactly as they are for future generations. Since everyone knows the word of the masters, there is no need to make a formal reference when citing them. (Aşık-Dizdar & Bygrave, 2011, p. 90)

Thus it is unsurprising that ESL students, particularly from Eastern cultures, conceptually struggle with intellectual property. Citation mechanics also pose problems, especially paraphrasing; similar to language limitations encountered in Locate, it is difficult for ESL students to determine how much passages must change.

For LENG112, LibGuides and online tutorials prove effective for Use. As an example, a librarian and an instructor co-created video tutorials illustrating how to paraphrase passages from different sources for given topics; additionally, quotes and paraphrases are differentiated (e.g. mechanics, purpose). This is more appropriate than the student-specific support utilized during Locate and Evaluate: helping students with search terms for their topics is appropriate, but not writing their paraphrases or arranging their citations.

A librarian, with Saudi student help, created a LibGuide in Arabic that explains intellectual property philosophy, and connects it with information literacy implications (again, though, consult instructors so as not to undermine their objectives). Mindful of Saudi culture, he used a popular analogy to illustrate the importance of author acknowledgment: “If you earn assist in football, then you want people to know it was you. That is why we cite authors from whom we quote or paraphrase: give credit for assist.” This analogy helps Saudi students better understand reasons behind citation, and can be adjusted for other cultures.

**Conclusion**

Many things librarians can do to help ESL students pursuing information literacy can be done from a distance, regardless if a class is online or ground. An example is embedding library services and resources into LMS class shells; it proves effective no matter the class mode. For it to happen there must be strong librarian/instructor collaboration (literature corroborates this point for distance or ESL endeavors). Most LMS products provide technology needed for distance librarianship (e.g. screen share, email, discussion forum). Although obviously not LMS-exclusive (several options are available, some free and more advanced), LMS offers the advantage of a consistent, centralized hub, helpful to students unfamiliar with English. Most libraries have the ability to develop their own LMS shells independent of classes (and should), but based on LENG112 observation, the more the library aligns with the course, the more ESL students use it. This is basically the online equivalent of the librarian going to the classroom rather than students coming to the library.

Literature indicates email is the most popular communication tool amongst distance learners (Ismail, 2013; Tang and Tseng 2014), and LENG112 ESL students are no exception. Chat can also be effective due to its text-based nature, but the live aspect can raise stress levels if
the student feels pressured to keep up with the librarian. Telephone sometimes works better than anything for online LENG112 students, but not most ESL students: accents pose problems for both students and librarians. Skype is another option, arguably as good as in-person; however, body language cues advantageous to ESL students are generally lost on the monitor, thus the value is reduced to that of telephone conversation.

LibGuides can be useful, but for the types of ESL students in LENG112 they must be developed with struggles in mind. For example, those designed for Locate are not as useful as LMS options; whereas those for Use issues (e.g. citation) are helpful, along with videos and tutorials. Although it does not illicit much confidence from some (including ESL students), Google Translate can also help. It is limited (not much success translating complex composition), but is effective for one-word translations and identifying synonyms.

Although her focus is business, Pachter’s (2013) high context cultures rationale can apply to ESL students. Martin et al. (2012) demonstrate that ESL students tend not to approach librarians; perhaps they might if they know more about them. However, LMS tracking indicates LENG112 ESL students who visit librarian profiles are no more likely to approach librarians than those who do not view. This does not mean Pachter’s rationale should be disregarded; maybe there needs to be different information provided, or a different way of sharing than profile arrangement.

It is important not to alienate the majority of library users to accommodate ESL students. Although collection development can be adjusted to make ESL students feel welcome, per Baker (2012), it should not be at the expense of the majority of users. Selecting databases with multiple language options and setting search defaults to Basic can help ESL students, but such actions should be carefully weighed against the impact on overall student usage. Another consideration is separate resources and services for ESL students. However, this might be difficult to initiate if there are many different languages to accommodate; also, as earlier mentioned, some oppose such accommodation for fear it undermines integration.

Online library work with LENG112 ESL students corroborates points made in literature. It can be challenging for ESL students and librarians to work together without body language cues; however, information literacy is mostly text-reliant, and asynchronous pacing possibilities serve well distance and ESL librarianship. Regardless of mode, cultural awareness is very useful; the better a librarian understands prospective student cultures, the better the chance these students seek librarian help. Therefore, along with technological innovation, multicultural awareness should be a major qualification of distance librarianship when serving ESL students. However, while understanding of and appreciation for people’s cultures provides library support opportunities, generalization about individuals based on that knowledge does not; because someone is from a certain country, or speaks a certain language, does not mean assumptions should be made about him. Cultural knowledge can shed light on information literacy struggles, but it is unwise to judge before first understanding the person and his issues on an individual basis.
References


Demand Driven Acquisition of E-books in a Small Online Academic Library: Growing Pains and Assessing Gains

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Abstract
How does a smaller, fully online academic library offer a wide and deep collection of academic level e-books to its distance learners in a sustainable and affordable way? The State University of New York (SUNY) Empire State College Online Library, with a staff of four, has used demand-driven e-book acquisitions since September 2013. Despite widespread publisher price increases, this DDA program continues to deliver quality content to users. This presentation will explore the e-book demand-driven acquisition (DDA) model in the context of that implementation. This will include in-depth analysis of usage data and costs, as well as impacts on course development, budget and inter-library loan.

Assessing Gains

With a tiny librarian staff of four serving 20,000 adult distance learners, the State University of New York (SUNY) Empire State College Online Library has long sought sustainable options to expand available e-book titles for their user populations. That need has grown alongside expansions in the number of fully online and blended undergraduate and graduate program offerings. Prior to this, the library relied almost exclusively on e-book subscriptions consisting of vendor-selected collections. As is to be expected from such collections, they come with lots of unwanted, outdated, and unused titles. In addition, titles from these collections can be removed by publishers with little warning. These circumstances drove the library to launch a trial of ebrary’s demand-driven acquisition (DDA) program in the fall of 2013.

The Empire State College Online Library continues to use a version of that model today. The implementation uses a series of short-term loans (STL) before a full purchase is automatically initiated. Through this loan-to-acquisition setup, they’ve been able to introduce a wide and deep selection of titles that, from a user perspective, are the same as purchased titles or those that are available through subscription. This has almost doubled the number of titles available while ensuring that most e-book expenditures are made on content that is actually used. This article will explore the DDA model in the context of that implementation. This will include analysis of usage data, costs, and return on investment.
Abbreviations and Definitions Used

- **Demand-Driven Acquisition (DDA)**, sometimes called Patron-Driven Acquisition (PDA), is a purchasing model in which a pool of content, usually e-books, is made available to users at no cost, and the library is only charged for items that a user triggers (see *trigger event*).

- *ebrary* is a subsidiary of ProQuest (acquired in 2011), and is the e-book vendor used in this case study.

- **Purchase Multiplier** is the cost of a short-term loan (STL), which is usually a percentage of the list price of that title, set by the publisher.

- **Short-Term Loan (STL)** is an optional mechanism in some DDA models. When a title is triggered, it is loaned to the user for a brief period of time (such as a day or a week) and the library is charged a percentage (see *purchase multiplier*) of the list price. Once a title receives a set number of triggers (usually in the 1-3 range) it is then fully purchased.

- **Trigger Event** refers to the active use of content from the DDA pool which results in either a purchase multiplier charge or an outright purchase. Specific uses that result in a trigger are defined by the vendor and can include printing or copying text, or viewing a set amount of pages.

Literature Review

Demand-driven acquisition (from here on out to be abbreviated as DDA) is a still-growing and evolving model used by many academic libraries, especially for e-books. A Levine-Clark and Kawecki (2013) survey put the number at almost 82%. DDA is also usually conducted in conjunction with more traditional methods of collection development, such as a Yankee Book Peddler approval plan profile. In this acquisitions model, usage of a title determines if and when the library is charged (sometimes against a pool of pre-deposited funds). The when and the how vary considerably depending both on the vendor product being used and the settings the library has chosen for their implementation. DDA has been around as a concept and a mostly small-scale collection development option for several decades. It is only in the last five years or so, with the exponential growth of mobile technologies and e-book consumption, that aggregate vendors and publishers have moved beyond the experimental stage and begun offering fully-featured DDA options for libraries.

Fulton’s (2014) literature review provides a good overview of the nuts and bolts of DDA, as well as its overall history. Arndt (2015) also provides a handy get-started guide to any library investigating the decisions involved in setting up a DDA program. As with any new and still-developing model like this, the bulk of the existing literature has focused on the effect DDA can have on costs and existing collection development policies. Case studies by Herrera (2012), Buri (2014), Carrico, Cataldo, Botero, and Shelton (2015), Dewland and See (2015), and Elmore (2012) all found that the cost for DDA titles, at least when measured against usage, was equal to
or lesser than print titles. However, the discussion about the utility and costs associated with STL within DDA is still ongoing. While most who used the STL option liked it as a way to make more titles available for potential use, Downey, Zhang, Urbano, and Klinger (2014) concluded that STL was not economically sustainable for them.

How students and faculty generally use DDA collections also gets decent analysis in the literature. The vast majority of studies found conclude that titles triggered for purchase align well with existing collection development profiles or traditional use of the library when studied by department or subject area, even when selection criteria for inclusion for DDA availability was liberal (Buri, 2014; Downey et al., 2014; Fischer, Wright, Clatanoff, Barton, & Shreeves, 2012; Goedeken & Lawson, 2015; Shepherd & Langston, 2013; Stone & Heyhoe-Pullar, 2015; Tynan & McCarney, 2014). Not much, however, has been written to date about how DDA titles are accessed (such as via catalog, discovery layer or vendor interface), although Urbano, Zhang, Downey, and Klingler (2015) do an in-depth analysis of how the catalog fits into DDA usage. A lack of robust usage data from DDA vendors most likely contributes to this gap.

In addition to the hope that this study will further library understanding and analysis of DDA options, there are gaps in the existing literature this case study attempts to help fill. First, all the DDA program studies found were run and assessed as only a small part of library collection development programs. All of the libraries involved still relied primarily on print and e-book purchases (along with some e-book collection subscriptions) for collection development, with DDA only used as a supplemental way to offer content to users. This is to be expected, since few, if any, academic libraries have moved away from traditional brick and mortar development models. Empire State College DDA program expenditures represent about 80% of its e-book budget. Secondly, most of the studies concluded before 2014, during which there was a major price adjustment by most publishers for short-term loans within the DDA model. This study looks at two years of data, from October 2013 through September 2015. It attempts to take a deeper look at how students are using triggered DDA titles.

**SUNY Empire State College**

Empire State College is a fully-accredited four year institution, part of the 64-campus State University of New York (SUNY) system. The College serves about 20,000 students at any one time, including 400-500 Master's level graduate students. The majority of students are part-time, working adults with an average age of 36 (40 for graduate students). Approximately half of students are engaged in a blended learning model, and the other half fully at a distance (State University of New York Empire State College Office of Decision Support, 2014). The College does not have a traditional campus, instead consisting of 35 physical locations (buildings) across New York State, as well as several locations overseas where blended learning takes place. Moodle is the primary learning management system used for both blended and fully online learning.

The library is also completely online – it has no physical collections or space beyond offices at the College's administrative center. Staff consists of four full-time, professional (non-faculty) librarians, with no support staff or student workers. Collection development is done exclusively via aggregate database vendor products, alongside a suite of similar databases
provided to all SUNY libraries. Individual title purchases, whether journals, e-books, or multimedia, are not used; the cost in time and effort to manage such a program is not sustainable given such a small staff size.

The Need

When users need titles that are not available in the collections, inter-library loan (ILL) is, unfortunately, only an option for a small percentage of the Empire State College population. Due to a lack of physical collections, reciprocal borrowing is not an option. Instead, ILL fulfillment is contracted out to one of the large universities within SUNY. If a print title is available from them, they send it, along with a return envelope, directly to the requestor. If not available, and it meets specific cost and subject criteria, a print version may be purchased from Amazon and again sent directly to the user. Either way, after the loan period, the item is added to the contractor’s collections, not to those of Empire State College. This solution is also not cheap. As a result, access to the service is restricted to faculty and graduate students only. The ~19,000 undergraduate students at Empire State College do not have an ILL option. They do have in-person borrowing privileges at any nearby SUNY or City University of New York (CUNY) library, but that is not viable or convenient for many students, especially those residing in rural areas.

Prior to setting up the DDA program, e-book holdings consisted of several subscription collections (ebrary’s Academic Complete, ACLS, Springer Link, and several smaller reference collections) and around 250 titles purchased directly from ebrary. Total titles available hovered somewhere around 160,000. Usage data from the time shows that less than 10% of the titles from most of those vendor-selected collections had seen any use. In addition, increasingly disruptive journal publisher embargoes on access to the most recent content through aggregate journal article databases was pushing a demand from faculty and students for a deeper, wider and more up-to-date selection of e-books as a way to fill the gap. With a staff of only four and a budget that had been stagnant for years, this demand presented a uniquely intractable problem, until the arrival of DDA.

Implementation

For years, the Empire State College Online Library’s main provider of e-books has been ebrary (acquired by ProQuest in 2011). When they started promoting their PDA options, the librarians were hesitant and wary, as most librarians probably are when first confronted with the option. With a fixed budget, how can costs be predicted or controlled? What if students select bad titles? However, beyond those mostly unfounded fears, the barriers to trying DDA out via pilot project are almost non-existent. The library was already familiar and had a good working relationship with ebrary. Initial costs could be whatever was desired and the library was assured they could easily adjust or discontinue the pilot if the need arose. In late 2012, $5,000 was set aside for the pilot, with no explicit expectation for how long that money would last. Setup options were kept as simple as possible. This involved deciding if and how many short-term loans would be part of the formula, what titles to include in the availability pool, and how to monitor usage and costs once the pilot began.
The most crucial information in deciding to move forward with the ebrary model was the definition of a trigger; a use of a title that would result in a charge against deposited funds. Below is a simplification of ebrary’s rules for what constitutes a trigger event for a title:

1. View: 10 unique pages in a single browser session (the front and back 5% of a title do not count)
2. Copy: any text from one page
3. Print: any single page
4. Download: at least one page

The focus was put on short-term loans (hereafter abbreviated as STL). The seven-day loan (there is also a one-day option), with a threshold of two STLs before automatic purchase, was settled on. It was known going in that the cost of any purchased title would be higher than the list price because of the required loan charges before purchase. This means the third trigger of a title would result in a full list price purchase. For example, with a 20% STL multiplier purchase charge, a title priced at $100 would end up costing $140 after a third trigger. At the time, a typical seven-day loan cost about 15-20% of the list price of the title. A conscious choice was made not to mediate user choices. Any purchases would result in a single-user license, even though three-user and unlimited licenses were available for some titles.

One goal was to make available as many titles as possible in the DDA pool. This was done fairly easily using the ebrary administrative module. Broad subject searches were conducted that aligned with College areas of study, and some limits (depending on subject) were used for language and date of publication. A maximum list price limit of $300 was also used. Unfortunately, the system only allows up to 20,000 titles to be added to a DDA profile at a time, so titles had to be added in batches, roughly separated by subject. In addition, some titles are excluded from the STL model (i.e., only available for DDA via first use purchase); those titles were excluded. The result was a starting pool of roughly 100,000 e-books. Many of these options were later tweaked, which will be discussed in the Outcomes section below.

Interestingly, the Levine-Clark and Kawecki (2013) survey of libraries (on behalf of NISO) about DDA best practices show that the choices made were fairly standard. For example, 65% of libraries reported using short-term loans and 72% elected not to mediate purchases (Levine-Clark and Kawecki, 2013).

Outcomes

The pilot was launched in September 2013 with no fanfare or promotion. Indeed, this was a conscious decision so that no one, especially faculty, would be tempted to game the system by intentionally triggering titles they liked, but had no current reason to actually use. As the discussion below will show in more detail, initial usage and costs were higher than expected, but not enough to kill the program. Instead, when the initial funds ran dry within a couple of
months, an analysis concluded the return on investment was sound and additional funds were
freed up to quietly turn the pilot into a full blown program.

However, the program was put in jeopardy in the summer of 2014 when a series of (one
might almost guess coordinated) publisher price increases for STL were announced without
warning (specifics here: http://tinyurl.com/stlprices). This event was dubbed “The STL Summer
of Slam,” or “The Great STL Price Increase of 2014.” In June of that year several urgent
communications were received from ebrary listing the many publishers that had decided to raise
STL prices. Suddenly, the purchase multipliers for almost all publishers taking part in ebrary’s
DDA program increased dramatically, on average around 100%. In addition, in early 2015 a
handful of publishers planned to either remove their titles from the STL option entirely or place a
delay of 6, 12 or 18 months on when their titles would be available for loan. Still, as the data
below shows, the cost of a DDA trigger (i.e., a real world use) was still cheaper than the cost per
use of subscription e-book collections or an ILL delivery. In December 2014 several changes to
the DDA setup were implemented in an attempt to head off projected cost increases. Titles from
some of the more egregious publishers from the pool were removed, all remaining title usage
was changed to single-day loans, and the number of STL before purchase was increased to three.
The maximum list price cost of pool titles was also set at $250. As usage normalized in early
2015 (it is suspected, but not proven, that the setup changes were instrumental in this), some of
these restrictions were eased, but the single-day/three loans model remains. Usage shows that
the time between multiple triggers of a single title is often more than a week.

The data presented below was gathered primarily from ebrary’s usage tools and reports,
covering the period from October 2013 through September 2015. Available DDA data are
reported out via two mechanisms: usage and trigger reports. Both of these reports are ebrary
custom-designed and are not Counting Online Usage of Networked Electronic Resources
(COUNTER) compliant. While they do have basic COUNTER reports for section requests and
searches at the platform level, they are not able to distinguish DDA titles within those reports.
That is a gap in this study that it is hoped future researchers will investigate.

**Costs**

For the two years of data explored here, total expenditures for DDA came to $68,410.
Monthly expenses, while there were some abnormally high totals in the first few months,
eventually normalized as discussed above, with costs rising and falling as expected in parallel to
typical months of heavy student use of the library.

The total number of trigger events leading to those costs was 3,150, which works out to
an average cost of $21.72 per trigger. This compares favorably to ILL costs, which hover around
$37 per book. The total list price of all titles triggered comes to $265,419, with an average list
price of $101.38. That means the cost for those books that saw real use was only 25.8% of the
list price. Even supposing a negotiated purchase price for half off, DDA costs less than 50% of
that (see Figure 1).
The 3,150 triggers represent 2,618 unique titles. Out of that total, only 118 titles passed the STL limit and resulted in a full purchase. The cost of those purchases was $11,782 (note that this only reflects the last trigger cost, not the accumulative cost, which would include STL charges), with an average price of $99.85. The STL costs are not as clear, since settings were adjusted in late 2014. There were 1,801 week-long loans, which cost $28,587 (average $15.87). There were a total of 1,231 single day loans, totaling $28,587 (average $22.78). This discrepancy between the average costs of the different loan periods (purchase multipliers for week-long loans are generally twice as much as single-day loans) was likely caused by the massive publisher price increases discussed above, which prompted the switch to single-day loan periods. This increase is illustrated more clearly in Figure 2, which tracks the average cost per trigger over time. As it shows, this increase was not sudden, but has gradually increased over time.

The average STL purchase multiplier, regardless of loan period, was 24% of list price (26.9% for seven-day and 20.4% for single-day). As discussed above, the 2014 STL price increases had a dramatic effect on these numbers, basically doubling the single-day percentage.
Figure 2. Average cost per trigger.

Usage

The percentage of titles from the DDA pool (it changed over time, but was roughly 100,000 - 130,000) with real usage was low, around 2%. However, that was acceptable, since only those titles that were used resulted in any charges. Out of the 2,618 unique titles triggered, 2,234 (85.3%) were for titles that were never triggered again. 3,032 of the triggers (96.2%) did not lead to a full purchase. 384 titles (12.2%) had multiple trigger events. With a range of two – four, the average number of triggers per title was 2.4.

As far as individual title usage (note that this usage is not restricted to trigger events only), triggered titles had a total of 8,034 user sessions (an average of three per title, with a high of 75). Usage in this respect also measures any additional use after purchase. Forty percent of the triggered titles (1,054) only saw one user session, while the other 60% (200) had at least two user sessions. Five percent of the titles (137) had 10 or more user sessions. This is further evidence that the triggered titles saw sustained use from multiple users.

Looking at the top used titles within the DDA pool in Table 1, usage is on a par with the top titles in any of the library’s subscription collections. Titles are also scholarly and recent. This may be due in part to faculty subscription, recommendation, or direct links within courses, or perhaps to titles that directly meet the needs of a specific assignment. For example, there is a major research assignment in a required nursing course that tasks students with discussing an issue of their choice within the context of a prominent nursing theory or model.
Table 1

*Most Used DDA Titles*

<table>
<thead>
<tr>
<th>Title</th>
<th>Publisher</th>
<th>Year</th>
<th>List Price</th>
<th>Section Requests</th>
<th>User Sessions</th>
<th>Pages Viewed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Persuasion: History, Theory, Practice</td>
<td>Hackett Publishing</td>
<td>2013</td>
<td>$69.00</td>
<td>2002</td>
<td>75</td>
<td>2028</td>
</tr>
<tr>
<td>Jonas and Kovner's Health Care Delivery in the United States (10th Ed)</td>
<td>Springer Publishing</td>
<td>2011</td>
<td>$80.00</td>
<td>889</td>
<td>43</td>
<td>898</td>
</tr>
<tr>
<td>Nutritionist: Food, Nutrition, and Optimal Health (2nd Ed)</td>
<td>Cambridge University Press</td>
<td>2009</td>
<td>$140.00</td>
<td>834</td>
<td>41</td>
<td>701</td>
</tr>
<tr>
<td>Religions of the Ancient Near East</td>
<td>Routledge</td>
<td>2010</td>
<td>$195.00</td>
<td>670</td>
<td>41</td>
<td>653</td>
</tr>
</tbody>
</table>

*Note.* Year refers to the ebrary published date, which is sometimes newer than the print date. Section Requests refers to COUNTER data, which defines a *section* as “Chapter, entry. The first level of subdivision of a book or reference work” (Counting Online Usage of Networked Electronic Resources [COUNTER], 2012, p. 7).

Section Request numbers pulled from the COUNTER report roughly translate to the number of pages viewed. Given that, a rough equality between usage of subscription titles and DDA can be seen. As Table 2 shows, the ebrary Academic Complete subscription collection (composed of ~130,000 titles) saw more bulk use during this period, but the average number of sessions, pages viewed, and pages printed per title were significantly lower than for DDA. While the subscription collection is clearly still of value, despite the fact that less than 10% of its titles see use, this table also points out the even greater use that DDA titles generate. This may reflect the generally wider availability of newer titles in the DDA pool than in the subscription collection.

When looking at the top publishers, it can again be observed that user choices reflect a scholarly bent. Table 3 also shows the large increases in STL multiplier for most publishers, as discussed above.
Disciplinary analysis of triggered titles may not be as illuminating as any of the data above, as it is theorized that usage probably reflects the demographics of the institution and the usage of library resources in general. However, Table 4, showing the breakdown of triggers by discipline, parallels use of library resources generally.
Table 4

Most Triggered Disciplines

<table>
<thead>
<tr>
<th>Discipline</th>
<th>Number of Triggers</th>
<th>Percentage of Total Triggers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Humanities</td>
<td>845</td>
<td>24.7%</td>
</tr>
<tr>
<td>Arts</td>
<td>184</td>
<td>5.4%</td>
</tr>
<tr>
<td>Language &amp; Literature</td>
<td>466</td>
<td>13.6%</td>
</tr>
<tr>
<td>Religion &amp; Philosophy</td>
<td>115</td>
<td>3.4%</td>
</tr>
<tr>
<td>Other humanities</td>
<td>80</td>
<td>2.3%</td>
</tr>
<tr>
<td>Social Sciences</td>
<td>1973</td>
<td>57.8%</td>
</tr>
<tr>
<td>Business &amp; Economics</td>
<td>470</td>
<td>13.8%</td>
</tr>
<tr>
<td>Education</td>
<td>166</td>
<td>4.9%</td>
</tr>
<tr>
<td>History</td>
<td>250</td>
<td>7.3%</td>
</tr>
<tr>
<td>Law</td>
<td>64</td>
<td>1.9%</td>
</tr>
<tr>
<td>Political Sciences</td>
<td>184</td>
<td>5.4%</td>
</tr>
<tr>
<td>Psychology &amp; Sociology</td>
<td>414</td>
<td>12.1%</td>
</tr>
<tr>
<td>Other social sciences</td>
<td>425</td>
<td>12.4%</td>
</tr>
<tr>
<td>STEM</td>
<td>596</td>
<td>17.5%</td>
</tr>
<tr>
<td>Computers &amp; Technology</td>
<td>146</td>
<td>4.3%</td>
</tr>
<tr>
<td>Math &amp; Science</td>
<td>135</td>
<td>4.0%</td>
</tr>
<tr>
<td>Medicine &amp; Health</td>
<td>315</td>
<td>9.2%</td>
</tr>
</tbody>
</table>

Note. Discipline structure shown is a custom construction. ebrary assigns each title a single BISAC Category, which was then translated over to the simple structure above.

Finally, it is proposed there can be something learned from how titles are triggered. Figure 3 shows that page views, as expected, dominate the types of triggers seen. It is suspected the primary reason for this is the extra actions required of students to do anything beyond viewing. Users need to create a personal, free “Bookshelf” account within ebrary in order to carry out any of the other trigger event types. What is surprising is that downloads and text copying outstrips pages printed. This may reflect any of several possibilities, such as adult learners without as much free, ready access to printers, or students with an over reliance on quickly grabbing direct quotations for their papers instead of fully reading the content and using paraphrasing. There is definitely room for more examination of this issue by other researchers.
For Empire State College thus far, DDA has been a slam dunk success, and it will continue to rely on it heavily for future purchasing barring more dramatic price increases. This case study, it is hoped, shows the value of DDA as one possible part of any library’s collection development plans. If pricing stabilizes and vendors make their usage reporting tools far more robust than they currently are, this value will likely increase. Such changes may result in a wider availability of scholarly monographs, and allow libraries to better serve the research needs of their user populations.

However, as the Summer of STL Slam demonstrates, the market surrounding this model is still adjusting, and additional future price increases or publisher pull outs, especially for STL, may dampen the outlook, or even the economic viability of the DDA model. The publishing industry is still coming to terms with this model. They are also struggling with stagnant sales, and have been slow to create or embrace viable, user-friendly models for e-books in general. Some of their own thought leaders have voiced a distrust of or disgust with DDA models, and STL in particular, because it means, in their eyes, a delay in cash flow (Association of Learned and Professional Society Publishers, 2015; Bivens-Tatum, 2015; Brooks, 2014; Esposito, 2014; Farrington, 2014; Zeoli, 2015); this despite the high probability that most libraries have been facing stagnant or even shrinking budgets for years, with no end in sight. Most libraries would not be able to afford or purchase most e-books were it not for these kinds of models. The loss of

**Looking Forward**

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this model could mean lost sales and revenue in the long-term for publishers. For smaller academic libraries like Empire State College, DDA is a much needed option. One can only hope this still evolving model doesn’t collapse under the strain of publisher fears and price increases.
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Embracing Change: Adapting and Evolving Your Distance Learning Library Services to Meet the New ACRL Distance Learning Library Services Standards

Brad Marcum
Eastern Kentucky University

Abstract
This paper examines the update and revision of the current Association of College and Research Libraries (ACRL) Distance Learning Standards that has been proposed and submitted to the ACRL Standards Committee. An in-depth analysis of the update is included, along with some comparisons between the old and new. Practical advice detailing initiatives and strategies implemented by a mid-sized regional university to meet the new standards is offered in conjunction with a forecast of the future of distance learning library services and impact the new changes will have for academic libraries.

Introduction
To keep up with the burgeoning growth and variety of Distance Learning opportunities and methods, the Association of College and Research Libraries (ACRL) has re-examined and re-imagined the Distance Learning Standards of 2008. This paper will compare and discuss both the old and new ACRL standards for Distance Learning Library Services and give an in-depth comparison and analysis of the update and forecast the impact the changes will have for academic libraries. Practical advice on how to update participants’ library distance learning library services to meet the new standards will be offered, and reflections on the experience of a mid-sized comprehensive university library in its efforts to meet these standards will be included.

Eastern Kentucky University (EKU) is an institution with an enrollment of 16,015 as of the 2015 spring semester. Approximately 1,500 of those students are enrolled at regional satellite campuses. As noted in a news release on the Eastern Kentucky University Online Degree Programs website (2014), just under 2,000 of enrolled students are pursuing degrees that are being offered fully online, and are not just taking individual online courses. This is a telling statistic; just five years ago that number would be a fraction of its current level.

Distance education continues to grow and become more and more an integral part of higher education and not just an added and inferior experience for students unable to attend classes in the traditional format. Eastern Kentucky University Libraries has had what has probably become a very common experience in the last decade as technology has enabled the provision of distance services to levels that in many ways exceed the long standing mantra of “Equivalent, but not necessarily the same.” Technology has begun the process of leveling the playing field for all students, and this will be discussed in detail.
The Current Standards

The Standards for Distance Learning Library Services in place today were enacted in 2008, and were the culmination of seven revisions of the original “guidelines” published in 1963 (Association of College and Research Libraries [ACRL], 2008). Starting as recommendations, maturing into “guidelines” and now finally becoming a set of official standards to govern the provision of distance library services, this history has been covered in detail in other works (Marcum, Napier, & Trainor, 2011). Obviously, distance library services have come a long way, yet still the core concept remains the same, to provide equivalent services to students at a distance.

The current standards were ground-breaking when introduced in 2008 and still remain an excellent if somewhat dated guide to providing distance library services. Careful reading reveals these standards do not go far enough and do not give enough specific guidance for libraries today, and still have one foot in the traditional model of library services, so to speak. Most importantly, the 2008 standards did not acknowledge the growing blurred lines between distance and traditional on-campus students. Suffice it to say much has happened in the intervening years since the enactment of the 2008 Standards for Distance Learning Library Services, and it is clear these standards are in need of revision to address new trends, technologies and approaches developed since its last iteration.

The New Standards

The new standards are the culmination of years of planning and work. The revision of the 2008 standards began when “the Distance Learning Section standards committee was returned to standing committee status in 2012, and Harvey Gover, Washington State University, Tri-Cities was asked to return as Committee Chair in order to lead a revision of the 2008 Standards” (Association of College and Research Libraries [ACRL], 2015, Appendix A, para. 2). After going through multiple revisions, the new Standards for Distance Learning Services appear to be a well-crafted document. The impression when reading the new standards is that it was written by real, practicing distance librarians who have a good grasp of the day-to-day provision of distance library services as well as an understanding of the current trends and issues presenting themselves to libraries today. The standards provide lofty goals for libraries to reach for, but are also realistic in recognizing that not all standards can be met by an individual library immediately. The new standards are in general more forward-looking than the previous version.

Although it is an excellent work, the new standards do have a few problems. First, it is a very ambitious document, in that it attempts to be comprehensive and cover every contingency. This is of course the purpose of having standards, but as a consequence, taken as a whole, the document itself can be less than easily accessible and could possibly prove daunting to libraries that have little experience with distance learning or have much to do to reach compliance. These libraries should consider incrementally implementing services to comply with the standards.

As of the date of this writing, it is important to note the new standards have not completed the approval process, with the latest draft currently before the ACRL Standards
Committee for review. The following notification was placed on the ACRL Distance Learning Section website on October 4, 2015:

Among the seventeen members of the DLS Executive Committee who voted on acceptance of the newly revised Standards for Distance Learning Library Services, the vote was one hundred percent for approval of the draft. The next phase in this cycle of revision is submission to the ACRL Standards Committee (SAC) for their review and approval before sending the new Standards for Distance Learning Library Services to the ACRL Board of Directors for their final review and approval for publication at the ACRL Guidelines, Standards, and Frameworks site. (Association of College and Research Libraries [ACRL] Distance Learning Section, 2015, para. 1)

Analysis of the New Standards

This section will offer a detailed analysis of the latest version of new standards, including a summary of the changes and new additions with commentary.

In the section entitled “The Changing Nature of Distance” (ACRL, 2015), the new standards identify three main types of online library users:

1. Enrolled at main campus – using online resources from home, dorm, etc., via the Internet.
2. Dual enrollment – taking both main campus courses and distance learning courses concurrently.
3. Truly distant users – geographically isolated from the originating institution, often hundreds or thousands of miles away.

“These categories of main campus online and distance learning online users differ primarily because of variations in their degree of separation from the originating institution and the library” (ACRL, 2015, Changing Nature of “Distance” section, para. 2). While most learners fall within the three categories, the new standards acknowledge branch and regional campuses as well and confirm that the standards are designed to be all-inclusive. “Added to these categories of online users are those at branch or regional campuses… These users typically have online access to a mix of main campus and regional campus resources. The standards are designed to apply to all categories of distance users…” (ACRL, 2015, Changing Nature of “Distance” section, para. 3).

One of the most important additions to the standards is the acknowledgment of the blurring of the lines between distance and on-campus students. That is, library resources and services are being accessed and used in very similar ways, regardless of location. Databases are accessed online, no matter the location, reference services are now offered via chat (at least) or by screen sharing software, and even document delivery is mostly via email, except for books. More and more, students are not required to come to the library for help. Technology is the common denominator, and as libraries improve their use of technology to serve the needs of their users, the more those lines blur. While there will probably always be a need a to keep distance
services distinct and governed by its own set of standards, it is important to remember that many of the services and resources we offer are well-suited to all three types of students.

**Summary of Proposed Changes**

What follows is a section by section analysis and notation of the proposed changes to the 2008 Distance Learning Library Services Standards (ACRL, 2015). In some instances commentary has been included speculating on the impact these changes may have on libraries and distance learning.

**Part I, Foundations**

- **Access Entitlement Principle** – Cleaned up the language, and added international locations and by courses delivered by whatever modality. Stressed the principle of access entitlement as fundamental and unwavering conviction behind the standards.

- **Introduction: A Living Document** – Cleaned up some of the language from the previous edition. Acknowledged the growth of learning outside the classroom and large scale virtual course offerings not linked to any specific institutions as part of the impetus behind the latest revision of the standards.

- **Audience** – New section that delineates the intended audience of this document. Simply put, administrators, librarians and library personnel involved with distance services and faculty and students at schools of library and information science.

- **Definitions** – Added the following new entries:
  - Computer Literacy
  - Digital Literacy
  - Distance Learning Librarian
  - Embedded Librarian
  - Distance Learning Library Services - Updated to include regional or branch campuses and blended learning.

- **Changing Nature of Distance** – Acknowledged the blurring of the lines between on campus online users and truly distant users while acknowledging the special needs and concerns of those truly distant students who may have little or no institutional contact or identity.
  - Identified three categories of library users, whose primary difference is in the degree of separation from the originating institution and stated the new standards are designed to serve these users.
  - Made an important distinction between distance learning and online learning. The two are often lumped together, but the standards make it clear they are not synonymous and that online learning can be used in situations that do not involve distance learning at all.
Part II, Fundamental Requirements: A Bill of Rights for the Distance Learning Community

- Separated this section from the Foundations section. Cleaned up the language, amplified the text on certain points and changed the organization from a list of bulleted points to a set of grouped categories.

- Addresses the expansion of an institution through both physical and virtual means and requires sufficient additional financial support to meet the needs of the additional students.

- **Library Requirements** – While not a new addition, the section addressing Direct Human Contact is especially important and deserves mention as it stresses the need to maintain channels of direct human contact with distance learners.

Part III, Specific Requirements

- Mostly small edits, cleaning up of and the addition of augmenting language. Adds two major sections, “Change” and “Globalization”.

- Replaced the term “librarian-administrator” with “distance learning librarian” in multiple locations.

- **Library Education** – Added the provision of ongoing professional development opportunities for practicing librarians.

- **Management** – Acknowledges that the functions of the distance learning librarian may be dispersed across integrated staffing systems, but care should be taken that proper oversight is maintained and at a minimum the distance learning librarian should be in place, managing:
  - Mission, goals and objectives
  - Needs and outcomes assessments
  - Collections and services
  - Cooperation and collaboration.

- **Change** – This new section addresses the constant change in distance learning by listing issues that should be addressed when planning the implementation of new forms of distance learning.

- **Globalization** – Similar to the “Change” section, this section lists issues that must be considered when offering distance learning in a global context.

- **Services** –
  - Added “embedded librarian” to essential services.
Added “marketing of distance services directly to distance learners” to essential services.

- Added sections on the importance of copyright compliance, legal counsel, training and institutional support.
- Added provision of appropriate open access publications.

Advice on Implementing the New Standards (What We’ve Tried)

EKU libraries have experimented with several approaches to help meet both the current and new standards. These are a few of the strategies and initiatives that have helped move EKU Libraries toward compliance and could serve as inspiration for other institutions as they design their own initiatives.

EKU Libraries have adopted a distributed model of service and have endeavored to create a culture of inclusion and expectation of service, requiring staff and library faculty to draw no distinctions between distance and on-campus students. In the past, distance education related questions were automatically forwarded to the Distance Learning Librarian without any attempt to assist the student. Newly hired staff and librarians are taught they will be expected to work with both types of student as part of their initial orientation and training.

EKU Libraries have created a dedicated position that goes beyond the usual “distance librarian”. As part of the distributed model EKU Libraries has adopted, the distance librarian has given up some of the traditional responsibilities (document delivery, for example) and has taken on more administrative and faculty outreach responsibilities, providing oversight and training both to groups and one-on-one assistance for librarians. This new position works closely with the heads of all departments, having monthly meetings, and facilitates collaboration between librarians and online faculty. Overall, this position has become a go-to resource for those seeking to work with distance and online students and faculty rather than a one-person department tasked with all distance learning responsibilities.

One of the key strategies facilitating EKU Libraries shift to a distributed distance services model is the development of a strong document delivery service. Delivery of tangible library materials is becoming the only real practical difference between the needs of truly distant and on-campus students today. At EKU Libraries, a new service was created, folding in several staff from different departments, including interlibrary loan. This service, Library Express, delivers materials all over campus as well as performing ILL services and delivery of materials to distance students. Having one office responsible for all delivery has streamlined and simplified the process immeasurably.

Finally, EKU Libraries have developed a robust virtual reference service. After several years of offering chat-based virtual reference services, EKU Libraries have come to the conclusion that while chat reference is effective, there are newer technologies that will offer much more functionality and opportunities for teaching. EKU Libraries has initiated a pilot program to offer virtual reference appointments via Skype, Adobe Connect and other applications. These sessions can be easily scheduled by students by filling out an online form, which is accessible via their course management system and the library web page.
Advice for the Future

- Include distance education in all strategic planning and assessment. Make it part of the day to day library planning.

- Have a group or individual tasked with thinking about distance services and the future as well as represent the library across campus.

- Get away from the monolithic “Distance Education Office” model and adapt a distributed model of service customized to the needs of the institution.

- Remember, a student is a student is a student. That is, they all need the same sorts of library resources and services, and technology has become the standard mode of delivery in a growing number of cases. With the exception of delivery of books to distance students, technology has standardized the means by which we serve.

- Be flexible. Distance education is a very fluid field that is under constant change. Don’t be afraid to look forward and try new things.

Conclusion – Forecasting the Future

Forecasting the future is often a risky enterprise, but some prognostications can be safely made. First, the demand for seamless service in all aspects of library services will continue to grow. Library users are primarily concerned with obtaining their materials quickly with little to no patience with forms, referrals or other time consuming “red tape”. Distance students will be no exception. As stated before, technology will continue to break down barriers between students. The population we identify as “distance students” is becoming an artificial distinction and eventually there will be very little difference between distance and traditional students. Distance library services will become a more integral component of library services as online enrollment continues to grow. Administrators will begin to acknowledge the importance of providing services to distance students and will give these concerns a more important place in strategic planning and outcomes assessment. Libraries will need to be well-positioned for this shift and be ready to move forward as they work to provide equivalent services to all learners at a distance.
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Behold the Power of the Donut: A Successful Case Study of a DE Library, Departmental, and Faculty & Student Collaborations

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Abstract
Creating and maintaining a successful library distance education program, even given ideal variables, can be a huge challenge. The paper will discuss how the library distance program was planned, implemented, and evaluated in a three-year span. A staff of three-five librarians utilized organizational partnerships, grassroots marketing and easy-to-use software to plan and implement the program. Key features of the plan will be discussed, including a books-by-mail system, interlibrary loan, online workshop creation, online streaming events, general distance learner engagement, and faculty inclusion. This case study is unique due to the accelerated development of the program, with success in less than three years, and the size of the online population served, approximately 15,000. Examples of unique collaborations with other university functions will also be shared, including career development, graduation, orientation, and touring.

Introduction

The Full Sail Library is part of Full Sail University, a privately funded academic institution located in Winter Park, Florida. During the time of the study (2011-14) the library provided services for approximately 15,000 students, over 2,000 faculty and staff members, and 40 different degree programs. The library’s main goal was to support the University’s mission, “to provide students with an innovative style of education, delivered by a staff of dedicated individuals, that addresses the career opportunities available in an ever-growing, constantly evolving industry” (Full Sail University, 2015, para. 3). At the time of the study, the library employed one Director of Library Services, one Reference Librarian, one Catalog Specialist, two Library Technical Assistants and thirty student workers. Administration of the Full Sail Library fell under the University’s governance, which states that the Director of Academic Advising (acting head of the library) reports to one of several University Vice Presidents. All major library decisions come from upper-level management, including any budgetary and operations changes.

Prior to 2012, the library offered minimal resources to online students and faculty. The library hosted a website with basic functionality that could be visited off campus, but that was the extent of online services. Using this website students, faculty, and staff could remotely search research databases and the library catalog for information. The library did not offer common distance-learning resources such as library instruction, research assistance, or
supplemental services. Although Full Sail launched its first online degree program, Entertainment Business Master’s Degree, in 2007, there was not a library implementation plan in place for distance education until 2011. As the need and desire for online education options grew, the library team tasked itself with creating a wealth of library resources that could be accessed from off campus and re-marketing the library so that the online Full Sail community knew about the resources and how to use them.

**Literature Review**

The availability of education at a distance is not new – training videos, downloadable information, and public television, have been around for years (Wolpert, 1998). It was not until recently that academic institutions and their libraries began creating purposefully formalized distance education programs. With this burgeoning focus on distance education, academic libraries’ role is to create services specifically tailored towards distance learners and in some cases re-marketing already existing services to appeal to distance learners (Summey, 2004).

A great deal of research on creating academic library distance education programs relates to the marketing of services. Distance education programs are not one size fits all, and the continued expansion of research provides guidance in unique areas. The marketing of libraries is not a new topic, and with the added area of marketing distance education services, a large, detailed body of work has been created in the past several years. Both areas of research, fortunately, continue to grow as the landscape of libraries and academia change. Much of the literature that exists focuses on branding, SWOT analysis methods (Summey, 2004) and market evaluation (Wolpert, 1998), including creating promotional videos to market services to students (Dalal, 2014). One resounding and fundamental point that reverberates throughout all the literature is the critical need to let students know about the services available. It matters little what distance education services exist if students do not know about them (Summey, 2004).

Just as important as the student services development are the faculty services for distance learning. Faculty members, after all, will be using the resources to engage with their students (Mair & Shrauger, 2014; Schrecker, 2006). Advertising and creating distance resources for University faculty and staff is similar to that of creating it for students. Surveys to university faculty indicate that the main obstacles include lack of information about services and an inability to stay on top of technology trends (Adams & Cassner, 2001).

Perhaps counter-intuitively, the expansion of the purpose of the physical academic library – from strictly a research center to operating also as a communal and social space – has relevance to distance learning. In the past, libraries served primarily as places of academic engagement and study (Gayton, 2008). Now, students expect their libraries to serve as a place of social engagement (Yoo-Lee, Lee, & Velez, 2013). Numerous studies have been conducted to demonstrate how newer generations are using library spaces, and how libraries can better serve the needs of these students. And these questions equally apply to distance learning: What role does the library play in fostering a community atmosphere to distance learners? How can the library help connect far-flung students?

The review above indicates that with a new focus on distance education, libraries have positioned themselves to develop plans and strategies that best service the varying needs of
distance learners. Focusing on marketing and communal engagement are great starting points. It is easy to assume that in order to successfully accomplish these goals a distance education team will be dedicated to the cause with sufficient resources including budget, staffing, and guidance. This case study aims to prove that success can be accomplished with minimal resources, staffing, and funding. The paper will also provide an example of the possibility to create a “library through community” space for distance students and what that space might look like.

Background

In 2011, the goals of the library were to meet the needs of the existing curriculum (and of the more than 15,000 students, faculty and staff), to develop a process for making library resources and services relevant and to market the library to all students, faculty, and staff (both online and on campus). A quick assessment of the current collection revealed the following: a small print book collection, a couple hundred DVDs, and less than a dozen databases. There were no services in place for online students and past statistics revealed that the library was very rarely used. Also, the existing collection was not sufficient enough to support the curriculum, both on campus and online.

Major changes were quickly implemented to support the online students and faculty, which included: a Chat system to aid in reference questions, increasing the current collection, books/media-by-mail system, interlibrary loan (through a subscription to WorldCat), and online workshops/tutorials creation and implementation. Once the initial online services were in place, the library staff began to think about how to best market the new services and resources.

Method

The goals were challenging with a library staff of five. In response to this challenge it was quickly realized that the library team would create and market a “library through community”; that is, all campus faculty, staff, and students would feel a sense of ownership and community within the library. Further, the library would in a sense become reflective of the unique Full Sail culture and that it would evolve to blend in, all the while providing the much-needed resources and services to successfully serve the departments. The most important objective was to gain buy-in through collaboration with teams across campus, including faculty, staff, and students from a variety of departments and backgrounds. It was believed that communal ownership and collaboration would support the overall goal of updating the library collection and space to 21st century standards.

The primary methods chosen to market the existing sources were electronic communication, in-person communication and student support. Details are as follows.

Electronic Communication

Most library communication was completed electronically through email or postings on the library website. This included any operational information, library updates, workshop schedules and external or campus-wide news. The library created a blog and updated it at least once a week with collection and event news from both the library and the University. In addition, the library website was changed to add many new pages and features. Before, the site
consisted of one page with links to the databases. After the upgrade, the site has a separate database page, tutorials, “About the Library”, additional resources, faculty requests and requests links. As of April 25, 2012, the FSO website team stated that the library’s Online Databases page was the number one most viewed page on the FSO site.

**In-person Communication**

The first plan to market the new resources was to send out emails and announcements through social media sites and the library website. This was not as effective as we had hoped. It was clear that the departments were not going to come to the library... we had to go to them. The library staff’s solution was to each week, choose a specific department and “crash” their faculty cubicles and department head offices with donuts and a fifteen-minute speech about the “new library” with our “new services and resources”. A small budget was procured for the express purpose to purchase donuts to take to the official departmental and cubicle meetings.

**Student Support**

The most successful aspect of the library’s marketing plan was student support. Due to the small library professional staff of five, we quickly realized we were going to need help to get our message successfully delivered to the campus. At the time of the study, the library employed over 30 work-study students (both in person and online). Their responsibilities were primarily circulation duties and some basic reference. The library work-study students majored in Film, Recording Arts, Show Production, Game Art, Entertainment Business and Computer Animation primarily. It was quickly discovered that they were a wealth of hard-working, social media-savvy, think-outside-of-the box creativity that could help make the library relevant. It was agreed to facilitate and encourage the students to work on video tutorials (database-specific as well as services-oriented), write on the blog, help lead library based events, and offer feedback for library focus groups all for “real world” experience. The projects they led/created had the following positive results: the students added projects to portfolios, received excellent reference letters from the library director, and their work was proudly displayed on the library website and reported in both the library and university news channels.

By implementing collaborative methods that were virtually free (at most, they cost the library team in time), the library team was able to witness first-hand what was working in the marketing campaign and tweak approaches, course-correcting in real time. This ability to be flexible and responsive to the needs of the community contributed greatly to the project’s success. Two fundamental principles of this methodological approach were the importance of library availability to constituents and regular self-reflection on the degree of success in meeting community needs and fostering buy-in.

**Results**

By implementing grassroots, collaborative marketing to the academic community, library services and collaboration improved across the board and expanded quickly. As the library staff proactively presented library services to one university team and news of our successes spread by word of mouth, the library would be invited to work with other areas. This rapidly expanding
ripple effect allowed the library to become relevant to degrees and disciplines that hadn’t previously considered the library a valuable resource.

**Instruction/Promotion**

The Director of Library Services began planning to attend monthly departmental meetings to ascertain the library collections needs and to inform departments of the materials and services offered. When no requests came from the emails, the staff resorted to the donut drop-in plan. This proved more successful than the series of unanswered emails that was the first attempt to reach out to the existing faculty and departments. Faculty were at first surprised, but were willing to offer advice and share requests about what kinds of resources the library should have to support their classes. Soon afterward, there were invitations to attend the departmental meetings and to participate in the Program Advisory Committee’s annual tour. During these tours, committee members reviewed the library facilities, collection and credentials of the professional staff.

**Accreditation**

It was announced in 2012 that the university was due for accreditation renewal, and would be evaluated campus-wide, including the library, by the accrediting body The Accrediting Commission of Career Schools and Colleges (ACCSC). Departments campus-wide were strongly encouraged to incorporate library services and resources within their classes as per requirements of the ACCSC policy. Through a series of social media announcements, emails, delivered donuts to departmental meetings, and one-page proposals sent out to the individual departments stating how the library can aid in meeting the needs of the accreditation standards, the library became more prevalent to the campus culture, both onsite and online. One of the more positive results was that the library became a part of the new student orientation and a requirement for on-campus and online faculty to attend a Counting Education workshop for faculty specific to resources and services.

In 2013, the accreditation report was distributed and it listed the library as one of the top three departments on campus. In three short years, thanks to a successful marketing plan, the library went from being one of the worst departments to one of the most efficient.

**Orientation/Continuing Education**

The Full Sail orientation process is unique as there is a new student orientation offered every month. Each month provides a chance for the library to market the resources and services through a thirty- to sixty-minute orientation (both on campus and online). The orientation consisted of an overview of services and resources offered as well as short introduction to using the databases. It also served as way to market our monthly events and services to the students before they start classes. To further market services to faculty, monthly library resources workshops (in-person and online) were offered through the Continuing Education and Professional Development departments. The library staff would rotate teaching a two-hour workshop about the existing library resources. The workshop included: training and use of individual databases, such as EBSCOhost and LexisNexis Academic; searching the online
catalog; faculty resources and services; tutorials on research; and searching for relevant materials to be used in special projects and papers.

**Library Focus Groups**

In order to continue the momentum and success of the “library as community” marketing plan, an internal assessment and evaluation was the next step. The result was the formation of a campus wide library focus group and a specific library work-study focus group. The Directors of Academic Advising and Library Services implemented an annual focus group consisting of approximately 30 members who represented instructors, online students, on-campus students, administrative and library staff; the session lasted approximately one to two hours. The purpose of the group was to explore patron perceptions of the library and gather opinions on how to improve its space and services. The meeting took place in a conference room away from the library and the online members joined the meetings via GoToWebinar. Notes were taken from the meetings to be used to improve and create new practices and services.

A similar process was created for the formation of the library work-study focus group. Four work-study students with at least six months experience working in the library (both on campus and online) were selected to answer a series of open-ended questions and discussed a broad range of topics concerning library services and the library’s collection. The results helped the library staff identify areas of improvement and to determine a structure for implementation. Both focus groups yielded positive feedback which led to a new and improved library website, a library blog and a more structured process to host monthly library events.

**LibraryLive Events**

In addition to providing information sources and research assistance, the library staff encouraged the social aspect of life at Full Sail. This was the inspiration behind the series of *LibraryLive* events. The library hosted monthly social gatherings including “Feed The Students,” movie nights, karaoke contests, gaming tournaments and other events that encourage students, faculty and staff to come together outside of the classroom. The events were led by students and facilitated by the library staff. In order for a student to host a *LibraryLive* event, they need to submit a proposal to the library staff, attend a meeting to “pitch” their idea, and be in charge of running the event. The library provided the space, resources, food, and help if needed while the students led and facilitated the event. It was a great opportunity for everyone. As the students gained experience, the library increased door counts and other statistics (and the staff didn’t have to come up with the ideas); and the students, both online and on-campus, felt an ownership over the library.

“Feed the Students” was the most popular as each month a different department on campus would sponsor the event by donating canned goods and food for the students. The food would be set up in the library for the students and the library staff would be available to answer any questions or offer assistance for research. It was a very successful way to increase the door counts and to show the students the new library and all of the resources available to them.

Other events specifically marketed to the online students included open mike nights and karaoke contests via GoToWebinar. Online students were able to participate by streaming video
through the GoToWebinar system. Statistics showed that the online student focused events had more attendance (virtually) than on campus. The students were excited to be a part of the event, especially having the ability for the on-campus and online students to “see” each other via strategically placed projectors and screens. The overwhelming success of the library events increased the relevancy of the library and opened doors to campus departmental collaborations.

**Departmental Collaborations**

In order to successfully cement the “library as community” plan to the rest of campus, the library felt that establishing collaborative partnerships and outreach within other departments on campus was vital. As word of mouth, blog posts, and social media blasts, the library was getting the reputation as the place to be. By simply offering space, resources and available students, the library formed partnerships with The Writing Center, Career Development, and the Graduation Launch departments.

Every Tuesday, Wednesday and Thursday from 1:30pm to 5:30pm, the Writing Center assisted students with writing issues in the library. The library staff set aside a main desk, free printing services for Writing Center staff, and a special collection shelf of writing-based resources especially to assist the members of the writing center. The purpose was to create a Writing Center centric space for easy access to writing center resources and staff.

In addition, one afternoon a week, members of the Career Development team set up a table in the library to meet with students who may or may not have an appointment to discuss their future goals in the industry. The library staff offered space and free printing services to the Career Development team to assist with their departmental outreach.

Graduate Launch is the orientation for graduation, as it helps to ensure that the expected graduates reach graduate status. The graduate launch is mandatory even if the student does not plan on attending graduation. Graduation Launch was scheduled once a month in the library from 7:00 am to 11:00am. Representatives from the Business Office, Student Advising, Career Development, and Graduation vendors set up tables to meet with the students during this event. Online students also participated through FaceTime, GoToMeeting and the video option of the AOL chat when the other departments were visiting the library.

By 2014, the library was recognized and praised by many major campus departments. It was recognized that the library team had built a host of library resources that reflected student, faculty, and staff needs. Based on anecdotal feedback from academic meetings and satisfaction surveys, the campus community appreciated that their needs were considered during marketing efforts and focus groups and continued to seek out opportunities for supporting the library team.

**Conclusion**

Before 2011, the library was seen as simply a building with books. Thanks to a successful marketing plan the perception changed to a place that provides an abundance of resources to faculty, staff, and students, especially those working away from campus. Thus, the case study was deemed an immense success based on student and faculty feedback and demonstrated by an increase in use.
Additionally, the study was not only successful with enhancing the existing materials and services provided to both campus and online students, but perhaps even more importantly inspiring change and enhancing the library over time. Through the course of the study, library staff was able to lay solid groundwork upon which future gains and outreach will be built. By partnering with such a large number of campus communities, the library became a highly sought-after campus community partner and event host. Moreover, the library’s traditional offerings and print collection grew substantially, all of which are now available and marketed towards distance education students. Relatedly, the online collection also grew and survey results revealed distance learners felt more comfortable navigating the collection. Through marketing and outreach, the library is now seen as a resource that not only considers distance learning, but tailors services to the unique needs of this community. Our primary goal – to help distance learners feel like a legitimate and equal part of the greater Full Sail Community – was thus achieved.
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Building an Online Curriculum Based on OERs: The Library’s Role

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Abstract
Open Educational Resources (OERs) are online classroom content that can be reused, modified, and shared freely. The University of Maryland University College (UMUC) undertook a project to redesign its undergraduate curriculum using OERs in place of traditional textbooks. UMUC librarians have played a critical role in this project, helping to find and maintain not only OERs but also library database content to be used as learning materials in the online classroom. This paper describes how UMUC librarians worked on teams with other university departments in a structured process to search for, select, and curate OERs and library resources. We also discuss the issues that inevitably arose in such a complicated undertaking (issues such as copyright, licensing, and accessibility) and how librarians worked with academic department chairs, instructional designers, and others to overcome those hurdles.

Open Educational Resources: An Introduction

The term open educational resource (OER) originated at the 2002 Forum on Open Courseware held by the United Nations Educational, Scientific and Cultural Organization (UNESCO). As defined by UNESCO (2012), OERs are
teaching, learning and research materials in any medium, digital or otherwise, that reside in the public domain or have been released under an open license that permits no-cost access, use, adaptation and redistribution by others with no or limited restrictions.
(United Nations Educational, Scientific and Cultural Organization, p. 2)

Thus, OERs comprise learning objects, recorded lectures, journal articles, textbooks; any educational content shared freely by its author. (As discussed later in this article, Creative Commons licensing plays a big role in distinguishing educational content that is open and shared without cost). It is precisely the free sharing aspect of OERs that Lumen Learning co-founder Dan Wiley (2007) stresses in his “Four Rs of Open Content,” which outline the major ways in which educators may use OERs. OERs are authored works that are licensed in a way permitting educators to:

- Reuse – Use the work verbatim, just exactly as you found it
• Rework – Alter or transform the work so that it better meets your needs
• Remix – Combine the (verbatim or altered) work with other works to better meet your needs
• Redistribute – Share the verbatim work, the reworked work, or the remixed work with others. (Wiley, 2007, “Four Rs” section, para. 2).

Indeed, OERs are good news for librarians in at least two important ways: practically speaking, OERs make educators’ lives easier by giving us the ability to reuse readily available teaching material at no cost, rather than purchasing or creating new materials; and, in terms of social justice, OERs can help level the educational playing field by bringing free content to underserved learners. (However, as Willems & Bossu (2012) argue, not all OERs are equally “open” if one takes into consideration the great differences among learners: differences in access to technology and differences in language and cultural setting all may hamper the usefulness of OERs to learners in, for example, developing countries.)

OERs as Opportunities for Librarians

Allen and Seaman (2014) found that OERs have yet to be widely adopted in higher education and that teaching faculty are not, by and large, aware of OERs. However, most faculty willing to judge the quality of OERs versus traditional materials such as textbooks find OERs to be equal to or better than traditional materials. Furthermore, Allen and Seaman note that an obstacle to the wider adoption of OERs is that faculty perceive OERs as difficult to find and evaluate. Such faculty attitudes present opportunities for librarians to advocate for the use and even the creation of OERs in the curriculum.

One example of OER advocacy and action comes from UMass Amherst, where the University Libraries helped lead an Open Education Initiative. The libraries created an online guide for faculty and students that explains OERs and gathers, in one place, many sources for the discovery of OERs, such as MERLOT and OER Commons (Billings, Hutton, Schafer, Schweik, & Sheridan, 2012). The UMASS OER guide is located at http://guides.library.umass.edu/oer. Furthermore, UMass Amherst libraries helped develop a grant program to incentivize faculty participation in designing courses where OERs replaced traditional textbooks. Sutton and Chadwell (2014) describe a program at Oregon State University in which the University Libraries partnered with Oregon State University Press to publish online, open licensed textbooks authored by the school’s faculty. Thus we see librarians taking a role not only in the discovery and curation of OERs, but in OER creation.

OERs and the Cost of Textbooks

A primary motivation for the OER initiatives at UMass Amherst, Oregon State University, and other campuses is the steep cost to students of traditional textbooks. Billings, Hutton, Schafer, Schweik, and Sheridan (2012) note statistical and anecdotal evidence that students will either not purchase a required textbook for a class because of the textbook’s high price or avoid taking a class altogether because it requires expensive textbooks. Okamoto (2013) provides an overview of the “textbook affordability crisis” (p. 268) and shows how academic
Library has become advocates and practitioners in the OER movement, helping to provide alternatives to traditional textbooks and thereby eliminating the cost of textbooks to students.

In fact, it was to save our students the cost of traditional textbooks that the University of Maryland University College (UMUC) undertook an initiative to replace textbooks with OERs in all undergraduate classes. This paper describes that initiative and the library’s role in helping to design an undergraduate curriculum based on OERs.

**UMUC, OERs, and Textbook Replacement**

A member of the University System of Maryland, UMUC specializes in online adult education. The great majority of UMUC students work full-time, and many of our students are active-duty military personnel, are veterans, or belong to military families. In 2013, the University decided to replace traditional textbooks with OERs, the aim being to redesign the undergraduate curriculum so that, by Fall 2015, all class content would be open--thereby saving students a significant amount of money by eliminating textbook costs.

In planning such an ambitious curricular redesign, UMUC concentrated on open educational content that carries a Creative Commons license. With such a license, items can be permanently embedded in a classroom (for example, as a PDF) and thereby used as core content for a class for an indefinite number of semesters (unlike items used under fair use or TEACH Act guidelines, which need to be reviewed and replaced after a relatively short period of time). Examples of material bearing Creative Commons licenses are the online textbooks at Open Stax College and MIT OpenCourseWare. Thus, items licensed by Creative Commons in large measure fulfill the ideals for open educational content envisioned by UNESCO (2012) and Wiley (2007) (see above). It should be noted, however, that there are a few different types of Creative Commons licenses. For example, some Creative Commons licenses allow an item to be used but not changed in anyway; other licenses do not permit an item to be used for commercial purposes.

**OERs Plus Library Content**

Creative Commons material (and similarly, items in the public domain, such as government publications), were central to UMUC’s plan of redesigning the curriculum to replace traditional textbooks. But as the project began, and UMUC librarians and other team members took up the nitty-gritty work of finding and selecting OERs, it became apparent that, in addition to OERs, course content could also include items from our library databases: links to full-text journal articles, encyclopedia entries, and e-books or e-book chapters could be placed in the online classroom as core learning content alongside OERs. This article describes how UMUC structured the daunting project of redesigning our undergraduate curriculum by replacing traditional textbooks with OERs and library resources; we specifically examine the role that UMUC librarians played in the process, helping to find and curate a set of open content and library resources that would comprise the learning materials for undergraduate classes.
The E-Resources Project Begins

Forming the E-Resources Team and Assigning Roles

For the purposes of UMUC’s textbook-replacement project, an e-resources team was created. This team consisted of three distinct groups: instructional designers, academic program chairs and their subject matter experts (SMEs), and librarians. For each course, an academic program chair would designate one or more SMEs who would be familiar with the current textbook and the concepts it covered.

An instructional designer and a librarian would then meet with the program chair and the SMEs to map the course concepts and topics that were covered by the current textbook. Each course was broken down into weeks, with the corresponding textbook chapters indicated for each week in a shared Google spreadsheet. Broad concepts covered in those chapters would be indicated in a separate column, with more fine-tuned keywords for searching indicated in an adjacent column. The goal was for librarians and instructional designers to be able to use these keywords and concepts to search for suitable library resources and OERs after the initial meeting.

Separate columns were created in each spreadsheet for library resources and OERs. Each Google sheet was shared with all parties in the room so that team members could have simultaneous access and editing capabilities. After the meeting, the librarian would use the keywords outlined in the spreadsheet to search the library’s e-book and journal collections. The searching at this point was fairly straightforward. The library had access to several e-book collections that were licensed for unlimited simultaneous users. The books in these collections were cleared for use in the textbook replacement project, and librarians would provide a persistent URL, or PURL, to relevant texts. Librarians also searched within the full-text journal collections for relevant resources. However, rather than providing links to individual articles (of which there could often be hundreds), the librarians devised targeted search statements for the designated topics and either provided the SMEs with directions for how to run the search, or, whenever possible, provided a PURL to the search results. The SMEs would then be able to browse and evaluate the search results, rather than the librarians trying to evaluate useful resources at the article level. The instructional designer would similarly use the keywords to search for Creative Commons-licensed or public domain materials on the open Web.

Once both parties had completed their searching, the program chair and SMEs were notified and could then evaluate the materials for possible inclusion in the redesigned course. After SMEs selected the materials from the spreadsheet, the instructional design team worked to add the materials to the course, either through links or embedding. The instructional design team also checked for copyright compliance and for potential accessibility issues.

Revising the Librarians’ Roles

When the project started, the participants realized the need for flexibility and to anticipate an evolving process. After the first round of courses was mapped and searched, it became clear
that the process needed to be refined to use the instructional design and library teams in a more effective manner.

Librarians were being pulled from regular reference duties to attend the initial OER meetings, which often spanned several hours and could involve significant discussion of assignment and curriculum redesign between the program chairs and SMEs. Instructional designers were getting bogged down with all the OER searching when their talents were needed in getting the selected resources into the classrooms. Therefore, a new division of duties was necessary. In most cases, librarians stopped attending the initial meetings in which concepts and keywords were mapped to the current textbook, and instead received access to the spreadsheets after the meetings took place. Instead of just searching the library resources, librarians would now be responsible for doing all of the searching for the courses – both within library databases and on the open Web. This new division of duties took advantage of our librarians’ research skills and freed the instructional designers to concentrate on adapting and embedding resources in the online classrooms.

The reassigned responsibilities led to their own set of challenges. Although librarians gained more searching time by not attending the initial meetings, their searching responsibilities had effectively doubled. Also, while it was clear which library resources could be used for the project, there was an entirely new set of resources to search on the open Web. Luckily, this challenge was largely resolved by an internal OER Research Tool created by the instructional designers. The tool identified major OER repositories, open textbook collections, and free courseware and identified the copyright status of each. This copyright explanation made it clear which collections would be acceptable for use in the textbook-replacement project, thereby providing librarians with guidelines for where to start their Web searching. New resources could be added to the tool if librarians discovered them during the course of their searches.

The searching could also be complicated by the librarians missing out on the initial meetings in which concepts and keywords were chosen. Some librarians received spreadsheets with overly broad concepts, such as “globalization,” which were far too general to be able to be searched effectively. Much of the context for the terms was lost when librarians missed the meetings, so some follow-up with SMEs and program chairs was necessary. In other cases, librarians received spreadsheets with hundreds of keywords and the ongoing searching of each and every term proved unsustainable in the librarians’ workflows. For courses such as these, librarians had to question when they had searched enough, as exhaustive searching could take days or even weeks and librarians were often assigned to search several courses at once. It was decided that librarians should devote no more than eight hours to initially searching a single course, and at that point send the course on for review by the SMEs. If the SMEs decided that more searching needed to be done, the course could be sent back to librarians for additional searching. In the meantime, librarians would be free to continue working on additional searching assignments, not getting stuck on one overly detailed course spreadsheet.
Adapting to Unexpected Problems

Due to the complexity, number of people and departments involved, and tight timeframe of the project, we anticipated that it would be inevitable that some problems would find their way into the online classrooms. It was discovered that some of the persistent links pointing to library materials were not always getting carried over properly to the classroom implementation because of the exacting nature of the URL syntax required. The library’s Systems Librarian devised a set of directions for how to find the PURL in each database used for the e-resources project, which was shared with instructional designers and faculty. These directions showed how to create PURLs for any library resources faculty decided to use, hopefully reducing the number of broken links to library e-books and journal articles.

Another issue that arose related to library resources was single-user e-books being used in classrooms. One of the library’s e-book collections contained e-books that were only licensed for one user at a time, as well as e-books that were licensed for unlimited simultaneous users. Because of the difficulty in determining the difference, some single-user titles were inadvertently added to courses. To help resolve this, librarians worked with the instructional design team to create a procedure to verify the single-user/multi-user information for each e-book, allowing instructional designers to vet these titles themselves before they made their way into the classroom.

Some of the problems were unique to the Web resources. In certain classes, links had been provided to material on the Internet. Yet partway through the course, the page would disappear or be taken down, leaving the course without a resource. In most cases, these disappearing resources were not true OERs, but rather material available on the Web. These cases further reinforced the preference for embeddable OERs for textbook replacement, because these materials could be added directly into the classroom itself, mitigating the disappearance issue.

A final issue that arose was one of access. With all of the course materials going online, some students expressed a preference for being able to download the materials for printing or reading offline--and not all of the library collections permitted downloading or offline access. Other students, predominantly military students stationed overseas, had spotty Internet access and could not always guarantee a stable Internet connection for the time it would take to complete all reading assignments for each week. These unforeseen challenges were addressed by adjusting the search parameters for librarians to only downloadable or embeddable materials for future courses. Any courses that were currently anchored by an e-book that was not downloadable or accessible offline would be re-searched and the problematic resources replaced.

Handling Courses without Sufficient E-Resources

As the first round of courses ran with their new e-resources, librarians continued searching for the next wave of courses. As the searching process continued, it became clear that there would not be adequate library resources or OERs for every course. For some courses, like
modern literature, it was a matter of copyright – recent works of literature are still under copyright and free e-copies could not be legally obtained. For other upper-level undergraduate courses, their specialized content was not well-served by the current OERs available. A process had to be designed to accommodate these situations. Waivers were created for courses that did not have adequate e-resources available. Librarians who searched these courses signed off on the waivers, attesting that they had searched all available resources and could not find adequate materials. After program chairs and SMEs signed off on the waivers, these courses were allowed to continue with their current course materials, such as traditional print textbooks.

**E-Resources Maintenance**

In Spring 2015, the librarians finished the final round of e-resources searching for undergraduate courses. As of Fall 2015, all undergraduate courses without a waiver will be running with resources that are completely free to the student – either library materials or OERs. Yet the project is far from over.

**Reporting Unusable Resources**

Although the e-resources team has continually streamlined and improved the process for adding library and OER resources to the classroom, problems do still occur. As a public-facing department, the library is often the first to hear from students when resources in their classrooms are not working correctly. The UMUC Library therefore instituted a process for reliably reporting these issues when they arise in reference transactions with students.

When students report an e-resources problem, the librarian on duty can visit the online classroom to inspect the problematic resource. If the problem is simply an incorrectly formatted PURL, a new one is created and sent to the program director for that subject area. The program director can then replace the classroom’s broken link with the librarian-supplied PURL.

In other cases, the resource in question cannot be fixed quite so quickly. If the librarian visits the online classroom and identifies something outside of the scope of the e-resources program – a single-user e-book, a subscription resource to which the library does not subscribe, or copyrighted material used improperly in the online classroom – then the problem is turned over to the library liaison to the academic department in question. The liaison contacts the program director to explain why that resource cannot be used and offers alternative solutions, including the librarian searching for possible replacement resources. This reporting process allows librarians to work with academic program directors and subject areas with which they are already familiar – key time-saving measures in the race to replace broken links or unusable materials.

The process has also had the happy consequence of fostering stronger relationships and further collaboration between library liaisons and program chairs. Often, program chairs will proactively approach their library liaison with e-resources questions and problems before the course goes live. This allows librarians and program chairs to work together to resolve these issues before students ever see the course.
Reevaluating E-Resources

The ongoing maintenance of the e-resources program also includes revisiting the materials in previously-searched courses to ensure that they are still meeting the needs of the curriculum. As the popularity of OERs grows, more OERs will become available on a wider range of subjects. Some of the courses that originally had to run with waivers may be able to transition to e-resources as more open education content is created and made available. It is therefore crucial that the e-resources team continues to monitor our courses and search for OER material to keep the courses up-to-date with the most relevant resources. The instructional designers will be creating a schedule for revisiting and reevaluating undergraduate courses to check that their e-resources are the best fit for their curriculum. This process will involve updating out-of-date materials, as well as searching for better and more accessible resources as they continue to become available. The extent of the library’s role in the updating of e-resources in the classroom is not yet clear, but this newest phase in the project will likely continue to utilize UMUC librarians’ searching skills in the identification of OER content appropriate for the undergraduate curriculum.

Lessons Learned

The experience of searching for and implementing e-resources in the online classroom at UMUC can impart several lessons to librarians just beginning or in the midst of their own OER-related projects.

Textbook Replacement Projects are not Limited to OERS

This advice highlights the notion that, if the goal is to replace costly print textbooks with free resources for students, library materials can be just as effective as OERs. Although library subscription resources are, by their very nature, not “open,” they are free to your students and thus may be used as textbook substitutes. In fact, it was discovered that in certain subject areas, such as business and technology, the library’s e-book collections were the best resources for timely and relevant course materials. Other disciplines, such as history, were well-served by full-text journal articles provided through the library’s subscription databases.

Emphasize Downloadable or Embeddable Materials

All open materials are not created equal. Depending on their license, some resources allow the content to be adapted and re-used, while others can be more restrictive. Throughout the course of the project, a distinct preference emerged for OERs that could be embedded in the online classroom. These embeddable resources ensured that the content would be stable and accessible, and not disappear from the Web part-way through a semester.

In a similar vein, accessibility issues in the project emphasized the need for library materials that could be downloaded for offline access. Each e-book vendor sets different permissions for downloading, printing, and offline reading, so it is important to weigh these factors carefully when determining which collections can be used for textbook replacements. Although it may seem counterintuitive to privilege materials that can be read without an Internet
connection for distance learners taking online courses, many students rely on their commutes and other times without Internet access to complete their course readings.

**Stress Copyright and Licensing Restrictions**

Although this project emphasized Creative Commons-licensed materials and subscription library resources, it still faced issues of copyright and licensing, usually when librarians or instructional designers had to explain to a program chair or SME why a certain resource could not be used. The issue of Google Books arose several times, with attempts to link to copyrighted books. Librarians had to repeatedly stress that Google Books could only be used for public domain texts and would not provide a complete, readable text for books still covered by copyright.

There were also some attempts to include PDFs of subscription journal articles directly within the online classroom. Librarians had to explain to program chairs and SMEs that, due to vendor licensing restrictions, only links to these articles could be placed in the classroom, not the articles themselves. Stressing the importance of copyright and licensing restrictions and monitoring for improperly-included materials will help to avoid liability for textbook replacement projects.

**Emphasize the Importance of PURLs**

While most librarians may be familiar with the idea of a persistent link, this project made it clear that many e-resources team members outside the library were not. These team members did not immediately understand that, without a properly formatted link, students would not be able to access library materials. To complicate matters more, each library database had a slightly different method for generating a PURL and referred to it by different terms, such as a permalink or a bookmark. Although librarians are familiar with navigating the different interfaces presented in each vendor’s databases, the process proved confusing to some members of the e-resources team, who simply tried to copy and paste the URL from the browser’s address bar.

In order to help minimize the understandable confusion generated by the complexity of PURLs, librarians created a document more clearly explaining the process to instructional designers, SMEs, and program chairs. Even with the documentation, librarians did generate replacement PURLs, suggesting that for the future a training session for the team members on the detailed nuances of PURLs may be a better solution to guarantee greater accuracy.

**Looking to the Future**

We hope that the lessons learned in the undergraduate e-resources project not only prove instructive for others attempting textbook replacement projects, but also for the next phase of UMUC’s own project. Beginning in Fall 2015, the graduate school will begin its own curricular redesign initiative, gathering OERs and library resources to replace textbooks. The continued revision of roles and expectations that occurred throughout the undergraduate project should ease the way for a more streamlined search and implementation process for the graduate school. In addition, as the OER movement grows in higher education, we look forward to a wider selection
of content from which to choose, including open-access online textbooks and other material suitable for various levels of the curriculum across an array of academic disciplines.
References


Collecting and Applying Usability Data from Distance Learners

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Abstract
Growth of their college’s off-campus and online course offerings led librarians at State University of New York (SUNY) Oswego to run usability tests with off-campus students to compensate for a lack of responses from this population during earlier usability testing. Constraints on testing with off-campus students included lack of funding and librarian time, as well as difficulty in attracting student participation. A brief usability study that could be completed by students in the first 10 minutes of class was devised, consisting of a first click test, a survey question, and a top task analysis activity. The study was conducted with 22 students from a satellite-campus Master’s in Education program. Discussion includes selecting appropriate tests, analysis of study results, and application of data for improving website design and information literacy instruction in an academic library.

Introduction

Many libraries recognize the need to conduct usability testing of online tools and services with their users. Penfield Library at State University of New York (SUNY) Oswego jumped on the usability-testing bandwagon about two years ago, running numerous surveys and studies on both graduate students and undergraduates, from a variety of majors (Mitchell, West, & Johns-Masten, 2015). One limitation to those studies was always the lack of participation from off-campus students. Despite the fact that several of the usability tests were available for completion entirely online and were linked prominently from the library homepage, only five out of approximately 170 student responses were collected that way. That means that at most five off-campus students participated in the study, and possibly none did; the study did not ask participants to self-identify as on- or off-campus students, nor did it collect IP addresses.

SUNY Oswego is currently undergoing considerable growth outside of its main campus. It added more than 40 new online classes last year, and made official its first branch campus. SUNY Oswego also became part of Open SUNY, a system-wide initiative that is putting an emphasis on improving the quality of online education and one that hopes to increase student enrollment across the SUNY system (State University of New York (SUNY), 2015). This emphasis on online and off-campus learning is making the librarians have conversations about how the library can better serve the growing number of distance learners.
This trend makes the disenfranchisement of off-campus students particularly worrisome, especially given the number of ways usability data impacts the services and tools provided to students. One of Penfield Library’s goals with usability testing has always been to leverage the collected data in as many ways as possible, turning usability testing into a true collaboration between disparate units of the library. Data collected from usability testing influence everything from website design to instruction strategies. Thus, it is crucial to represent the actual SUNY Oswego student body as accurately as possible when conducting these studies. Distance learning is a priority for SUNY Oswego; therefore distance learners need to be a priority for Penfield Library. There is a definite need to learn about how distance learners use Penfield Library so that we can better meet their needs.

Review of Literature

Since the 2000s, librarians have been experimenting with different ways to provide library services to students who take courses off campus or online. It is during this period that the Association of College and Research Libraries (ACRL) developed the Standards for Distance Learning Library Services (2008), which provide guidelines for how academic libraries can support distance learners with services equivalent to those available to their on-campus peers. The need to improve distance library services continues to be of importance as a report by Online Computer Library Center (OCLC) indicates that while online learners find the library valuable for helping them reach their learning goals, the learners’ perceptions inhibit library use (De Rosa et al., 2014).

There has been a substantial amount of literature written about librarian attempts to assess distance learners and library services from a variety of perspectives. These assessments have largely been dependent on the use of surveys. Tang and Tseng (2014) used a survey instrument to understand students’ help seeking behaviors. They discovered that one third of the respondents had never used the library and that the students who lived farther from campus were less likely to utilize library services. Alewine (2012) assessed distance learner satisfaction with the University of North Carolina at Pembroke’s library services. The librarians developed a transactional survey that was given to distance students who utilized reference services. Collecting data each year has helped the librarians determine what services were helpful and how to improve upon the negatively reviewed services. These surveys have helped the librarians at each respective institution gain insight, but these studies failed to capture how distance students interact with the library’s website.

One way to understand student information seeking behavior is to conduct usability studies. These studies are often associated with analyzing how students interact with the library website. Valentine and Nolan (2002) were some of the first librarians to report on conducting usability studies on webpages, which often serve as starting points for student research. The researchers used the gathered data to standardize webpages for consistency, enhance navigation, and clarify language. Graves and Ruppels (2007) expand on the benefits of usability testing by discussing how the data are also for instruction librarians. They highlight that instruction librarians may use the data to determine new instructional strategies to better meet student needs as well as developing new instructional tools to assist with the process. Given the applicability
of usability testing on library services beyond the website, Godfrey (2015) argues the need for a culture of usability in libraries by developing usability teams to oversee usability testing within libraries. The importance of creating a usability culture has been echoed by Mitchell, West, and Johns-Masten (2015) who discussed the necessity of getting librarian buy-in for usability testing in order to move the library culture towards being data informed and student centered.

While the literature presents many good ideas regarding ways to assess distance learners and learn more about student information seeking, there seems to be sparse literature on the topic of conducting usability studies with distance learners. We were interested in what we could find out about SUNY Oswego’s distance learners by applying both usability testing and survey methods. The findings from this investigation would allow us to compare or contrast with findings from former studies conducted with on-campus students.

There are many different types of usability tests and user studies that can provide data about how users perceive and interact with a website. One place to learn about such tests is usability.gov. This freely available website includes many useful resources for usability novices, suggesting possible tests and introducing how to run those tests. It is crucial to match the usability tests run with one’s information needs; different tests have different strengths and weaknesses, and are appropriate for answering different questions.

The Nielsen Norman Group breaks down these information needs, and their accompanying usability tests, along three dimensions: attitudes vs. behaviors, qualitative/direct vs. quantitative/indirect, and context of use (Rohrer, 2014). Surveys provide indirect data about attitudes, while usability lab studies provide direct data about actual behaviors (Rohrer, 2014). While direct data about actual behaviors is very desirable, the tests required to collect it can be more difficult to run with off-campus students when the library has limited time and budget.

**Methods**

For Penfield’s first usability test on distance learners, we decided that we wanted to answer three questions:

1. What’s a big picture view of what off-campus students use the library for?
2. How well would these students cope if they were asked to do library research without their current class(es) including instruction on using the library?
3. What confuses these students about the library?

Answering these questions would help us design a better online experience for distance learners when they visit the library website and/or use the library’s electronic resources, as well as telling us what areas to focus instruction on and helping reference librarians better understand patrons’ needs.

Constraints limiting the collection of usability data from off-campus students include costs, student attention, and librarian time. Penfield Library has a very limited budget to spend
on rewards for usability-test participants; for half-hour usability sessions we usually offer a five-dollar gift certificate for the cafe located in the library building, and for shorter sessions we rely on walking up to potential participants in the nearby campus food court and convincing them to participate for free. Neither of these approaches is likely to work with an off-campus student. Combine that with the difficulty of attracting student attention and clicks on the website for news items about usability testing, and the similar difficulty of trying to catch off-campus students outside of class in a satellite or branch campus, and you have the potential for librarians to spend a great deal of time working to collect a very few results.

Because of those constraints, we decided that the easiest path forward would be to conduct our usability studies during class time. Penfield Library’s Instructional Design Librarian had two class sessions lined up at SUNY Oswego’s Phoenix Center that would provide an excellent opportunity to administer our usability tests to a captive audience of off-campus students.

However, this presented additional difficulties: In order to be included in a one-shot instruction session, usability tasks must be quick to complete and easy to administer to a room full of students simultaneously. Because we couldn’t guarantee that every student would have a device with them at the class session, this meant that our usability tests had to be completed on paper.

All of these constraints meant that gathering direct data on students’ behaviors would be challenging, and would face many limitations. For instance, the population studied in this test was small and homogenous: 22 students from two Master’s in Education classes. These were all students in a degree that could be earned in person at a satellite campus of SUNY Oswego, so it is possible that these students’ needs differ from the needs of students taking classes entirely online, or students in another program. The librarians’ time constraints also led to limitations on the study: a better setup of the top task analysis question may have yielded more useful results, and if we’d had more time to spend with students, we could have done more tests that focused on student behaviors rather than student attitudes and opinions.

However, despite all the constraints and limitations, we knew it would be possible to collect at least some information about user behaviors – and any information is better than no information at all! In addition, data about student attitudes are very useful to augment data about behaviors. Therefore, we ultimately decided to use three kinds of test in our usability study:

First Click Testing

Existing research has shown that users’ success with a web-based task can be predicted based on whether or not their first click takes them in the right direction. Users who click in the right direction to begin with have almost a 90% chance of ultimate success on their task, but users who click in the wrong direction are only about half as likely to succeed in the end (U.S. Department of Health and Human Services, 2015). Thus the premise of first click testing: give users a task to complete on the website, but only have them go as far as the first thing they would click on.
This test focuses on actual user behaviors, and is particularly useful since it is very quick to conduct, allowing time to test more tasks and/or more users – or allowing the usability test to be conducted in a classroom setting without cutting too much into class time. Another benefit of this format of usability testing is that it can be conducted on paper, which makes it ideal for testing user behaviors even when you have to test in locations where users might not have access to a device or an internet connection. Simply print out a screenshot of the page you want to test, give your users a task to complete, and tell them to mark the paper where they would click to get to work on that task.

In our study with distance learners, we wanted to know how well students would fare if they were asked to do library research without receiving any training from the professor who assigned the research. We assumed that such students would begin on our homepage, since the library homepage is the top result when users search Google for our library by name, in addition to being the library page that is linked on every college webpage. Therefore, we printed out a screenshot of our homepage and asked students, “You are writing a research paper for class and need to locate 5 to 7 scholarly or peer-reviewed source [sic]. Where on the library website would you get started? Circle where you would click.”

Once we had collected our data, we counted up how many clicks the various links and components of our homepage got. Then it was simply a matter of analyzing whether those clicks would take users down a path that would lead to successful completion of the task.

Survey

Surveys are a very popular tool with librarians, because of how easy they are to set up and run either electronically or on paper. They are also very easy to include in studies where time spent with subjects is a limitation, since students are already familiar with how a traditional survey works. Although surveys cannot test actual student behaviors, they can tell us a great deal about student attitudes, beliefs and opinions – information that is very useful for trying to understand why users behave the way they do.

We asked students a single question: “What do you find confusing about the library or its website?” Student attitudes on this subject are very important if we are to create the best library experience possible for our users. In addition, student answers about what is confusing are very interesting when viewed in conjunction with data about how they would act, as collected in first click testing.

After we collected participants’ responses, we grouped those responses into categories that emerged from what we were seeing: “Nothing”, “Unsure/Haven’t Used the Website”, “Searching For Resources”, and “Other”.

Top Task Analysis

A top task analysis is a special type of survey question in which participants are given a list of tasks, and asked to rank the top N most important tasks that they want to be able to complete on the website being tested. This makes it possible to quickly find out what actually
matters to users, instead of making assumptions about what they want and need (McGovern, 2013).

In our study with distance learners, we wanted to get a big-picture idea of what students use the library for. We wrote down a list of possible library-website tasks, and then asked participants to rank the five that are most important to them. Once we had collected our data, we assigned a heavier weight to things that participants had rated as more important. Our weighting system was simple: a ranking of 1 (most important) was worth five points; a 2 (second most important) was worth four points, a 3 was worth three points, and so on. Once that was done, all we had to do was add up the weighted rankings and look for the highest scores. To allow us to differentiate between tasks that had received a few highly weighted rankings and tasks that had received lower rankings but more of them, we also created a table (Table 1) showing each task and visualizing how many of each ranking it had received.

Results and Analysis

Twenty-two graduate students in a branch-campus master’s degree program participated in this study. All of the students were specializing in Education. Responses were collected on paper during the first ten minutes of class. Although 22 responses do not constitute a statistically significant sampling of the student body, the data collected from this study still highlight common attitudes and behaviors, allowing librarians to make better-informed decisions than would be possible without undertaking such a study.

First Click Test

When asked to circle what they would click in order to locate five to seven scholarly sources, some students circled more than one thing. Eight of 22 students circled the EBSCO Discovery Search box on the library’s homepage; two circled the EDS search box plus all the other search-related links (catalog, databases, etc.) that are part of the same grouping as EDS on the library homepage. One student circled “Search for Resources,” a link which would lead them to EDS in a new tab. Seven other “clicks” (by six students) took students down paths approved by librarians for graduate students: research guides, the library’s list of databases, and the link to look up specific journal titles. One student immediately clicked to ask a librarian for help, four students failed to answer the question (no marks were found on their responses), and one student opted to click on Reference Resources (see Figure 1).

Although these answers do show more of a reliance on EDS than Oswego librarians would hope for in graduate students, this is important information for librarians to be aware of. Students who search EDS for education topics will likely come up with results that are considerably better than nothing. Furthermore, six other students “clicked” on links that would lead them to either the databases or to a journal lookup. Both of those methods are librarian approved for graduate students.
## Table 1

*Top Task Analysis Results*

<table>
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<th>Priorities at which students ranked tasks</th>
<th>1</th>
<th>2</th>
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<th>4</th>
<th>5</th>
<th>checks</th>
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</tr>
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<tbody>
<tr>
<td>Locate journal articles</td>
<td>9</td>
<td>6</td>
<td>2</td>
<td>1</td>
<td>--</td>
<td>1</td>
<td>78</td>
</tr>
<tr>
<td>Locate book titles</td>
<td>5</td>
<td>2</td>
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<td>2</td>
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<td>2</td>
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<tr>
<td>Search for specific journals</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>4</td>
<td>1</td>
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<td>33</td>
</tr>
<tr>
<td>Access research guides for database recommendations</td>
<td>1</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>27</td>
</tr>
<tr>
<td>Identify the library’s hours of operation</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>3</td>
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<td>19</td>
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<tr>
<td>Use the search box on the library homepage</td>
<td>1</td>
<td>1</td>
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<td>2</td>
<td>2</td>
<td>2</td>
<td>17</td>
</tr>
<tr>
<td>Renew books or other library materials</td>
<td>1</td>
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<td>1</td>
<td>3</td>
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<td>--</td>
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<tr>
<td>Find help with citing sources</td>
<td>--</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>16</td>
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<tr>
<td>Use Interlibrary Loan</td>
<td>--</td>
<td>--</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>--</td>
<td>13</td>
</tr>
<tr>
<td>Off-campus book delivery options</td>
<td>--</td>
<td>2</td>
<td>1</td>
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<td>1</td>
<td>--</td>
<td>12</td>
</tr>
<tr>
<td>Get help from a librarian</td>
<td>--</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>--</td>
<td>11</td>
</tr>
<tr>
<td>Locate encyclopedias, dictionaries, guidebooks, etc.</td>
<td>--</td>
<td>--</td>
<td>3</td>
<td>--</td>
<td>1</td>
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<td>10</td>
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<tr>
<td>Access Reserves</td>
<td>--</td>
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<td>1</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>See which technology is available for use and checkout in the library</td>
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<td>1</td>
<td>--</td>
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<td>3</td>
</tr>
<tr>
<td>Pay library fines</td>
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<td>1</td>
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<td>1</td>
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<tr>
<td>Access library research tutorials</td>
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<td>1</td>
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<td>1</td>
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<tr>
<td>View library social media</td>
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</table>
Figure 1. What students would click on to locate peer-reviewed sources. This figure illustrates what students reported that they would click on the library homepage if they needed to locate five to seven scholarly or peer-reviewed sources for an assignment.

Perhaps more interesting are the “failed” first click tests – the four where participants did not circle anything, and the one where the user selected “Reference Resources” despite having been asked to locate scholarly or peer-reviewed sources. Two of the four students who failed to circle anything on their sheets noted in answer to the survey question that they either had not used the library website before, or “[hadn’t] used it enough to be confused by anything yet.” The other two who failed to circle anything both claimed that nothing about the library website confused them, although one noted that he/she had a problem once and had to chat with a librarian to clear it up. Combine those with the student who believed he/she would find scholarly sources through the Reference Resources link, and noted that “The links for finding things are a bit confusing,” and we have a strong reminder that even if most students are able to navigate the library website with at least some degree of success, there are still a large proportion of students who are lost when asked to locate scholarly sources.

Survey

When asked what they found confusing about the library website, the most common answer (eight participants) was some variation on “Nothing.” Comparing that answer with
students’ responses to the first click test, however, shows just how important it is not to believe students when they claim to understand how to use the library to find scholarly sources. Of the eight students who claimed not to be at all confused, one indicated that they would go straight to Ask a Librarian if told to locate scholarly sources for a project. Two did not, or were not able to, answer where they would click to locate scholarly sources. Two others circled the EDS search box, and only three of these supposedly unconfused graduate students indicated that they would use either research guides, subject databases, or a journal search to locate the sources they needed.

The second most common answer about what confused students on the library or its website was some variation on “I’ve never used it before”; six students responded thus to the question. Of those six, two students showed signs of understanding graduate-level research on the first click test, and would have gone to the library databases or to a journal search to locate their scholarly sources. Two others would have searched EDS, and the final two did not or were not able to give a response as to where they would click to locate scholarly sources. This variation in first click test responses from users unfamiliar with the library seems to indicate that, at least for this group of users, most novice library users would locate some scholarly resources (even if not the ones librarians might hope graduate students would locate). However, a substantial proportion of students are likely to be unsure how to proceed.

Four students reported that what confused them about the library or its website was how to run a search that gets a reasonable number of results – neither too few nor too many. One noted that “The links for finding things are a bit confusing,” one said they had previously been unaware that there were tutorials available, one noted that off-campus book delivery options were confusing and seemed geared toward professors, and one thought the headings on the library homepage could be “more specific.”

**Top Task Analysis**

The results when students were asked to rank their top five most important tasks for which they use the library are shown in Table 1. Finding articles was by far the task they reported most using the library website for, but locating books, specific journals, and database recommendations also came out well ahead of the rest of the pack. (Note that two participants marked their top five tasks with check marks, but did not prioritize them. In those cases, we counted each check mark as having a weight of one.)

**Discussion**

**Website**

Penfield Library’s goals for its website include the fact that students should be able to:

1. Conduct the research necessary for their growth as scholars.

2. Get help or guidance on their research.
3. Find out about and access relevant library services, policies, and resources.

Usability tests such as the one discussed in this paper allow the library’s Web Team to assess how well the website is meeting those goals. When issues crop up repeatedly in a usability test, or appear in the results of usability tests run semester after semester, the Web Team knows to pay attention to that part or feature of the website. Then librarians can get to work devising a solution.

Usability test results also ensure that website changes are not made solely to appease a vociferous minority of librarians who have strong opinions of what a library website should look like. Whenever anyone makes a suggestion about the website, data from past usability tests can be examined, and/or new usability tests can be run, to determine whether the suggestion is one that would benefit SUNY Oswego’s students and faculty. Instead of opinion-based brawls over adding or removing content on the website, the Web Team can have reasoned discussions about data-determined pros and cons of different courses of action.

Results from the usability test discussed in this paper fit in closely with results of other usability studies conducted with on-campus SUNY Oswego students, showing that students primarily go to the library website to conduct searches. This provides a clear mandate to the library Web Team that the library’s discovery system and links to various other search resources – databases, the catalog, etc. – need to be front and center on the homepage. However, student confusion about where to click or which resources are appropriate to graduate-level research indicate that the Web Team may want to consider different labels, or possibly instructional material, for the homepage. This, in turn, could tie in with the student comment that they didn’t know there were tutorials. If the library decides that tutorials are something students really ought to know about, a means of incorporating them or their content into the most visible part of our web presence can be investigated.

Whatever the library decides to do with applying this data to the website, those changes, too, will be tested – creating more data to allow the library to see and learn from its mistakes, and keep going with a cycle of continuous improvement for the library website.

Instruction

The data from the usability test and survey have provided librarians with new insights to inform information literacy instruction. One of the challenges library instructors face is knowing exactly what to teach students. This can be partially alleviated by discussions with faculty members and by mapping library skills to courses in a given major. At SUNY Oswego, providing appropriate instruction and services to distance learners presents on-going challenges, since the students may never step foot in the physical library. While the library has made progress toward providing a stronger library presence for these distance learners, the fact remains that we generally have minimal knowledge regarding their experience and abilities to do research.

When looking at the usability data through this lens, the data begin to show gaps in student information literacy competencies. The first click testing with graduate students revealed
that several graduate level students would select the discovery search tool to conduct research for their paper. This differed from the librarians’ perception that this level of student would likely visit the appropriate research guide. While the first click test is not a holistic view into each students’ research habits, it still helped inform lesson planning; lesson plans are being revised to incorporate a review of where to find subject related resources. Any time librarians are able to test their assumptions, it can help lead to better instructional experiences for the students.

Information gleaned from the usability test’s top level analysis also has proven useful in helping librarians tailor instruction to distance learners, as well as our on-campus students. This analysis has identified some key activities for which the students use the website, including finding journal articles, locating book titles, and searching for specific journals. This information has piqued the instruction librarians’ attention and they have started to refocus their instructional objectives by spending more time on fewer topics in the classroom. For example, focusing on the minutia of navigating advanced databases is being considered less important than making sure students can access journal titles they need to use for class. Additionally, the instruction librarians are beginning to have more conversations about what they would like to know about students and have started making suggestions for usability tests on other resources, such as an information literacy tutorial that is undergoing revision. These conversations are the result of gathering data about the students. It is our hope that this trend of data-informed decision making grows into common practice at SUNY Oswego.

Conclusion

Distance education programs continue to grow across higher education, as exemplified by SUNY Oswego. Distance learners need library support just as much as their on-campus peers, so it is essential that librarians pay equal attention to distance learners’ needs. The impetus for the study discussed in this paper was to gain insights about SUNY Oswego’s distance learners and their library use, since that data had been missing from previous usability studies conducted at SUNY Oswego’s Penfield Library. Through our usability test and survey, we were able to accomplish this task in a manageable and cost effective way. Despite our study’s limitations, we were able to gather valuable data about how off-campus students use the library. This study has served as an initial step in addressing a deficit in our library. Learning about these students has proven to be beneficial for a number of reasons, including creating a dialogue about distance learner needs, sparking conversations about the information literacy needs of these students, and reinforcing important lessons about how students use the library website. Collecting usability data is proving to be an effective way to focus librarian perspectives on the students.
References


Finding the Balance in Online Library Instruction: Sustainable and Personal

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University of Central Florida

Abstract
The UCF Libraries are continually developing new forms of library instruction to meet the needs of a growing student body with the same number of librarians. These efforts attempt to find the balance between impersonal online tutorials and time-intensive embedded librarianship. The pros and cons of each model employed at our growing university are discussed, along with strategies to identify and implement sustainable library instruction in an academic library.

The University of Central Florida (UCF) is the second largest public university in the United States, with a student population of approximately 63,000. The UCF Libraries system encompasses a main library, two branch libraries, and ten regional campus partner libraries. In addition to the challenge of reaching so many students with a limited instruction staff, UCF librarians also have to meet the needs of a growing online population. According to the Center for Distributed Learning, approximately one third of UCF’s student credit hours are generated by fully online and mixed-mode classes.

In recent years, UCF librarians have come to realize that some forms of library instruction are not sustainable or scalable. The efforts that are sustainable and large-scale sometimes lack the personal touch of a librarian. It is a struggle to find the balance between these two, and deliver instruction that is sustainable yet personal. While there may be no perfect solution, librarians are making strides in recognizing effective sustainable instruction, and how the personal can be embedded into online instruction opportunities.

The UCF Libraries started providing embedded librarian services to faculty and students in 2001. The program has evolved over time to meet the needs of our user population, adapt to emerging technologies, and become more sustainable. The initial embedded librarian program began at the Eastern Florida State College (formerly Brevard Community College) Regional Campus in Cocoa, FL as a joint effort between three faculty librarians and one academic faculty member. The first online library research module was incorporated in the Spring 2002 term. The librarians gathered feedback from faculty, Course Development and Web Services (CDWS) Instructional Designers, and students as they revised the initial program.

Since the beginning of the embedded librarianship program at UCF, librarians have been embedded in 764 sections of 120 unique courses and reached 24,560 students. In these embedded efforts, librarians take on a variety of roles, from observing discussion boards to posting full, graded assignments. Each academic year has seen an increase in the number of
courses with embedded librarians. In 2002, librarians were embedded in 4 courses and reached 124 students. In 2014, librarians were embedded in 117 courses, and reached 3,840 students. With the rapid growth of the program in recent years, it became clear that this model of a librarian embedded in individual classes was time consuming, did not reach a majority of students, and was not a sustainable model.

**What is Sustainable Instruction, Why is it Important?**

Sustainable instruction is a catch-all phrase that encompasses instructional efforts that are scalable and maintainable without excessive librarian input. Examples of sustainable instruction projects include reusable learning objects that can be combined to create customized packages of instruction, train the trainer approaches or using teaching assistants or students as instructors, online tutorials, and streaming video collections that can be packaged and used independently or as part of a flipped-classroom approach.

As Bracke and Dickstein (2002) point out, “at a time of budget constraints, libraries are seeking ways of continuing and expanding high quality services without additional staff, and sometimes with fewer staff” (p. 330). Even barring budget instability, the ratio of librarians to students at most institutions would make it impossible for librarians to teach a standard one-shot instruction session to each course section every semester, or to be embedded in each online course. Online learning is a major component of any modern, sustainable library instruction program. Many face-to-face classes have an online component, and students are often comfortable navigating various online tools. Therefore, libraries have to be strategic about how they use their time in order to make the biggest impact on students.

Meredith and Mussell (2014) claim that “providing individual research support to distance-education students is more time consuming than supporting students in person,” which leads to further time constraints; when a student survey showed that students wanted longer periods of engagement with their embedded librarian, the authors acknowledged the “workload implications of remaining embedded” for longer periods of time (Meredith & Mussell, 2014, p. 103). Courtney and Wilhoite-Mathews (2015) provide a comprehensive overview of distance education, pedagogy, and online environments within academic libraries. Nelson, Morrison, & Whitson (2015) detail their project to create a sustainable model at MacEwan University. The authors provide a thorough review of online and blended library instruction in academic libraries.

Sustainable instruction projects aim to reach large numbers of students without requiring ever-increasing librarian time for personal interaction. Borrelli, Johnson, and Cummings (2009) detail the development of Washington State University’s Information Literacy Education project partly in response to the “scalability issue” so common in academic libraries, “namely too few librarians to provide meaningful instruction to large student populations” (p. 129). At the University of Arizona, librarians were tasked with “providing instruction for large general education classes in a scalable, cost-effective manner” and thus developed an instruction program that included a web tutorial plus an in-class exercise and feedback from a librarian (Bracke & Dickstein, 2002, p. 330).
Much of the literature on sustainable library instruction is comprised of case studies. Many definitions of sustainability are presented, and as many means of developing sustainable instruction are posited. A number of articles focus on web-based tutorials and learning objects, with some more innovative approaches including the ANTS Project which fosters interinstitutional collaboration to reduce stress on librarians at any one library (Kazakoff-Lane, 2010), and an effort at the University of Colorado at Boulder which uses Zotero as a tool for embedding and assessment (Kuglitsch, 2015). Palmer and Ford (2000) outlined the four models the University of California Irvine has implemented (including students as instructors and self-paced instruction), which “greatly extended the ability of a small core of librarians to teach basic and advanced information literacy skills to large number of students” (p. 174).

As with most library instruction, regardless of format, collaboration between librarians and teaching faculty was seen as key in almost every case study reviewed. Many projects were born of a partnership with a disciplinary instructor, and grew to encompass other classes and disciplines. The ILE Project at Washington State University targeted several specific courses and tied instruction to various aspects of the assignments in those courses (Borrelli, Johnson, & Cummings, 2009). The train the trainer model used at the University of Kentucky was developed for a specific large-enrollment Biology course (Hartman, Newhouse, & Perry, 2014), and Locknar, Mitchell, Rankin, and Sadoway (2012) developed their sustainable instruction program for a first year chemistry course.

While sustainable instruction reaches larger groups of students with less effort on the part of librarians, it can also be somewhat impersonal, lacking the individual touch of a librarian. That personal touch is important, it makes the library more approachable, and students may be more likely to reach out to get help if they can associate a person with the help that they need.

The Subject Librarian initiative at UCF is one attempt to personalize the libraries and provide a friendly face for students to identify and contact for help. While reference librarians traditionally had collection development duties, their liaison role with the academic departments was limited until the Subject Librarian initiative. This new model, which began in 2013, clearly outlined expectations for librarians in this role, mainly to connect with teaching faculty and students in their assigned areas.

**Information Literacy Modules**

The Information Literacy and Outreach (ILO) department was created as part of a multifaceted plan to affect student learning during the Southern Association of Colleges and Schools Commission on Colleges (SACSCOC) accreditation process. One of the first projects undertaken by this department was the development of a series of standalone online tutorials that covered a range of Information Literacy concepts. These Information Literacy Modules were one of the first sustainable instruction projects at the UCF Libraries.

The modules were created in a partnership with Course Development and Web Services, now the Center for Distributed Learning (CDL), the organization at UCF responsible for the administration of online learning and support. CDL was developing an internal learning object
delivery system concurrently with the modules’ development, and the Information Literacy modules became the first major project to use the system.

The ILO Department worked with an instructional designer from CDL to create fifteen modules over the course of four years, and two modules were retired in Summer 2015. Some of the most used modules include “Avoiding Plagiarism”, “Citing Sources using MLA or APA Style”, and “Conducting a Literature Review”. Each module was designed to include a combination of text, graphics, videos, and interactive media. Modules also include practice and assessment sections that use true/false, multiple choice and/or interactive simulation questions. Modules are assigned by academic faculty for use in online and face-to-face courses, and faculty decide if module completion is counted as a grade or as a participation score.

The modules are housed in a learning object repository (Obojobjo) that is outside the campus learning management system (LMS). Faculty are required to create unique instances (or local copies) of each module to use them in a face-to-face or online course. This process is often confusing for faculty, and requires a few extra steps to have the scores integrated with the LMS gradebook.

The modules are used heavily by faculty, and their use continues to grow each year. In 2014-2015, a total of 12,694 students completed one or more module. This is an increase of 30% over the previous year. The number of faculty creating new instances of the modules increased from 151 to 184. The wide adoption of these modules is their main benefit, in that they reach a number of students that would be impossible to contact with single librarians in individual online courses. The module scores sync with the class gradebook when assigned directly through the LMS, and the scores are tracked by a unique student ID, which allows students to import scores from previous attempts at the modules if their professor allows it. Also, the modules are conceptual rather than task-based. This helps to make them sustainable in that they do not feature images captured from library databases which can change often.

Although the modules are used by almost one-fifth of our large student population each year, and are respected by faculty across campus, they are not the perfect instruction solution. As previously mentioned, they are not intuitive to assign through the campus LMS. There is no mediation from the library or librarians, which is both a good and a bad thing. It frees up librarian time for other projects, but students don’t come to relate the modules with their subject librarian, and they don’t have the individualized attention of a librarian when completing the modules. While library staff can see aggregate and average student scores on the modules, individual class scores cannot be accessed. Having access to that data could prove helpful when preparing for a face-to-face library instruction session, or in other assessment projects. Another challenge of housing the modules in the learning object repository is maintenance. Updating the modules is not a simple process, and must be timed correctly so as not to interfere with student scores during the semester.

**Canvas Course**

In 2013, the Information Literacy & Outreach department was tasked with developing a new Information Literacy program. The existing Information Literacy Modules were doing well
on a large scale across the campus, and no new modules were in production, so there was an opportunity to develop a project for a more targeted group of students. At the same time, the Libraries were approached by faculty in the Department of Writing & Rhetoric to improve the library instruction component of their Composition II course (ENC1102, part of the First-Year Writing Program).

Approximately 150 sections of ENC1102 are offered each year, and in recent years the library hosted an average of 100 sections per year for library instruction. With the shift to a Subject Librarian model in 2013, reference and instruction librarians were focusing on their assigned subject areas, and the Subject Librarian assigned to Writing & Rhetoric (among other departments) was not able to handle the teaching load on his own. As one solution, the ILO department proposed developing an online course for ENC1102 students that would address the content covered in a typical face-to-face instruction session. The course could be used as the primary means of library instruction in online sections, but also in face-to-face sessions as a pre-assignment for in-class library instruction.

During the Summer of 2013, seven librarians and three support staff created the content of the course, based on consultations with ENC1102 instructors. Another first year course, SLS1501 (Strategies for Success) was brought on board as a collaborator and potential user of the library course. Introduction to Library Research Strategies was launched as a pilot in the Summer semester of 2013, and was used widely beginning in Fall 2013. It is a free-standing web course in the campus LMS, and all students taking ENC1102 or SLS1501 are also automatically enrolled. During that first Fall semester, 1,100 students completed the Final Library Quiz, out of a total 1,693 enrolled in the course.

Delivering the course using the LMS is a main factor in the wide usage by students and faculty. Students are typically using the LMS daily, and the course appears in their list of all courses for that semester. On the other hand, the separation of this course from their ENC1102 or SLS1501 class can be confusing for students. Each semester there are typically a handful of students who contact the librarian “teacher” of the course to ask why they are seeing it, since they did not enroll themselves in the course. One of the major advantages of having the course structured this way is the access to student quiz data. Since it’s a free-standing course run by librarians, they can easily view quiz scores and student grades for each section enrolled in the course. A disadvantage to this set-up is that the grades from the library course do not sync with the gradebooks within the students’ ENC1102 or SLS1501 class. Instructors must download their students’ scores, then upload them to their own course.

The course is very easy to maintain, and updates can be made at any time. There are more opportunities to personalize the class, such as the introductory video which includes an interview with a former ENC1102 student who describes her experience using library resources to fulfill the requirements of the class assignment. More personalization could be implemented, such as an introduction from a librarian, or a list of the subject librarians available to help, but it was decided early on that there would be no librarian interaction within the course, that it was not an effective use of a librarian’s time. The practice quizzes and final quiz in the course are multiple choice, and auto-graded, which is convenient, but allows for limited assessment of student learning. Finally, there is no mandate for every section of ENC1102 and SLS1501 to use
Introduction to Library Research Strategies. It is up to each individual ENC or SLS instructor to use the course and assign their students to complete the quiz.

NUR3165 Library Assignment

One attempt to find the balance between “hi-tech” and “hi-touch”, or sustainable and personal, is the team-based approach to integrating instruction into NUR3165. The UCF Libraries have a long-standing partnership with the Nursing department, and librarians are embedded in every section of NUR3165 Nursing Research. Librarians are embedded as instructors in the course, and have the ability to modify module and quiz content, post to discussion boards, post announcements, and communicate directly with students. From Fall 2007 to Spring 2015, 126 sections of NUR3165 have had a librarian embedded and 4,899 students have received library instruction in their online Nursing Research class.

The library section of the course consists of a LibGuide paired with a quiz built in the LMS. The LibGuide has 14 pages comprised of text and screen captures to teach key information literacy skills and concepts. Three of the pages are practices for the library quiz, and walk the student through the steps needed to complete quiz questions. The quiz has 15 questions, and four have to be graded manually by their course librarian.

Each NUR3165 course includes a library discussion board that is separate from the discussion boards used for general class discussion. Students and academic faculty are free to post, and each librarian determines how often and what types of content to post. Librarians also have access to view and post on the other course discussion boards. Finally, students can directly contact their course librarian via multiple channels: the Webcourses messaging system, email, phone, chat, virtual consultations, and in person consultations.

The workload for the Nursing program quickly became unwieldy. Manually grading over one thousand questions, posting to the in-class discussion board, and fielding communication about other assignments was not sustainable for one librarian. In Fall 2013, the Nursing subject librarian trained three regional campus librarians to take over four sections of the NUR3165 course. The regional campus librarian team was given training on how the guide and quiz were structured, how to grade quiz questions, and how often to post to the discussion board. They were provided with pre-written responses to incorrect questions that were able to be adapted to address the wide variation in student responses.

After two semesters, the quiz and guide were evaluated by the team of librarians embedded in the NUR3165 class. Several changes were made to the guide and quiz questions to better reflect the skills students need to complete their in class assignments, as well as reduce workload during the grading process.

Another time-intensive element of the course is the discussion board. The team of librarians teaching NUR3165 courses collaborated on a LibGuide to collect tips that can be posted weekly to the board. The tips were generated from an analysis of the questions received from students on the discussion board, and via email/phone/webcourses messaging. Tips include
This common project has built camaraderie between the regional campus librarians, leading to increased communication and sharing amongst the entire group of regional campus librarians. As UCF finished the Spring 2015 semester, two more librarians were trained in delivering the course. As mentioned above, librarians are now embedded in every section of NUR3165, a testament to the strength and success of the program. Each of the embedded librarians have continued to work with the same nursing faculty, and have built fruitful relationships which have led to other partnerships. Librarians have been asked by several nursing faculty to deliver both in-person and online instruction to sections of other classes, to join campus-wide committees, and to participate in an online communication center for RN to BSN-MSN students.

**Canvas + Authentic Assessment**

The ILO Department is currently developing a project to strengthen library instruction for ENC1102. As described above, many ENC1102 instructors require their students to complete the online course *Introduction to Library Research Strategies* in the campus LMS. While this course has an assessment component, it is a 10 question multiple choice quiz. ENC instructors have commented that students seem to comprehend the content and perform well on the quizzes, but still have trouble putting the knowledge into practice when searching for and selecting articles for their annotated bibliography assignment.

To build on the course content with more opportunities for real-world practice, an authentic assessment is being developed. Students will be required to identify subject-specific databases for their topics, list appropriate keywords for searching, and find at least two articles that would meet their needs for an annotated bibliography. A rubric will be developed for this assignment. The new assessment will require more librarian time, but it will be more meaningful as it allows students an opportunity to integrate their learning directly into their ENC curriculum. For classes that meet face-to-face, this authentic assessment could be completed in the classroom, during their in-class library instruction session.

**LibGuides LTI**

UCF purchased a subscription to LibGuides in 2008 for the purpose of creating subject and course-specific guides outside the Libraries’ website. The LibGuides system was easier for librarians to access and update. There are currently close to 400 published guides, and many of these guides were created for specific courses. The guides are linked from online courses, but the guides were not developed in any strategic way.

A future direction for the UCF Libraries is to continue developing instructional content for discipline-specific research-based classes while making use of the subject librarian model currently in use. Many disciplines, like Nursing, have a required research methods course. These courses are excellent targets for library instruction that explores advanced information literacy concepts and discipline specific content.
The UCF Libraries is currently testing the Springshare LibGuides CMS LTI Tool, with plans to roll out the LTI to all courses for the Spring 2016 semester. The LTI tool allows academic faculty to embed boxes, pages, or full LibGuides into their course in the Canvas LMS. This model is more sustainable than the Canvas Course and NUR3165 projects discussed above because librarians will only have to update a single LibGuide to make changes in all sections of a course.

Academic faculty won’t need to grant a librarian access to their course, or have their students enrolled in a distinct section of a library course. The LTI allows for guides to be mapped to online courses using metadata, and if a guide exists with the course number (e.g. NUR3165) in the title, it will populate in the LTI tool’s list automatically. This will likely encourage more faculty to use this tool, as it will require less steps and intervention than any of the UCF Libraries’ current online instructional offerings.

Further, our librarians are already comfortable using the LibGuides platform to develop content. Version 2 improvements to the LibGuides system allow for built in sequencing, and a more robust selection of items to be embedded in guides. This tool will foster more engagement with guides that have already been built, and the guides are flexible enough to accommodate last minute requests for online library instruction. Another benefit to integrating LibGuides into the LMS is to introduce students to their Subject Librarian, and make it easier for students to communicate with the library.

**Making it Work at Your Institution**

This article has outlined three instructional efforts that currently exist at the UCF Libraries, and two projects currently being developed to deliver instruction that is sustainable, personal, and valuable to students and faculty. There are common challenges faced by all libraries trying to scale up embedded online instruction. These include managing the workload, the learning curve faced by librarians trying to learn the intricacies of a new discipline or technology, and providing a consistent experience for students.

**Managing the Workload**

A primary challenge faced by any instruction program is how to manage the workload. The ratio of librarians to courses at a majority of institutions would make it impossible to offer embedded instruction to each online or mixed mode course. The amount of work required to deliver instruction to an online class varies widely, and can be active or passive. Each method requires varying levels of involvement and time during the semester.

The basic level of involvement is helping academic faculty to add library content to their course without being embedded as a TA or instructor in the class. This is the most sustainable option, but eliminates an opportunity for librarians to work directly with students. The next level of involvement is being embedded in the LMS in an observational role, where the primary functions are monitoring discussion boards and responding to messages/email from students in the course. This takes very little work upfront, but can become more intensive as students begin
working on their major research projects. The most time-consuming role a librarian can take with an online class is adding a graded assignment to a class, in addition to performing the monitoring duties described previously.

The UCF Libraries have adopted several strategies to reduce the workload for individual librarians. The first is to have a department, Information Literacy and Outreach (ILO), dedicated to the development, maintenance, and assessment of freestanding online content. The ILO department is responsible for the UCF Libraries streaming videos, information literacy tutorials, and the Introduction to Library Research Strategies course. The ILO department communicates regularly with library faculty to gather input on projects, report usage statistics, and provide professional development opportunities. This model reduces the workload for individual librarians, promotes consistency across online instruction activities, and centralizes the dissemination and assessment processes.

Another method for decreasing workload is to develop reusable content. As mentioned above, the UCF Libraries have created videos and tutorials that can be used by any librarian. The NUR3165 tip bank guide is available to all UCF librarians. Although several of these are specific to the Nursing discipline, many can be used by librarians embedded in any course (e.g. other campus resources helpful for research projects).

Creating online learning objects is more time and labor intensive than creating in-person learning objects, therefore planning a new online instructional project is a complex task that will require more effort at the outset. Careful planning is key to managing the workload. Choosing the best tools to develop content, and the right platform to deliver content will be unique to each project. Content should be developed with a focus on reusability, stability of the file type/medium, and ease of later modification in response to institutional changes. Content delivery will depend upon the goals of the project, and the ease of access to various platforms.

Fortunately, well-crafted online instruction potentially needs very little maintenance. Videos, tutorials, and other objects that are conceptual in nature do not need to be updated to reflect changes in websites, interfaces, or contact information. In an academic library, online instructional materials can be reviewed in accordance with the semester schedule, but all libraries can make efforts to review content at specified periods to reduce workload during busier periods.

The Learning Curve Faced by Librarians Trying to Learn the Intricacies of a New Discipline or Technology

Online instruction can be created and delivered through a wide variety of channels, and the ideal tool/platform used is dependent on the needs of each class. Tools/platforms available for the development and dissemination of instruction are often based on the decisions of the greater institution, and on the library’s budget. The first step in any online instructional effort is to decide what tools/platforms to use.

Some factors to consider when choosing a delivery method are: what options the institution provides vs. freely available options, ease of use for students and faculty, the amount of control and freedom librarians have, and the technical skills of the librarians delivering the
content. Many institutions provide internal training opportunities on how to use the LMS and other technologies. Engaging in these training sessions can have an added benefit of introducing the concept of embedded librarianship to other departments on campus who work with faculty. There also may be opportunities for information on library resources and services to be added to faculty training information.

Using the LMS to deliver instruction has several advantages. The students are already using the system. Faculty often have the option to copy an entire course from one semester to the next. The major LMS platforms offer a robust variety of features, and the option to use a What You See Is What You Get (WYSIWYG) editor or HTML code to build learning objects. Furthermore, if faculty are copying their course from one semester to the next, they will automatically copy the library content. The limitations of using the LMS are that librarians will likely have to request access to the LMS from faculty or another office on campus, librarians may not be able to fully edit/post content, the academic faculty could potentially change the content once it's been published, and if the academic faculty copies a course the librarian will have to check to see which version has been copied. The UCF Libraries were able to request several "sandbox" courses to use for the development of new content from the Center for Distributed Learning. Sandbox courses are ideal for learning the features of the LMS without being embedded in a live class.

Another option for delivery is using a library controlled platform such as the library’s website or LibGuides. The main benefit of using the library’s website or LibGuides to deliver instruction is the accessibility of these platforms, and the freedom to use them independently of other institutional departments. Further benefits include familiarity with the authoring system, the ability to include any/all content, branding the library as a learning space, updating information in one space rather than multiple sections, and the potential for multiple contributors. The main drawback to using the library’s website or LibGuides to deliver instruction is that it requires the student to leave their online class space to access content, although the new LibGuides LTI tool should eliminate this issue. Further drawbacks include not being linked to a grade book for the course, no access to valuable teaching spaces such as discussion boards, and less robust statistics on how students are navigating the library content.

Providing a Consistent Experience for Students

One of the main challenges in library instruction generally is providing a comprehensive and consistent experience for students across sections and semesters. When developing content that is intended to be reusable (e.g. a video on interlibrary loan) it is important to present a unified voice. This can be achieved through the use of audiovisual cues, tone and tenor of the content, and graphic design. Even if an object is meant to be placed in a single course it should still represent the larger institution, and be consistent within a single course. Furthermore, it would be useful to develop standard terminology and jargon for concepts, services, and locations. All of these efforts will serve to reduce confusion for users, and promote the ability for users to navigate library resources.

Careful attention should be paid to the library resources and online instructional content to which users are exposed prior to their experience in the instruction being planned. For
example, a student in the NUR3165 course might be assigned to take one of the free standing library modules as part of their course. If that module contains the same video as the LibGuide, it is likely to have less impact and could potentially be a frustrating experience. It is crucial to repeat concepts throughout a student’s academic career, however material should be presented in a variety of ways.

Another key aspect of providing a consistent experience is during communication with the students, either directly or during the grading process for graded assignments. Although each student’s topic is unique, the explanatory remarks on different types of research, search strategies, and contact information do not change. Therefore, it has been helpful to keep a record of responses to each question received. Keeping a record of responses in Microsoft Word, Evernote or some other searchable document will make it easier to find the correct “template” response based on the question, and ensure that similar questions are being answered consistently amongst students in a course. The same concept applies to grading. For each question that is not automatically graded, it is a best practice to develop a rubric to ensure consistent grading across raters.

Conclusion

There are opportunities for all libraries to strengthen the instruction they provide to students online, and to make their efforts more sustainable and scalable. A thorough review of current projects and practices is a key first step in identifying areas for modification, growth, and development. The UCF Libraries have partnered with specific faculty, academic programs, and other on-campus partners to deliver instruction to a large number of students. New tools and technologies, such as the LibGuides LTI, are making it easier for librarians to deliver online instruction to students in a personal way while still reaching large numbers of students. The three new projects outlined in this paper attempt to form a new, hybrid model of online instruction that sustainably reaches a large population while maintaining a personal connection to subject librarians.
References


Stats Don't Tell the Whole Story: Using Qualitative Data Analysis of Chat Reference Transcripts to Assess and Improve Services

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Abstract
In the five years following implementation of a chat reference service at James Madison University (JMU), the service proved very popular but was not closely assessed for quality of service. Using grounded theory and qualitative data analysis techniques, a comprehensive assessment effort was begun in earnest and is in progress. Preliminary results indicate several patterns and difficulties that will inform the staffing model and training for this service and will potentially be generalizable to other similar libraries. Other libraries may find high value in assessing the transcripts of their chat reference interactions to gauge specific trends in their individual libraries.

Introduction and Background

James Madison University (JMU) is a mid-size public research university located in Harrisonburg, Virginia with a total enrollment of nearly 21,000 students (roughly 19,000 undergraduates and roughly 1,750 graduate students). As of 2014, there were about 1,000 full-time faculty members, including nearly 30 librarians, who are classified as instructional faculty (James Madison University, 2015). The JMU Libraries and Educational Technology department consists of three main libraries: Carrier Library, which is home to the majority of the librarians; Rose Library, home of the science collection; and the Music Library.

In fall of 2009, the libraries initiated a chat reference service, using the LibraryH3lp platform, which was staffed by librarians, library paraprofessionals, and occasionally by student library workers. The staffing model has evolved since the service’s inception, but it has typically been staffed from 9am-5pm on weekdays by librarians, library para-professionals, and occasionally student workers. As opposed to chat reference “shifts,” library employees have been generally instructed to be online during operating hours and answer chat questions quickly as they came in. In the 5 years that followed, more than 6,000 individual chat transactions occurred between the library staff and JMU’s students, staff, faculty, and other users. All of the transcripts of these interactions were automatically saved and archived by LibraryH3lp, providing a very large, complete data set. The service has proven popular among the JMU community. Usage statistics have remained relatively high and the service has been busy since its implementation.

However, there is limited information to be gleaned from purely quantitative data, such as volume and frequency of chat interactions (Logan & Lewis, 2011; Maximiek, Rushton, &
Brown, 2010; Sears, 2001). It became clear that the quality and usefulness of the chat service could best be gauged by looking closer at the substance of the chat reference interactions using coding strategies and qualitative analysis techniques. The five years’ worth of data provided not only a large sample of information, but also a useful set of touchstones to measure changes and patterns over time.

A librarian at JMU Libraries ultimately initiated a plan to analyze these transcripts in order to assess trends in questions and interactions; appraise the quality of service provided by chat responders, determine needs for improvements to this library’s website, chat training, facilities, and services, and to be able to make data-driven recommendations for staffing the organization’s chat reference service moving forward. Librarians, administrators, and other stakeholders were solicited before coding and analysis began, to suggest various themes and phenomena to look for in the transcripts that might inform their own work. This allowed one librarian’s research to serve the functions and decision-making of the whole library.

**Literature Review**

Many useful and informative examples of chat reference analysis exist in the literature and these provided a good baseline to build on. Firstly, the importance of assessing chat reference services is a common theme. Chat reference, in most libraries, as at JMU, is a highly visible service that is very commonly used and produces high levels of satisfaction, and thus has a tremendous impression on the experience and impression of library users (Maximiek et al., 2010). Making sure that the service is functioning as well as possible is therefore a high priority for an organization.

Chat transcript analyses have been undertaken and published for many years now (MacLaughlin, 2011; Matteson, Salamon, & Brewster, 2011; Maximiek et al., 2010). There have been numerous elegant, varied, and rigorous methods for analyzing electronic reference, using both quantitative, qualitative, and mixed methods approaches. While these provide a roadmap for how to conduct an effective analysis of a virtual reference service, they also typically produce research questions and gaps that needed to be addressed in future research.

While there is a natural inclination toward innovation and even novelty in research, the concepts of iteration and repetition in assessment are commonplace in the literature. While many case studies exist and have produced fascinating results (McLaughlin, 2011), their results can suffer from their limited generalizability. Logan notes that there is clearly no one assessment method that works for all libraries at all institutions (2009). While this is true, the need for replication of techniques and approaches at similar institutions is high (McLaughlin, 2011). Likewise, while many virtual reference assessments function as case study snapshots of one library over a limited period of time, the need for larger sample sizes, as opposed to looking at a small timeframe, is clear (Kuruppu, 2007). That need was a driving force for research described below. Efforts to look at large quantities of *synchronous* virtual reference interactions are still lacking and represent a notable research gap, even in the current research landscape (Arnold & Kaske, 2005; Carter & Janes, 2000).
An important motivator for virtual reference assessment is also to examine the interaction between established guidelines; most commonly, the Reference & User Services Association’s (RUSA) Guidelines for Implementing and Maintaining Virtual Reference Services and the International Federation of Library Association (IFLA) Digital Reference Guidelines. The frequency with which chat responders adhere to these guidelines is of tremendous importance for assessment purposes (Desai & Graves, 2008; Maximiek et al., 2010) but, increasingly, researchers have also looked at the possibility that these guidelines may not necessarily have a strong relationship to the quality of service or to user satisfaction (Harmeyer, 2010; Matteson et al., 2011; van Duinkerken, Stephens, & MacDonald, 2009). Only further qualitative analysis can effectively get to the bottom of these questions.

The implications of assessment for staffing and training are also common topics of discussion in the literature. Specifically, there is a need for data-driven recommendations about who staffs a chat service and when, about what training needs are required and how they should be incorporated into both new employee orientations, as well as refreshed for veteran librarians over time (Goda & Bishop, 2008; McLaughlin, 2011). A larger sample size allows analysis of similar times of academic calendars and control for anomalous data, making conclusions and recommendations more meaningful.

Goda and Bishop (2008) also point out that chat traffic can tend to predictably fluctuate over the course of a semester. In addition to this, the kinds of questions asked may similarly fluctuate. A chat service staffed by professionals of different competency levels may therefore want to determine if it’s necessary for certain levels of professionals to be available to answer chat during different points of a school term. Close examination of these trends is absolutely necessary. Furthermore, if different types of library professionals are answering questions in different ways, that represents a prime target for a training intervention and realignment of an organization’s service expectations.

Methodology

The scope of this project is open-ended in nature. A grounded theory technique was adopted to determine the avenues this research would proceed down. Grounded theory is a technique that requires systematic, repeated assessment of data before a larger, more focused theory or course of action is determined, as a direct result of those earlier analyses (Passonneau & Coffey, 2011; Rhine, 2014). Rather than forming hypotheses about the chat reference data before analyses, this library seeks to dig deeply into the large dataset available and then form and test hypotheses from there, which will inform future research on this data set and will inform policy within the organization.

Transcripts from chat reference interactions through James Madison University Libraries from August 2009 to June 2014 were analyzed by one librarian. This research is currently in progress and at time of this publication reflects a large, representative sample of the data available. Eventually, every transcript from this period will be analyzed, which will present a complete picture, as opposed to the snapshot that follows.
The qualitative and mixed-methods tool called Dedoose was used for the purpose of data analysis and coding. There are many different tools out there with similar purposes, such as Atlas.Ti and nVivo. Dedoose was chosen for its perceived fitness to the project at hand, but more so for its convenience; it’s an inexpensive software with a reasonable learning curve that was readily available. The selection of Dedoose allows for the successful completion of the research, but it also presents many problems that will be elucidated in the Discussion section.

Chat transactions were coded for two purposes. Firstly, each transcript was tagged with descriptive information about the nature of the question, the affiliation of the user, if determinable, the length of the transaction, the semester and week of the semester, the status of the person answering the question, the year, and the day of the week (see Appendix A for greater detail). These typologies combined with this level of detail in analysis allows for greater determination of patterns across many different variables.

Secondly, each transcript was then read and coded for numerous different types of user behaviors, responder behaviors, and content. Examples of user behaviors that were coded include: users that disconnected from the chat prematurely, users explicitly stating satisfaction with an answer, or different emotional responses. Examples of responder behaviors include: reference interview questions, provision of an incorrect answer, a reference to a library website or LibGuide, or a referral to another librarian. Content codes include what subject a reference question was asked about, what types of policy questions were asked about (library hours, equipment available, etc.), or questions about specific services like e-books (see Appendix B for greater detail). There are 130 separate codes in total.

Codes were arrived at through an iterative process also derived from grounded theory techniques. In this case, a large sample of transcripts was analyzed for certain common themes, and then the analysis of all the transcripts was begun again from the beginning. This process was completed multiple times in order to catch as many common themes as possible before the analysis of all transcripts was begun in earnest. The codes are therefore somewhat specific to the experience of students, staff, and faculty in the JMU community.

Data and Analysis

At the time of submission, the analyzed data consist of 1,505 chat transcripts asked between 2009 and 2014. As this project represents research in progress, that is only a sample of the total data that is representative in limited, specific ways. The conclusions drawn in this publication are, therefore, provisional and preliminary. The full set of data will be completed in time and will allow much more comprehensive conclusions to be drawn. In its current state, several full semesters have been coded and analyzed, allowing for comparison. In addition, all transcripts that occurred in week one of any semester have been coded and analyzed. The points of comparison that emerge from this account for the preliminary results presented.

Preliminary Findings

One of the primary goals of this research is to inform decisions about staffing of the chat service, both internally to JMU Libraries and broadly to the profession. Staffing decisions must
consider what configuration works best for staff, but also which staffing model provides the best service to the users. Finding the right balance is difficult and, absent any profession-wide best practices, a decision that each organization must make for itself (Mungin, 2014; Thomsett-Scott, 2013). The preliminary findings may shed some light on some important considerations:

- Students are the primary users of the chat service. There are instances in the literature where chat usage was split rather evenly across 2 or 3 different types of user groups (Arnold & Kaske, 2005), however at JMU, 782 (73.8%) of identifiable users are students and there is reason to believe that a large portion of the patrons that could not be confidently assigned a user group were students, as well. JMU places great emphasis on instruction and students, rather than research, so it’s not surprising to see such a heavy student footprint in the data (see Table 1).

- A large plurality of questions asked on the chat service can be classified as reference questions. Reference questions require a certain level of competency with information literacy and instructional techniques to handle effectively, so these data certainly have an impact on who the organization chooses to staff its chat service with (see Table 2).

- Patterns emerge relating to chat usage on days of the week. The current staffing model is to staff chat from Monday to Friday, though historically there was some chat availability on weekends, accounting for some data. Days from Monday through Thursday account for roughly 20% of chat traffic respectively, with some spikes on Mondays and Wednesday that fall within the range of expected natural variability. However, Fridays only account for 11.2% of chats, providing data to back up the organization’s general perception that library use is considerably lower on that day than the library would expect to see on other weekdays (see Table 3).

- Answering chat reference questions while on the reference desk directly correlates with delays in service. There are numerous instances of a chat user being asked to wait while a chat responder handles a situation taking place outside of the context of the chat, such as a walk-up patron. When questions were answered by a chat responder on the reference desk, there were 124 instances of the code for delays in service. This compares to 78 instances when chats were answered by responders not on the desk. This, despite 862 (65.2%) of active chats being answered by someone not on the desk.

<table>
<thead>
<tr>
<th>No. of questions</th>
<th>Student</th>
<th>Staff</th>
<th>Faculty</th>
<th>Unknown</th>
<th>Alum</th>
<th>Community</th>
<th>Internal</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>52.0</strong></td>
<td><strong>782</strong></td>
<td>22</td>
<td>74</td>
<td><strong>445</strong></td>
<td>15</td>
<td>63</td>
<td>104</td>
</tr>
<tr>
<td><strong>6.9</strong></td>
<td><strong>29.6</strong></td>
<td>1.5</td>
<td>4.9</td>
<td><strong>1.0</strong></td>
<td>4.2</td>
<td>6.9</td>
<td></td>
</tr>
</tbody>
</table>

Table 1

*Chat Questions Received by Affiliation of Patron*
Table 2

*Chat Questions Received by Nature of Question*

<table>
<thead>
<tr>
<th></th>
<th>Reference</th>
<th>Dir./Policy</th>
<th>System Test</th>
<th>Class Demo</th>
<th>Known Item</th>
<th>Undetermined</th>
<th>Tech. Problem</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>No. of questions</strong></td>
<td>596</td>
<td>385</td>
<td>78</td>
<td>22</td>
<td>241</td>
<td>58</td>
<td>124</td>
</tr>
<tr>
<td><strong>% of Total</strong></td>
<td>39.6</td>
<td>25.6</td>
<td>5.2</td>
<td>1.5</td>
<td>16.0</td>
<td>3.9</td>
<td>8.2</td>
</tr>
</tbody>
</table>

Table 3

*Chat Questions Received by Day of the Week*

<table>
<thead>
<tr>
<th></th>
<th>Sunday</th>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
<th>Saturday</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>No. of questions</strong></td>
<td>35</td>
<td>205</td>
<td>163</td>
<td>196</td>
<td>169</td>
<td>98</td>
<td>12</td>
</tr>
<tr>
<td><strong>% of Total</strong></td>
<td>4.0</td>
<td>23.3</td>
<td>18.6</td>
<td>22.3</td>
<td>19.2</td>
<td><strong>11.2</strong></td>
<td>1.4</td>
</tr>
</tbody>
</table>

- One of the codes used to analyze data is “Quick Answer,” which in practice means a question was asked in which a reference interview could have improved the quality of an answer, but that reference interview was not done with much rigor. An example of this would be a patron looking for art books and simply being told that they were on the third floor, when further inquiry could have revealed this patron was looking for interpretation of a specific artist’s work that the patron was not yet equipped to find. The “quick answer” code is, therefore generally considered as a less-than-positive outcome. The data suggest that the three most common timeframes for this code to be applied are in questions answered during the 4pm hour (9.4%), 5pm hour (15.8%) and 6pm hour (12.6%). Further investigation is required, but a hypothesis could be formed about factors that may be affecting the quality of service provided near the end of the traditional workday.

- Citation questions are a complex issue to investigate. Of the 596 reference questions currently analyzed, 104 (17.4%) have a citation component. Yet there is no uniformity in how to address. These questions are generally handled in at least one of four ways: patrons are simply provided with the proper citation or the exact template for citing, patrons are referred to a library resource like JMU Libraries’ online citation guide called CheckCite or the library’s copy of the proper publication manual, patrons are sent to a non-JMU Libraries source, like Purdue OWL, or patrons are referred to the university’s writing center. There are only 3 occurrences of a student being directed to the writing center for this type of question, despite that being a service that the writing center advertises and the
knowledge of the fact among librarians. In 43 cases (41.3% of instances), students are referred to a library resource. In 61 cases (58.7% of instances), students are provided a citation or template. And in 18 cases (17.3%), students are pointed toward a non-library, non-JMU source. Absent an organization-wide policy for handling this type of question, this variability is potentially problematic. The standards of service and expectation are not consistent.

- An instance of how this research can affect user experience and web design considerations can be found in questions about library hours. Sixty-three of the 385 directional/policy questions (16.3%) have to do with library hours, which have always been posted on the website. Library users must access the website in order to use chat, so they have opportunity to find this information quicker than a chat responder could provide it, yet it is a very persistent question. These results will be forwarded to JMU’s User Experience Librarian to determine what possible usability testing needs to be done to inform changes to the organizations web presence to make this information more obvious and easily available to users.

- Questions about textbooks are also persistent. Ninety-three questions centered around textbooks, with 75 (80.6%) of these categorized as “known item” questions. These questions typically involved students looking in the libraries for class textbooks so they would not be forced to purchase them, and routinely occur in the first three weeks of semesters. With the continual and projected steep rise in the cost of college textbooks (Williamson, Stevens, Silver, & Clow, 2011), these types of questions should be expected to persist. Yet JMU Libraries, as a matter of policy, shies away from collecting textbooks for economic feasibility reasons. Efforts to communicate this to students and to suggest alternatives will save both students and librarians’ time, moving forward.

**Discussion and Future Directions**

As stated, the above results are preliminary and only represent the tip of the iceberg of what the data show about virtual reference users and responders, which is a limitation of the research as it currently exists. This research will continue until every single chat reference transcript over all target years has been analyzed, which should be completed within 6 months of the time of this publication. At that time, more and more meaningful conclusions can be drawn and correlations can be made. Also, that analysis will lead to many hypotheses that will drive future research.

One of the limitations of this research is the software chosen to conduct it. Though it is strongly encouraged for other libraries to analyze their virtual reference transcripts, they should consider the constraints that the qualitative data analysis software, Dedoose, puts on their flexibility. Dedoose appears to be designed with small data sets in mind. With thousands of chat transcripts in separate text files, Dedoose quickly became overloaded and its operating speed slowed down considerably. This makes working with the software onerous, unwieldy, and frustrating. Researchers would be wise to consider other software options for the large volume of data involved in this type of research.
Another disappointing limitation is that, when library chat responders answered chat questions from the reference desk, they used a communal log-in for the early years of the service. This means that many of the transcripts have an indeterminable responder, unless they identified themselves over the course of the interaction. This strongly hampers the potential for comparing the behavior of librarians with library paraprofessionals, which was one of the initial research directions.

In the future, to enhance validity of data, it would be ideal if a second librarian coded these transcripts as well. With smaller data sets, this practice is common and controls for biases, mistakes, and oversights (Arnold & Kaske, 2005; Matteson et al., 2011; Maximiek et al., 2010). With a dataset this large, the feasibility of such replication is in doubt, yet the importance of replication is unambiguously clear in the literature (McLaughlin, 2011).

Because this organization is focused on making decisions driven by data, one of the next steps will be to widely disseminate the data across the organization. There are many decisions to be made about services and staffing that have not been made because of reluctance to act without data. An example of this includes an ongoing conversation about the perceived difficulty of the library’s proxy technology, which allows JMU users to connect to library resources from off-campus. The data from these chat transcripts can show the nature of inquiries about off-campus access over time, which will likely prove compelling to decision makers.

A presentation of a more complete version of these findings will take place at the 17th Distance Library Services Conference held from April 20-22, 2016 in Pittsburgh, PA. The raw data from the transcripts cannot be made available for reasons of confidentiality, but extensive findings and results will be presented and made available afterwards. The presentation will also serve as an encouragement for other librarians to take a closer look at their chat reference transcripts to better inform their practice.
References


## Appendix A

Chat Transcript Descriptors and Descriptor Categories

<table>
<thead>
<tr>
<th>Category</th>
<th>Descriptors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length</td>
<td>(number of minutes)</td>
</tr>
<tr>
<td>Semester</td>
<td>Fall Semester, Spring Semester, Summer, Break</td>
</tr>
<tr>
<td>Answered?</td>
<td>Answered, Unanswered</td>
</tr>
<tr>
<td>Time of Day</td>
<td>9am, 10am, 11am, 12pm, 1pm, 2pm, 3pm, 4pm, 5pm, 6pm, 7pm, 8pm, 9pm-9am</td>
</tr>
<tr>
<td>Week of Semester</td>
<td>Summer, 01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12, 13, 14, 15, 16, 17, Finals, N/A</td>
</tr>
<tr>
<td>Affiliation</td>
<td>Internal L&amp;ET, Community, Faculty, Alum, Staff, Student, Unknown</td>
</tr>
<tr>
<td>Responder</td>
<td>Non-Librarian Staff/Faculty, Librarian, Student Employee, Unknown, Unanswered</td>
</tr>
<tr>
<td>Nature of Question</td>
<td>Demonstration for Class, Directional/Policy, General Reference, Known Item, Technology Problem, Undetermined, System Test</td>
</tr>
<tr>
<td>Day of the Week</td>
<td>Sunday, Monday, Tuesday, Wednesday, Thursday, Friday, Saturday</td>
</tr>
</tbody>
</table>
## Appendix B

Qualitative Codes and Descriptions

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>User Behaviors</strong></td>
<td></td>
</tr>
<tr>
<td>Hello?</td>
<td>User offers just a greeting instead of a question before being answered.</td>
</tr>
<tr>
<td>Reconnected?</td>
<td>Did user reconnect from an earlier session that was terminated accidentally?</td>
</tr>
<tr>
<td>Not serious</td>
<td>User does not have serious question (e.g. - just testing if this is real; telling jokes)</td>
</tr>
<tr>
<td>Responder Still There?</td>
<td>User prodding responder who has been silent for a while.</td>
</tr>
<tr>
<td>Complaint</td>
<td>User expressed dissatisfaction with some aspect of service</td>
</tr>
<tr>
<td>Complaint - Website</td>
<td></td>
</tr>
<tr>
<td>Complaint - Responder</td>
<td></td>
</tr>
<tr>
<td>Complaint - Policy</td>
<td></td>
</tr>
<tr>
<td>Complaint - Assignment</td>
<td>Complaint about assignment they're doing.</td>
</tr>
<tr>
<td>Complaint - Resource</td>
<td>Complaint about database or resource</td>
</tr>
<tr>
<td>Complaint - Facilities</td>
<td>Complaint about facilities</td>
</tr>
<tr>
<td><strong>Next Steps Identified</strong></td>
<td>User expressed clarity on what their next steps will be</td>
</tr>
<tr>
<td><strong>Thank you</strong></td>
<td>Use expresses gratitude</td>
</tr>
<tr>
<td><strong>Database</strong></td>
<td>User mentions specific database</td>
</tr>
<tr>
<td><strong>Emotion Evident</strong></td>
<td>User displayed strong positive or negative emotion</td>
</tr>
<tr>
<td>Negative Emotion Evident</td>
<td>Stress, desperation, frustration or anger apparent.</td>
</tr>
<tr>
<td>Positive Emotion Evident</td>
<td>User displayed clear positive emotion.</td>
</tr>
<tr>
<td><strong>Textbook</strong></td>
<td>User is looking for a textbook</td>
</tr>
<tr>
<td>Gave up</td>
<td>Student gave up original inquiry for easier route.</td>
</tr>
<tr>
<td>Praise for Chat Service</td>
<td>User expresses pleasure with the chat service</td>
</tr>
<tr>
<td>Looking for specific librarian</td>
<td>Seeking specific librarian</td>
</tr>
<tr>
<td><strong>Content Analysis</strong></td>
<td></td>
</tr>
<tr>
<td>Directional/Policy to Reference</td>
<td>Started as a Directional or Policy question and became a reference question</td>
</tr>
<tr>
<td>Technology to Reference Assignment</td>
<td>Started as a Technology Question and became a reference question</td>
</tr>
<tr>
<td>Assignment</td>
<td>User explicitly mentions assignment they are working on.</td>
</tr>
<tr>
<td>Thesis/Dissertation</td>
<td>Student is writing a thesis or dissertation</td>
</tr>
<tr>
<td>Scavenger hunt</td>
<td>Scavenger hunt assignment</td>
</tr>
<tr>
<td>Off-Campus Access</td>
<td>User can't connect to one of our resources from off-campus</td>
</tr>
<tr>
<td>-------------------</td>
<td>-----------------------------------------------------------</td>
</tr>
<tr>
<td>Proxy</td>
<td>Issue with VPN or Proxy</td>
</tr>
<tr>
<td>Citation question</td>
<td>Question about citation styles or citing a source.</td>
</tr>
<tr>
<td>Citation Style</td>
<td>A question was asked about a certain citation style</td>
</tr>
<tr>
<td>APA</td>
<td></td>
</tr>
<tr>
<td>MLA</td>
<td></td>
</tr>
<tr>
<td>Chicago/Turabian</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>Other citation Style</td>
</tr>
<tr>
<td>Referred to Writing Center</td>
<td>Referred to Writing Center</td>
</tr>
<tr>
<td>Referred to Library Resource</td>
<td>Referred to CheckCite, Publication Manual, or other library resource</td>
</tr>
<tr>
<td>Check or provide their Citations for them</td>
<td>Student wants us to check or provide their citations.</td>
</tr>
<tr>
<td>Referred to other Citation Source</td>
<td>Referred to another Citation source (e.g. Purdue OWL)</td>
</tr>
<tr>
<td>Known Item to Reference</td>
<td>Started as a Known Item question and became a reference question</td>
</tr>
<tr>
<td>Offer this service?</td>
<td>Does the library offer a particular service (not book/media/database item)?</td>
</tr>
<tr>
<td>Hours?</td>
<td>Question about building hours.</td>
</tr>
<tr>
<td>Subject</td>
<td>A specific subject or discipline is explored</td>
</tr>
<tr>
<td>Kinesiology</td>
<td>Kinesiology question</td>
</tr>
<tr>
<td>Psychology</td>
<td>Psychology-related question</td>
</tr>
<tr>
<td>Education</td>
<td>Education-related question</td>
</tr>
<tr>
<td>Nursing</td>
<td>Nursing-related question</td>
</tr>
<tr>
<td>Business</td>
<td>Business question</td>
</tr>
<tr>
<td>Hospitality</td>
<td>Hospitality/Tourism/Sports Management question</td>
</tr>
<tr>
<td>Music</td>
<td>Music question</td>
</tr>
<tr>
<td>Health Sciences</td>
<td>Health Sciences question</td>
</tr>
<tr>
<td>Justice Studies</td>
<td>Question about Justice Studies</td>
</tr>
<tr>
<td>Art and Art History</td>
<td>Question about Art and Art History</td>
</tr>
<tr>
<td>Communication</td>
<td>Communication Studies Class</td>
</tr>
<tr>
<td>English</td>
<td>English related question</td>
</tr>
<tr>
<td>History</td>
<td>History question</td>
</tr>
<tr>
<td>Gen Ed</td>
<td>Gen Ed Class</td>
</tr>
<tr>
<td>Political Science</td>
<td>Political Science question</td>
</tr>
<tr>
<td>Math</td>
<td>Math question</td>
</tr>
<tr>
<td>CSD</td>
<td>Communication Sciences and Disorders question</td>
</tr>
<tr>
<td>Anthropology</td>
<td>Anthropology question</td>
</tr>
<tr>
<td>American Studies</td>
<td>American Studies (minor) questions</td>
</tr>
<tr>
<td>Geography</td>
<td>Geography class</td>
</tr>
<tr>
<td>Biology</td>
<td>Biology question</td>
</tr>
<tr>
<td>ISAT</td>
<td>Question about ISAT class</td>
</tr>
<tr>
<td>Topic</td>
<td>Description</td>
</tr>
<tr>
<td>----------------------------------</td>
<td>--------------------------------------------------</td>
</tr>
<tr>
<td>Foreign Languages</td>
<td>Foreign Languages question</td>
</tr>
<tr>
<td>Philosophy and Religion</td>
<td>Philosophy and Religion question</td>
</tr>
<tr>
<td>WRTC</td>
<td>Question about WRTC class</td>
</tr>
<tr>
<td>Theatre and Dance</td>
<td>Theatre and Dance Question</td>
</tr>
<tr>
<td>Engineering</td>
<td>Engineering question</td>
</tr>
<tr>
<td>Public Administration</td>
<td>PUAD question</td>
</tr>
<tr>
<td>SMAD</td>
<td>SMAD question</td>
</tr>
<tr>
<td>Chemistry</td>
<td>Chemistry question</td>
</tr>
<tr>
<td>Geology</td>
<td>Geology question</td>
</tr>
<tr>
<td>Sociology</td>
<td>Sociology Question</td>
</tr>
<tr>
<td>Social Work</td>
<td>Social Work question</td>
</tr>
<tr>
<td>Class Mentioned</td>
<td>A specific class (with course code) was mentioned</td>
</tr>
<tr>
<td>Copyright</td>
<td>Copyright question</td>
</tr>
<tr>
<td>Ebooks</td>
<td>Question about Ebooks</td>
</tr>
<tr>
<td>Service Failure</td>
<td>An unequivocal failure.  User needs not met through a failure on responder end.</td>
</tr>
<tr>
<td>Reserves</td>
<td>Course reserves question</td>
</tr>
<tr>
<td>Weird</td>
<td>Something really out of the ordinary was said or done.</td>
</tr>
<tr>
<td>Peer reviewed?</td>
<td>User has question about peer review process or if a journal is peer-reviewed.</td>
</tr>
<tr>
<td>Distance Student</td>
<td>Distance student</td>
</tr>
<tr>
<td>Website</td>
<td>Looking for something on our website.</td>
</tr>
<tr>
<td>Media Resources</td>
<td>Question about Media Resources</td>
</tr>
<tr>
<td>ILT</td>
<td>Question about Go for the Gold, ISST, or MREST</td>
</tr>
<tr>
<td>Starbucks</td>
<td>Question about Starbucks</td>
</tr>
<tr>
<td>Refworks</td>
<td>Question about Refworks</td>
</tr>
<tr>
<td>Topic definition</td>
<td>Student needs help defining or refining a topic.</td>
</tr>
<tr>
<td>Special Collections</td>
<td>Question about or referred to Special Collections</td>
</tr>
<tr>
<td>Book a Group Study</td>
<td>Question about Book a Group Study Room</td>
</tr>
<tr>
<td>Article Access Blocked</td>
<td>We can't access an article that we should have a subscription for.</td>
</tr>
<tr>
<td><strong>Responder Behaviors</strong></td>
<td>Ways that chat responder behaved.</td>
</tr>
<tr>
<td>Referred to Librarian</td>
<td>Referred to another JMU Librarian</td>
</tr>
<tr>
<td>Referred to JMU Library Dept. or Staff</td>
<td>Referred to non-librarian JMU dept. (e.g. ILL, Technical Services, staff member)</td>
</tr>
<tr>
<td>Referred to ILL</td>
<td>User was instructed to use an Interlibrary Loan</td>
</tr>
<tr>
<td>Staff at different Library</td>
<td>Referred to different campus library staff.</td>
</tr>
<tr>
<td>Referred to Tech Desk</td>
<td>Referred to Tech Desk</td>
</tr>
<tr>
<td>Transfer</td>
<td>Transferred to another chat responder.</td>
</tr>
<tr>
<td>User Still There?</td>
<td>Prodding a user who has been silent for a while.</td>
</tr>
<tr>
<td>Responder closing ritual</td>
<td>a clear-cut goodbye</td>
</tr>
<tr>
<td>Attempt to Instruct</td>
<td>Responder attempts to teach user</td>
</tr>
<tr>
<td>Emoticon</td>
<td>Use of emoticons</td>
</tr>
<tr>
<td>Positive</td>
<td>Positive emoticon</td>
</tr>
<tr>
<td>-----------------------------------</td>
<td>-----------------------------------------------</td>
</tr>
<tr>
<td>Negative</td>
<td>Negative emoticon (frowning, crying, yelling, angry)</td>
</tr>
<tr>
<td>Neutral</td>
<td>Emoticon expressing neither positive nor negative emotion</td>
</tr>
<tr>
<td>Self-correction</td>
<td>Responder corrects or rectifies situation (after providing wrong/poor information or instruction)</td>
</tr>
<tr>
<td>Wrong</td>
<td>Information provided by responder is objectively wrong/false/misleading</td>
</tr>
<tr>
<td>Apology for inconvenience</td>
<td>Apology for malfunction, poor service, or misinformation</td>
</tr>
<tr>
<td>Quick Answer</td>
<td>Responder provided quick answer to a question without a reference interview</td>
</tr>
<tr>
<td>Satisfaction Verified</td>
<td>Did the responder verify question was answered to some satisfaction?</td>
</tr>
<tr>
<td>Reference Interview</td>
<td>Conducted Reference Interview</td>
</tr>
<tr>
<td>Restated the question</td>
<td>Restated the question</td>
</tr>
<tr>
<td>Right track?</td>
<td>Verified that information was helpful and on the right track.</td>
</tr>
<tr>
<td>Asked clarifying questions</td>
<td>Probed for more information and clarifying information</td>
</tr>
<tr>
<td>What have You Tried?</td>
<td>Asked what users have already tried</td>
</tr>
<tr>
<td>Delay</td>
<td>Apology, explanation, or warning of delay in answering or delay in service</td>
</tr>
<tr>
<td>Referred to Non-JMU-Library source</td>
<td>referred to an institution, person, or library not connected to JMU Libraries (not including Writing Center)</td>
</tr>
<tr>
<td>Link to article</td>
<td>Responder provided direct link to a journal article.</td>
</tr>
<tr>
<td>E-mail</td>
<td>Interaction moved to email exchange.</td>
</tr>
<tr>
<td>Suggested In-Person Meeting or phone call</td>
<td>Encouraged user to seek help from responder in person in office or at the Desk or on the phone</td>
</tr>
<tr>
<td>Quick Referral</td>
<td>Quickly referred to a librarian without conducting a reference interview.</td>
</tr>
<tr>
<td>Referred to Library website or resource</td>
<td>Linked to library website or page or database for patron</td>
</tr>
</tbody>
</table>
Card Sorting in an Online Environment: Key to Involving Online-Only Student Population in Usability Testing of an Academic Library Web Site?

Emily B. Paladino
Jacqueline C. Klentzin
Chloe P. Mills
Robert Morris University

Abstract
Based on in-person, task-based usability testing and interviews, the authors’ library web site was recently overhauled in order to improve user experience. This led to the authors’ interest in additional usability testing methods and test environments that would most closely fit their library’s goals and situation. The appeal of card sorting methods became evident: learning more than users’ points of confusion interacting with the site, but learning users’ preferences for grouping pages or concepts and naming various library links. The appeal of the online venue for card sorting was first that testing could incorporate input from a larger base of users than in-person testing alone, and, additionally, that testing could include the university’s online-only student population.

Introduction
During Robert Morris University (RMU) Library website usability testing in spring 2015, many fully online students expressed an interest in participating but were unable to do so because of geographical limitations. In an effort to include this population in the website redesign and better understand their unique information needs, the authors decided to conduct a research study with only fully online student participants using an online card sorting program, which freed the participants from any logistical constraints.

This study addressed the following two research questions:

R1: How do fully online students conceive of the RMU Library website?

R2: What were the students’ perceptions of this process?

The authors used two distinct research methodologies. The results from the online card sorting activities addressed R1 were quantitative in nature. In addition, the students were asked to provide feedback about the card sorting process. The authors analyzed these texts using a


1 The authors would like to thank Professors Soren Fanning, M.C. Kiliany, and Matthew DeFazio for their assistance with this project.
qualitative thematic coding technique, which addressed R2. With these two separate sets of results, the authors were able to make connections between the data sets as well as previous studies published in the literature. As a result, the authors came to better understand the information behavior of the fully online student population and to make evidence-based recommendations for website design and online card sorting testing improvements.

Literature Review

A popular data gathering technique used by information architects in order to ascertain how users conceive and categorize information (Hider, 2009), card sorting has been adopted by librarian scholars as an effective means to better understand how their users interact with the library website in terms of usability (Battleson, Booth, & Weintrop, 2001; Ebenezer, 2003; Faiks & Hyland, 2000; Rogers & Preston, 2009) and branding (Hepburn & Lewis, 2008). In recent years, online card sorting programs have provided researchers with the means to test larger populations who can be geographically dispersed. This makes it an appealing option for reaching fully online students who are, very likely, isolated from the physical campus (Jiang, 2008) and might only engage virtually with the university library.

The unique information needs and behaviors of fully online students has been well documented (Ritterbush, 2014; Tang & Tseng, 2013; Tobias & Blair, 2015). The most recent statistics available show that this student segment makes up approximately 12.5% of the total higher education student population (U.S. Department of Education, 2014), which is a substantial piece of the enrollment pie. Therefore, building user-centered websites that fit the needs of fully online students should be a priority for academic library web designers in order to make certain the library is best serving this group, which is in keeping with the Association of College and Research Libraries (ACRL) Standards for Distance Learning Library Services (2008).

However, very few studies have used the online card sorting technique (Ford, 2013) and even fewer with their institution’s fully online students, despite the size of this student segment. This study is an attempt to address this research void. It provides not only the results of an online card sorting usability test of the library’s website by fully online students, but it also includes a detailed description of the process, an analysis of student feedback about the process, and a weaving of the study findings into the existing literature within the extended discussion section.

Methodology

The methodologies used for this study were both quantitative and qualitative in nature. The primary data gathering tool was an online card sorting software called Usabilitest.com. The authors designed seven online card sorting activities. Usabilitest.com was selected as the desired online card sorting tool because it allowed the authors to construct unlimited card sorting tools with unlimited participants for a nominal monthly fee, rather than paying by number of card sorting participants, increments of participants, or number of individual card sorting activities designed. Six short (1-2 minute) closed card sorting exercises were constructed to ascertain students’ vocabulary preferences for key concepts listed on the library homepage. The closed card sorting vocabulary preference exercises were broken up into six separate exercises, with
each keyword concept representing a separate exercise. Within each exercise, a number of keyword variations were listed as possible word choice options, and the categories into which to sort cards were labeled simply, “first choice,” “second choice,” “third choice,” etc. For example, for the keyword term “Journal Finder”, the following keyword terms were listed: “eJournals List”, “Journal List”, “Search by Journal”, “Citation Search”, “Search/Browse Journals”, “Find Journals @ RMU”, “Find eBooks @ RMU”, and “Journals A-Z”. One hybrid card sorting activity (5-7 minutes) was created to determine students’ categorization and ranking preferences of key links within the library web site’s main navigational menu; this activity was classified as a hybrid card sort because students were instructed to create an additional category if there were links that did not seem to fit under the categories listed.

On account of prior research, the authors did not want to lead study participants to categorize items they did not understand or to over-think their answers. In “Playing with a Bad Deck: The Caveats of Card Sorting...” Brucker (2010) not only cautioned about these potential pitfalls, but warned: “don’t use a card sort to fix the problem of library-centric jargon” (p. 41). Since the authors of the current study wanted to heed Brucker’s advice yet still hoped to gather input regarding students’ word choice preference for key library web site links, the authors attempted to remedy some of these problematic characteristics of card sorting by designing two distinctly different types of card sort activities.

The thought was by that creating two different types of card sorts, it would allow the authors to separate objective #1), categorizing important navigational links, from objective #2), “fixing library-centric jargon.” To separate the ranking of word choice preferences from the exercise of sorting and categorizing, the authors needed to design a separate card sorting activity for each term or concept and its synonyms. Doing this, however, meant that students did not need to be able to distinguish synonyms describing one concept from synonyms describing another. They only needed to rank their favorite word choices from a list of multiple semi-synonymous terms; listing multiple synonyms alongside a particular term provided the students with cues about the meaning of that term.

The authors intended that leading students through multiple, short, separate, vocabulary choice ranking activities would provide them information about the terms presented on the cards of the culminating seventh card sort activity, which was the true sorting and categorizing activity of the lot. As Faiks and Hyland described, a typical card sort happens “outside the actual system and thus is stripped from true context” (Faiks & Hyland 2000, p. 355). The authors of the current study attempted to counteract this inherent lack of context of card sorts by providing context cues within the activity itself.

Upon completion of the card sorting activities, students were asked to provide feedback about the process to the study authors. These written responses were coded using an analysis process espoused by Thomas (2006), which is appropriate for evaluating activities of this nature.

The study authors reached out to several teaching faculty members teaching undergraduate online courses, who were amenable to sending out invitations to students in their online classes to participate in the card sorting activities as an opportunity to earn extra credit. All participants were assured confidentiality and other human subject protections before they
provided evidence of informed consent. Thirty fully online students of Robert Morris University participated in the seven online card sorting activities as well as the concluding reflective writing exercise.

Findings

Quantitative Card Sort Results

Usabilitest.com, the site used to create, administer, and gather participants’ card sorting activities, displays results in several different configurations: raw numbers, percentages, grouped percentages, distance matrix, MDS and dendrogram. By far the most successful, least problematic, card sort of those designed by the authors was the card sorting activity testing library web site drop-down menu navigation. Evidence of this was provided, directly, through the comments of the users – and, indirectly, in the number of completed card sort activities. While an impressive 43 participants completed the hybrid hierarchical card sort; on average, 29 participants completed each of the six word choice/vocabulary preference closed card sorting exercises. In part due to the differentiation in the number of completed card sorts for each activity, the authors found the grouped percentages analysis tool, particularly for the hybrid card sort with 43 participants, to be the most helpful in gaining a brief yet comprehensive understanding of participants’ categorization preferences.

Hybrid hierarchical card sort. With respect to the hybrid hierarchical card sorting activity, cards with the highest degree of uniformity in category placement for each category, were the following: “Contact Information” (88%), “Library Hours” (88%), and “Location” (85%), under the “About Us” category, then “Computers, Printers, Copiers, Wireless” (83%) and “Textbook Reserves” (80%) under the “Services” category, and “Articles - Databases (A-Z)” (83%) and “Articles - Databases by Subject” (73%) under the “Search & Find” category. Comparatively, the category, “Help & Guides,” had less uniformity of card placement with only “eLibrary Off Campus Access Troubleshooting” (56%) and “Citing Sources” (66%) placed under “Help & Guides” by more than 50% of study participants (see Table 1).

The article authors expected cards from both the “Search & Find” and “Help & Guides” categories to be intermingled to some degree, especially considering the level of context absent when performing card sorts exclusively online within Usabilitest.com. When in doubt, most participants seemed to categorize cards under “Search & Find” rather than “Help & Guides,” which suggests that there may have been disadvantages with the participants performing the card sort with minimal context and clarification. It also suggests that more explicit labeling of help guides, as such, (for instance, “How to Find Books” or “Help Finding Books,” rather than simply “Finding Books,” even if directly under “Help & Guides”) could be a welcome improvement for our users.
Table 1

*Hybrid Hierarchical Card Sort – Grouped Percentages Analysis*

<table>
<thead>
<tr>
<th>Categories</th>
<th>Search &amp; Find</th>
<th>Help &amp; Guides</th>
<th>Services</th>
<th>About Us</th>
</tr>
</thead>
<tbody>
<tr>
<td>Articles – Databases by Subject</td>
<td>83%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Articles (Databases A-Z)</td>
<td>73%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>News Articles</td>
<td>68%</td>
<td>12%</td>
<td></td>
<td>7%</td>
</tr>
<tr>
<td>Government Documents</td>
<td>68%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Journals</td>
<td>66%</td>
<td>12%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Books</td>
<td>63%</td>
<td>10%</td>
<td></td>
<td>15%</td>
</tr>
<tr>
<td>Dissertations</td>
<td>61%</td>
<td>12%</td>
<td></td>
<td>10%</td>
</tr>
<tr>
<td>eBooks</td>
<td>61%</td>
<td></td>
<td></td>
<td>24%</td>
</tr>
<tr>
<td>DVDs</td>
<td>59%</td>
<td>12%</td>
<td></td>
<td>20%</td>
</tr>
<tr>
<td>Collections</td>
<td>54%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Finding Newspapers</td>
<td>54%</td>
<td>29%</td>
<td></td>
<td>10%</td>
</tr>
<tr>
<td>Finding Articles</td>
<td>51%</td>
<td>27%</td>
<td></td>
<td>12%</td>
</tr>
<tr>
<td>Finding Books</td>
<td>44%</td>
<td>32%</td>
<td></td>
<td>15%</td>
</tr>
<tr>
<td>Finding Textbooks</td>
<td>44%</td>
<td>32%</td>
<td></td>
<td>12%</td>
</tr>
<tr>
<td>Citing Sources</td>
<td>7%</td>
<td>66%</td>
<td></td>
<td>12%</td>
</tr>
<tr>
<td>eLibrary Off Campus Access</td>
<td>56%</td>
<td>24%</td>
<td></td>
<td>7%</td>
</tr>
<tr>
<td>Troubleshooting</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Searching &amp; Research Tips</td>
<td>29%</td>
<td>49%</td>
<td></td>
<td>10%</td>
</tr>
<tr>
<td>Research Guides</td>
<td>32%</td>
<td>46%</td>
<td></td>
<td>12%</td>
</tr>
<tr>
<td>Video Tutorials</td>
<td>17%</td>
<td>46%</td>
<td></td>
<td>29%</td>
</tr>
<tr>
<td>Information Literacy</td>
<td>12%</td>
<td>29%</td>
<td></td>
<td>24%</td>
</tr>
<tr>
<td>Computers, Printer, Copiers, Wireless</td>
<td></td>
<td></td>
<td></td>
<td>83%</td>
</tr>
<tr>
<td>Textbook Reserve Program</td>
<td></td>
<td></td>
<td></td>
<td>7%</td>
</tr>
<tr>
<td>Faculty Provided Reserves</td>
<td>10%</td>
<td>66%</td>
<td></td>
<td>7%</td>
</tr>
<tr>
<td>Study Space</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Library Instruction Sessions</td>
<td>27%</td>
<td>46%</td>
<td></td>
<td>20%</td>
</tr>
<tr>
<td>Borrowing Materials</td>
<td>7%</td>
<td>29%</td>
<td></td>
<td>44%</td>
</tr>
<tr>
<td>Borrowing Materials from Other Libraries</td>
<td></td>
<td></td>
<td></td>
<td>10%</td>
</tr>
<tr>
<td>Contact Information</td>
<td></td>
<td></td>
<td></td>
<td>88%</td>
</tr>
<tr>
<td>Library Hours</td>
<td></td>
<td></td>
<td></td>
<td>88%</td>
</tr>
<tr>
<td>Location</td>
<td></td>
<td></td>
<td></td>
<td>85%</td>
</tr>
<tr>
<td>Ask Us</td>
<td>34%</td>
<td>10%</td>
<td></td>
<td>51%</td>
</tr>
</tbody>
</table>

*Note.* A 5% threshold was applied to the data, meaning that the results below this threshold have been omitted. Also, results above exclude data from one participant who only completed 9% of the activity.
Perhaps more surprising than the intermingling of cards between the “Search & Find” and “Help & Guides” categories, was noting that items typically designated as “Resources” were also appearing under the category “Services,” for example, “eBooks” (24%), “DVDs” (20%), and “Video Tutorials” (29%). This suggests that the library inclination that there is a natural delineation between what is a service, and what is a resource, may not exist in the minds of our users, particularly our fully online users. The term indicating the greatest user confusion was “Information Literacy;” 29% placed it in Help & Guides, 24% in Search & Find, 17% in About Us, and 12% in Search & Find (see Table 1). This result may illustrate that the term “Information Literacy” should be renamed within the context of the library website from the non-librarian perspective. Perhaps some direct illustrations of Information Literacy concepts and principles for the fully online student and fully online instructor would be useful; presumably both endeavors are worthy of the authors’ efforts.

**Vocabulary preference closed card sorts.** When the authors attempted to manipulate the usabilitest.com software to design card sorting activities that could produce clear indications of participants’ word choice preferences for standard library terms and tasks, card sorting results were more ambiguous, as more confusion was expressed in relation to these exercises by a higher percentage of study participants. In spite of these closed card sorting activities being comparatively less successful, with several of the activities, the word choices that were ranked most highly by most participants were oftentimes terms already in use as navigational or quick links within the library site. This was affirming for the authors with regard to the library website, if not with respect to the efficacy of the card sorting exercises themselves. For example, the phrasing “Research by Subject” was ranked as either a first choice or second choice by more than 85% of participants, whereas “Library Guides” was only ranked as a first or second choice by 8% of study participants, (see Table 2).

The results of the vocabulary preference card sorts did not always indicate clear word choice “winners”; generally, though, word choice “losers” did seem to emerge. Terms ranked the lowest by study participants point to word choices found to be the least desirable or most confusing and most indicative of not needing further consideration as links within the RMU Library site. Within the card sort results for word choices for library catalog searching, for example, “ROBCAT” was ranked as a first or second word choice by only 25% of participants, while “Library Catalog” was ranked as a first or second word choice by 57% of participants and “Find Books & Media” was ranked as a first or second word choice by 50% of participants, (see Table 3).
Table 2

*Vocabulary Preference Closed Cart Sort - A*

<table>
<thead>
<tr>
<th>Cards</th>
<th>First Choice</th>
<th>Second Choice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research Guides</td>
<td>50%</td>
<td>35%</td>
</tr>
<tr>
<td>Research by Subject</td>
<td>27%</td>
<td>23%</td>
</tr>
<tr>
<td>Library Guides</td>
<td>8%</td>
<td>15%</td>
</tr>
<tr>
<td>Course Guides</td>
<td>8%</td>
<td>31%</td>
</tr>
<tr>
<td>Subject Guides</td>
<td>8%</td>
<td></td>
</tr>
</tbody>
</table>

*Note.* A 5% threshold was applied to the data, meaning that the results below this threshold have been omitted. Results above exclude data from one participant who did complete the activity.

Table 3

*Vocabulary Preference Closed Cart Sort – B*

<table>
<thead>
<tr>
<th>Cards</th>
<th>First Choice</th>
<th>Second Choice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Library Catalog</td>
<td>36%</td>
<td>21%</td>
</tr>
<tr>
<td>Books, Media &amp; More</td>
<td>18%</td>
<td>18%</td>
</tr>
<tr>
<td>Catalog</td>
<td>21%</td>
<td>18%</td>
</tr>
<tr>
<td>Find Books &amp; Media</td>
<td>21%</td>
<td>29%</td>
</tr>
<tr>
<td>ROBCAT</td>
<td>14%</td>
<td>11%</td>
</tr>
</tbody>
</table>

*Note.* A 5% threshold was applied to the data, meaning that the results below this threshold have been omitted. Results above exclude data from one participant who did complete the activity.

One vocabulary preference card sorting activity was a comparative failure and provided little usable output, “Interlibrary Loan”; it was the card sorting activity and vocabulary with which the authors were most concerned, and which has, historically, produced the most confusion. The authors attempted to combine EZ-Borrow, a specific interlibrary loan program and borrowing network within the larger Interlibrary Loan landscape, into the same card sorting activity. This combination resulted in not only the typical confusion about the meaning of the term “interlibrary loan” as well as the EZ-Borrow program, but it introduced a third element of confusion, which was that the overall interlibrary loan service and this service subset being viewed as directly interchangeable with one another. Anecdotally, this confusion has existed even for on-campus users over the history of the library, however, and may not be specifically tied to a flaw in the design of this card-sorting activity.

While the authors attempted to address the totality of interlibrary loan services in the preface to this particular activity in the instructions that preceded the exercise, the study participants brought too little knowledge about this service to be able to tackle this vocabulary preference activity, especially in consideration with the added challenge presented by its design
flaw. Lastly, of all student populations to address preferences in interlibrary loan terminology, the exclusively online student population may be the least equipped, and in the most disadvantageous position, to be able to do so.

**Qualitative Feedback Findings**

Students were asked to provide feedback about the card sorting process upon completion of the seven activities. They were not provided specific instructions about what to write. Rather, they were allowed to choose which aspects of the process upon which they chose to comment. Four themes and two subthemes emerged from qualitative analysis of the written feedback:

1. **A discomfort with ambiguity**

2. **Technology adversely impacting expression**
   a. Confusion when using technology in a way it was not intended
   b. Technology hampering creative expression

3. **Desire for engagement**

4. **Library terminology is confusing**

The themes are described below followed by verbatim response from students that illustrate each theme. Recommendations addressing how researchers can use this knowledge to improve future website usability as well as other library-based research studies are included.

**Findings Part I: Themes for Improvement**

**Theme #1: the discomfort with ambiguity.** Responses regarding the activity were mixed, but they appear to be related to the student’s understanding of study’s purpose and their own comfort with ambiguity. Those students who were uncomfortable with ambiguity became confused and frustrated when trying to find the “correct” answers.

*To be completely honest, I found the exercises to be confusing and hard to follow. The instructions were not clear and I went through the exercises wondering if I was doing them right or not. (Participant #20)*

*This online exercise was much harder than I expected it to be...I did not like how the options are similar...For example, they asked to order a card that said search by major and search by area of study. It was really hard to choose how to order these because they practically mean the same thing. (Participant #14)*

*Honestly to me the card sorting was a little bit confusing. With it being confusing to me it was kind of hard. I think you should give feedback on what the student does after they completed the sorting. I also realized that would ask for us to put the phrases in order from like first to the least. The people doing the card sorting are able to just put as many phrases they want into one box. (Participant #21)*
Students were more at ease when they understood what the authors “wanted” of them.

At first I was quite confused on what was going on here. I realized after the first activity that you are trying to get opinions on how to organize the Library. I am an online student, so I have never been to campus. After I figured out what was going on, the sorting was pretty easy. I am not terribly familiar with the RMU Library so I used my best judgement. (Participant #28)

The survey was not difficult after I figured out what was wanted. (Participant #30)

I found the card sorting exercise to be easy after I did the first one or two. If you read thoroughly through all of the directions given, it was simple to understand. I pretended as though I was doing a search for each of the topics and then proceeded to put the titles in numerical order of how I would like to search; one being the most resourceful topic. (Participant #4)

Additionally, students who understood that there was no correct answer reported that the program was easy to use.

I sorted the cards the best way I thought it would work if you were searching for something. (Participant #22)

I think it was easy once I understood that there was really no wrong answers and it was basically to help the Library see how people wanted things to be organized. (Participant #9)

Overall, I found each of the activities to be easy to understand. As there were no "right" or "wrong" answers as to where to place the phrases found in the left columns, I simply ordered the choices by how clear each phrase was to understand as it related to each search topic. (Participant #2)

Theme #2: technology adversely impacting expression. Subtheme #2a: Confusion when using technology in a way is not intended. Most students had little difficulty with the hieratical card sort, which is the purpose for which the technology was designed. Students had more difficulty when the investigators attempted to modify the card sort and use it for terminology ranking.

I found the first couple activities to be confusing, but I actually understood the last activity and thought it was interesting. (Participant #11)

Until I got to the final one labeled "Fall 2015" it just wasn't making sense. Once I could see titles on each card it made more sense to me where I would place them. (Participant #13)
The word choice test EZ-Borrow/ILL was the most complicated. I did not understand what I was trying to sort. I thought the other tests were much easier. (Participant #14)

**Subtheme #2b: Technology hampering creative expression.** Additionally, some students also felt constrained by the technology and wished they could have more power over card naming and placement.

I would have preferred if there had been an option in each activity such as "If you had to name a way to use a journal finder, what would you name it?" so that I could enter what my own instinctual option would be and see if it would also appear in the list of available choices after that. (Participant #2)

The only change I would make to the exercise itself was to make the choices; first, second, third... to fall in order instead of being scattered over the page. (Participant #3)

For sub links I was unsure of, I created a miscellaneous category. (Participant #4)

There were some words I was not familiar with and other words that I would have liked to choose that were not available. (Participant #25)

**Findings Part II: Other Emerging Themes**

**Theme #3: Desire for engagement.** Though not prompted to include this information, many students expressed an appreciation for being able to assist with the project and have their voices heard, which illustrates their collective desire for more engagement with the institution.

I hope that my participation in these word choice test activities was helpful to you. (Participant #2)

The program was easy to complete and I think it’s a good idea to involve students in the decision making process on how to organize the website. (Participant #3)

I found the whole idea of involving students in the design process to be very refreshing...Overall, thank you for thinking of us online students. (Participant #10)

Thank you for the opportunity and I hope that I was of some help. (Participant #13)

Overall, I think this was a great idea. By having students give their preferences of what words they would use when navigating the library website, faculty are able to see exactly how students think when looking up information. (Participant #25)

I appreciated the opportunity to help you. (Participant #30)

**Theme #4: Library terminology is confusing.** While the difficulty in understanding library terminology has been well documented in the literature for years, librarians still struggle with using words to describe library concepts, resources, and services.
Even after given the definitions of some words, I was still unsure of what they meant. (Participant #6)

I was extremely confused on most of the words that were given on the left side of the screen in almost all of the activities. (Participant #16)

I had never heard of the concepts on the first link, which made that one difficult to rank. (Participant #20)

There were a few choices on the left hand side that I didn't completely understand what the choices were supposed to be, but I guess that may be part of the feedback that you need. It did overall make sense to me. Suggestions for improvements would maybe be not to use abbreviations for choices on the left hand side. I remember one choice was something like "ROBCAT". I'm assuming that stands for something but I had no idea what. (Participant #23)

However, there were a couple terms listed for me to put into categories that I was not sure of; therefore I was not able to accurately put the terms in order... Like previously stated, there were some words I was not familiar with and other words that I would have liked to choose that were not available. (Participant #25)

I did not understand the first exercise as to what ILL is and what exactly I was to do with the tabs on the left of the screen. (Participant #26)

I was quite confused with the first activity - EZ borrow/ILL...However, I am not very familiar with EZ Borrow, which could be why I was confused. I find it easier to locate things online if they are one word. For example, I would type in catalogue instead of RMU catalogue. I also type in more generic information. For example, I would not realize that ROBCAT was the discovery service had I not been told that by one of my English professors before. (Participant #27)

Discussion

This study represents an attempt to elicit usable feedback from a key group of library users rarely provided opportunities to interface with members of their academic institutions outside of the teaching faculty, fully online undergraduate students. As discussed, nationwide the numbers of these students are on the rise (U.S. Department of Education, 2014), and libraries are increasingly called upon to serve them as equally as they do their on campus students (Association of College and Research Libraries, 2008). Free, unprompted responses from this study demonstrate that this cohort is enthusiastic about being asked for their opinions regarding the library website they use in their academic work. While the number of respondents to this study may appear to be somewhat low, it has been noted that unlike surveys, card sorting research experiences a limited return when the number of participants exceeds 30-40, due to the likelihood of considerable similarities in responses (Wood & Wood, 2008). As such, the
usefulness and positive nature of this study are established by prior research practice and its qualitative results.

A notable number of study participants cited confusion while completing the vocabulary preference closed card sort exercises, and this confusion was evident in some participants’ card sorting choices. In response, the authors of the current study re-analyzed the construction of the activities to discover what the problems were and where they occurred. After thoroughly rereading the study invitations and directions for each card sort, the authors contend that the directions were simple, clear, and explicit, without being too detailed. Several articles in the library literature about card sorting as a usability testing method, have noted that participants may experience confusion even if the card sort activities are administered in person. In a card sorting study conducted at the University of Colorado Auraria Library with twenty-four participants, “results for ten subjects had to be omitted because of partial results or a misunderstanding of the activity” (McHale, 2008, p. 147).

However, there was an assumption made with this study, as with any card sort administered exclusively online, namely, that everyone read and understood the directions. Of course, the inability to read aloud or clarify directions with participants in person is a limitation that is shared by any study that seeks responses from users through electronic media only. Since these students were the target audience, considerable care was directed to making the directions as straightforward as possible, and thus the confusion expressed by participants should not lead researchers to disregard their responses or minimize the usefulness of the study as constructed.

The authors attempted to manipulate usabilitest.com in a way that it was not intended to create an online closed card sort format that could determine user preferences of word choice for library links. This technology “hack” may have contributed somewhat to the participants’ occasional difficulties. Additionally, the word choice card sorts may have been hindered, regardless of best intentions or care in activity design, by the fact that online students may have limited previous knowledge concerning library services and resources. Most fully online students at RMU have not had the benefit of library instruction classes, and some may have too little understanding of central terms or concepts to be able to figure out what the best synonym for a concept might be, especially if they are too concerned with determining the “best” word, rather than just “their favorite” word.

While card sorts may not always be the best method for determining vocabulary preferences, other methods for addressing library terminology have also proved challenging. Duncan and Holliday reported in their article, “Designing a Third-Generation Library Web Site,” which discussed card sorting as well as multiple other testing methods they utilized, for a survey at the reference desk to determine label descriptions for top level library web site links, they noted that only “29 of 50” participants returned “usable survey results” (Duncan & Holliday, 2008, p. 311). As Dougan and Fulton concluded, after their extensive, think-aloud usability testing study, “library jargon continues to be a problem for the web site” because “there is little consensus among users on the clearest way to describe library resources.” They ultimately determined that “not all terms are confusing to all users” and that “redesign efforts were still worthwhile” and “helped users find information more quickly and created a more enjoyable experience” (Dougan & Fulton, 2009, pp. 234-235).
Likewise, at least half of the participants in the current study reported that they completed the card sorting activities relatively easily and even enjoyed them, or that they found the card sorts easier and enjoyed them more as they moved along through them. Because of the efforts of these participants, the authors of this study have tangible data to use to make several web site improvements; because of the feedback from participants who were confused by some of the card sorting activities or the library terminology used within, the authors have specific ideas to improve upon their future card sorting endeavors. In sum, the authors can now offer these research-based recommendations to any library group who is interested in using card-sorting activities to elicit feedback from users, particularly in online environments.

**Recommendations:**

1. Be explicit that the activities are not a test, that there are no wrong answers, and that students are just asked to do their best. While this information was included in the activity directions for students, the authors may not have fully emphasized this aspect of the study.

2. When attempting to modify the use of an existing technology, conduct a pilot test with a few members of a similar population to identify and correct for any problems in interpretation or implementation. With improvements and testing suggested by these participants, this technology could be used effectively to create ranked lists.

3. Whenever possible, incorporate possibilities for students to step outside the constraints of the activity so that they can be creative in order to best express their personal preferences.

4. User confusion surrounding library terminology continues. Therefore, the authors recommend a situational alternative when it comes to specific institutional nomenclature. Rather than relying merely upon the findings of others, small studies, which are not resource intensive can determine which terms work best for the population being served.

5. Technology happens. Make sure there is an easy way for participants to report any technical glitches and for the software to allow participants to begin the activity again, if needed.
References


Applying Cognitive Load Theory Principles to Library Instructional Guidance

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Abstract
If the goal of library instructional guidance is to provide students with the knowledge needed to acquire new skills in order to accomplish their learning objectives, then it is prudent to consider factors that impact learning. Cognitive load theory addresses several of these factors and is applicable to a wide-range of instructional devices used by librarians, particularly during research guide design, multimedia development, and database administration. This paper will provide academic librarians with an overview of cognitive load theory and strategies for minimizing distractions while maximizing the student’s learning potential.

Introduction
Not all librarians serving online students are dedicated distance librarians; many may be transitioning from a face-to-face environment or concurrently serving on-campus students as their institutions increase online course offerings. While the librarian’s impulse may be to deliver online students an amount of supporting materials comparable to an hour of bibliographic instruction, the reality is that the remote student is free to decide when they are ready to “walk out of the room.” Any content that adds to the learner’s extraneous load also increases the likelihood the student will simply exit the offending resource and revert to familiar search techniques.

If the goal of library instructional guidance is to provide students with the knowledge needed to acquire new skills in order to accomplish their learning objectives, then it is prudent to consider factors that impact learning. Cognitive load theory addresses several of these factors and is applicable to a wide-range of instructional devices used by librarians, particularly during research guide design, multimedia development, and database administration. What follows is an overview of cognitive load theory and employable strategies for minimizing distractions while maximizing student learning potential.

Background: An Overview of Cognitive Load Theory
Essentially, cognitive load theory is associated with managing the burden on working memory by providing appropriate instructional support. Minimal cognitive effort is needed when a student is able to associate new learning material with existing knowledge, whereas new and unfamiliar information will increase cognitive effort on the working memory, which must consciously process the information within the focus of attention (Kalyuga, 2015). Sweller (1994) stressed that schema automation and the transfer of learned procedures from controlled to
automatic processing are both essential learning mechanisms. In order for instructional guidance to be effective, the learner’s cognitive load must be managed.

Cognitive load types are classically categorized as intrinsic, extraneous, or germane. Intrinsic load is associated with schema acquisitions and the ability to transfer knowledge from working memory to long-term memory storage. Prior knowledge and transferrable experience minimize the amount of effort needed for learning to occur. When presenting more complex knowledge or introducing new problems, intrinsic load may be managed by allowing the learner control over the flow of information and by scaffolding assignments or segmenting tasks. Since intrinsic load is required for learning to occur, the instructional goal should be helping the student understand connections between elements of information so they may build new knowledge structures in the working memory, then transfer them to long-term memory (Kalyuga, 2015).

When students must process information that is irrelevant to learning, it increases the level of extraneous cognitive load on the working memory. It is necessary to reduce this type of load because the limited capacity of the working memory also handles the intrinsic load, which is required for learning. Maintaining consistent navigation and organization of research guides is one method to reduce extraneous load, as learners do not have to devote unnecessary cognitive resources towards learning different layouts. Extraneous load also increases when learners are forced to split their attention, as when video tutorials with narrated audio also include text narrative. Text-heavy directions, overly comprehensive video tutorials, and distracting graphics are also contributing culprits.

While minimizing extraneous load frees the working memory for learning to occur, increasing germane cognitive load promotes a more meaningful learning experience. The working memory resources that the learner chooses to allocate towards handling intrinsic load are referred to as germane resources (Kalyuga, 2015). An individual’s willingness to spend effort will also influence the level of workload (Moreno & Park, 2010). Thus, learner motivation and cognitive load are highly related. Personalizing instructional guidance may increase germane cognitive load, but only when it does not detract from the primary learning goal (Clark & Mayer, 2011). For example, using a conversational tone in both narrated tutorials and written text evokes a more positive emotional response than formal expression, and does not add to cognitive load. Clark and Mayer (2011) further recommended making the content author visible to learners as a personalization strategy for promoting learner motivation. Aesthetic design may also increase the user’s willingness to continue using a resource and the overall learning experience, while decreasing cognitive load (Miller, 2011).

Appropriate instructional guidance must also take into consideration the level of learner expertise. The same instructional tools may result in different outcomes for learners with different levels of task-specific knowledge (Kalyuga, 2015). For example, a college freshman may benefit from guidance on how to form a search query in academic databases, whereas a graduate student may find that the same assistance increases cognitive load because it is redundant and interferes with the learning process. This phenomenon is referred to as the expertise reversal effect.
Review of the Literature

Library literature is suffused with brief references to cognitive load, particularly in the areas of web usability, instructional design and multimedia development. However, few go into detail regarding cognitive load theory’s impact on the learner’s research experience. The exceptions provide librarians with a contextual basis for creating purposeful materials that support distance learners, rather than distract them.

By understanding when cognitive burdens increase during the search process, librarians may more accurately predict the appropriate level of training and support to provide. Gwizdka (2010) utilized a dual task method approach to measure the distribution of cognitive load throughout the Web search process. The level of cognitive load was concomitant to the search task; cognitive load was found to be substantially higher while creating search queries and describing the relevance of selected documents than when viewing search results and simply viewing individual documents. It is worth noting that the study included both undergraduate and graduate students, ranging in age from 20-51 years, making it unlikely that underclassmen were represented.

This may be important because a college freshman is likely at a different level of cognitive development than a graduate student and, accordingly, will experience task-associated cognitive load differently. For example, a college freshman at a lower level of cognitive development may be more overwhelmed by the quantity of search results that present conflicting points of view, than by the need to describe the relevance of a selected document, which will be assumed to contain the truth. Both McNeer (1991) and Jackson (2007) provide succinct overviews of cognitive development theories and elucidate their significance for bibliographic instruction. Although focused on traditional face-to-face interactions, the implications are transferable to distance library services.

In order to provide instructional guidance to learners with varying degrees of cognitive development and research expertise, distance librarians are increasingly utilizing research guides—particularly Springshare’s LibGuides—to provide assistance at the assignment, course, and subject level. Little (2010) has provided guidance for reducing extraneous cognitive load and increasing the germane cognitive load in research guides in order to develop learners “capable of constructing their own knowledge for research processes” (p. 61). Likewise, Rand (2012) proposed a systemic library instruction model that first considers the student’s needs and then directs them to the suitable resources. The framework diverges from others in that it also “acknowledges and validates the impact of affective responses operating in the student” (p. 275). The model considers both the learner’s skill level and attitude to guide the selection of instructional instruments provided at the learner’s point of need.

These instruments typically include text-based directions, screenshots contained within static tutorials and screencast video tutorials. When the Washington State University Library redesigned their online tutorials, the instructional team assimilated multiple design and learning theories—including cognitive load—into their multimedia makeover (Scales, Nicol, & Johnson, 2014). Concluding assessments found that dynamic screencasting was the visual component most frequently used, followed by animations (Scales et al., 2014).
Which form of instructional guidance is the most useful? Craig and Friehs (2013) compared the efficacy of dynamic video tutorials, static tutorials and live instruction and found that the students who scored highest on the concluding quiz were those who watched the video tutorial; those same students also reported the highest increase in confidence. However, students from at least one institution demonstrated that static tutorials may not warrant dismissal. Mestre (2012) hypothesized that students in a comparable study would favor the screencast video tutorials, but 16 of 21 study participants preferred a static, web-based tutorial that included screenshots and text. Moreover, 19 of the 21 students finished the post-test after completing the static tutorial, as opposed to only six of the 21 being able to partially complete the post-test after viewing the screencast tutorial (Mestre, 2012).

These contradictory results from comparable studies may be contributed to a variety of factors, including elements of the research methodologies, tutorial design, participant expertise, and learner motivation. Regardless of the conflicting results, both studies required the students to utilize specific forms of instructional guidance, akin to attending compulsory on-campus bibliographic instruction. In a distance learning environment, such mandated learning seldom occurs and librarians serving online students must adapt accordingly.

Applying the Principles to Library Instructional Guidance

Van Merriënboer and Kirschner (2007) provided a ten-step instructional design strategy for developing professional competencies in professional education and career-oriented college programs. In most cases, supplemental library materials will be considered during step seven—designing procedural information—since research guides and tutorials are “Just in Time (JUT) Information Displays” intended to provide learners with the procedural aspects of research and typically include demonstrations of how to apply those procedures (Van Merriënboer & Kirschner, 2007, p. 148).

Providing Instructional Support

Most library instructional materials are “on-demand” presentations provided at the student’s point of need, either by virtual reference or embedded librarians providing links to relevant research guides and tutorials. These instances imply a familiarity with the learner’s needs (types of resources to find) and an estimation of the learner’s expertise (level of the course). However, not all students seek direct assistance and embedded librarians do not exist in all courses; a situation which leaves some learners with the additional challenge of identifying appropriate research tools.

Research guides. LibGuides are one form of instructional guidance that librarians create to help learners meet assignment-specific goals, provide course-related support, or provide general guidance at the subject level. With few exceptions, the student’s goal is not to learn how to use the research guide, but to find sources for their research assignment. With this in mind, librarians should strive to develop guides that minimize extraneous cognitive load.

Navigation. Navigation should be task-based and consistent (as much as possible) across all of the guides in the system. Task-based navigation helps students develop self-regulated
learning strategies by segmenting the research process. Consistent navigation builds experience and allows learners to transfer their expertise using one course’s LibGuide to that of another course, without increasing cognitive load.

**Organization.** Content within the guide should be logically arranged and read horizontally. Supporting materials, including embedded tutorials and chat widgets, should be located in the same content area for each page on which they are used; this applies to all guides in the system. Headings and/or content boxes should be used to break up large amounts of information contained on the same page; this improves internal page navigation, as well the learner’s ability to quickly skim and dismiss irrelevant sections.

**Design.** Richardson, Drexler, and Delparte (2014) recommended a minimalist design using sans serif fonts, appropriate white space, and limited visual cueing in order to improve readability and optimize learning retention. Likewise, Miller (2011) established a correlation between a learning object’s visual appeal and decreased cognitive load.

**Text.** To keep extraneous load to a minimum, accompanying text should be written in short sentences, use the active voice, and avoid spelling everything out (Van Merriënboer & Kirschner, 2007). Additionally, learners are likely to respond more positively to text written in a conversational tone.

**Multimedia tutorials.** Mayer and Moreno (2010) posited that for multimedia learning environments to be effective, they must reduce extraneous cognitive processing, manage essential (intrinsic) cognitive processing, and foster generative (germane) cognitive processing. Librarians frequently use screencast videos and static tutorials to demonstrate the research process to learners. While the visual display may benefit students more than lengthy text descriptions, cognitive load must be considered during their development.

**Screencast video tutorials.** Although screencast tutorials are standardly used to demonstrate the research process, creators must be careful that they do not increase extraneous load by forcing learners to divide their attention between multiple sources of information, also known as the split-attention effect. Video tutorials that require the learner to simultaneously integrate animation and on-screen text increase the likelihood split-attention-effect will occur (Hasler, Kersten, & Sweller, 2007). This includes using open captions which can increase cognitive load when audio narration is included (Oud, 2011). Signaling (providing the viewer with on-screen cues as to what is important) can help mediate split-attention effect. Segmentation, breaking videos into sections that the user can control, also reduces extraneous load (Lusk et al., 2009; Moreno, 2007). Additionally, segmentation shortens the amount of information that must be processed at one time.

**Static tutorials.** Static tutorials may require less cognitive processing than video tutorials because the learner has control over the information flow and is not required to integrate new information with that already shown in earlier parts of the animation (Hasler et al., 2007). Static tutorials that include screenshots can also use signaling to further reduce extraneous load, although arrows and graphics should be used only as needed to highlight important information, lest they distract the learner. The increased availability of inexpensive screencasting software has
dampened enthusiasm for static tutorials, but beginning learners and those with cognitive differences may benefit from the ability to refer back to relevant sections as they conduct research. Moreover, LibGuides can be used to create standalone, step-by-step static tutorials that are easily linked to from other LibGuides, thereby allowing learners to choose their preferred instructional format (See Figure 1).

**Modifying the search environment.** Research guides and demonstration tutorials provide learners with “Just in Time” procedural information, but students may still experience frustration when trying to apply the acquired knowledge within the academic research environment. When frustration increases, motivation decreases. Considering the correlation between learner motivation and information literacy (Matteson, 2014), librarians should also explore ways to minimize cognitive load within subscription databases themselves.

![Step-by-Step: Academic Search Complete](image)

*Figure 1.* Sample static tutorial in LibGuides. This figure illustrates how LibGuides can be used to create static, step-by-step tutorials that include screenshots.
**EBSCO databases.** Academic Search Complete is one of the first databases most college students explore when seeking full-text academic articles. Rather than instruct the student to “check the box for full-text”, the institution’s EBSCO administrator can make that the default setting and can also choose to have full-text that is findable using a link resolver included or excluded in the search results. Graduate students and faculty that may be interested in seeing the complete search results will experience less cognitive load unchecking the full-text box than most students will experience by having to check it.

The display settings for other limiting options can also be reordered and even hidden from the learner. While it may be difficult to determine which options are troubling to online students, traditional reference and instruction librarians have likely experienced frequent questions or confusion regarding database options; these indicate an opportunity to reduce cognitive load by editing or removing the offending option. For example, the “References Available” limiting option may be confusing to students who think that it will narrow their search results to just academic articles.

The “Add to Folder” is another option that complicates the research experience for new users who assume the items added to the folder will still be there when they start a new search session. The institution’s EBSCO administrator can view how many affiliates have created EBSCO user accounts; this may be another feature to “hide” if the institution does not have a large number of personal account users.

**Conclusion**

For library instructional materials to be effective for distance learners, they must be created and implemented in ways that manage cognitive load. Otherwise, they do not help students acquire new skills in order to accomplish their learning objectives; they simply decrease the learner’s motivation to continue working on the task. By minimizing distractions in research guides, multimedia tutorials and the search environment itself, librarians are in a better position provide learners with instructional aids that maximize student learning potential.
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Creating a Community of Inquiry in Online Library Instruction

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Abstract
According to the Community of Inquiry (CoI) model (Garrison, Anderson, & Archer, 2000), an enriching educational experience online in a collaborative learning environment requires three interdependent elements: social presence, teaching presence, and cognitive presence. Social presence provides interaction in the online environment that allows students to feel like they are in a supportive and open environment. Teaching presence refers not just to teacher-student interaction during the lesson or course duration, but also to a teacher’s ability to design an effective learning environment. Cognitive presence in the CoI model is knowledge generated from collaborative interaction. This model has been well-studied in the literature, and has been shown to be a meaningful framework for course development. However, more exploration of CoI in relation to library distance instruction is needed. This paper describes the Community of Inquiry model and provides information about the three presences and how they can improve online educational environments.

Introduction
While online education provides many opportunities to interact and learn across distance and time, many students bemoan the fact that they do not have the personal connection they desire when learning online. In webinars, online training, and distance courses, learners may not feel that they are as involved or as invested in an educational community as they would if they were interacting with other learners and facilitators in a face-to-face environment. According to social constructivism, which maintains that learning occurs when students interact with each other (Pear & Crone-Todd, 2002), having isolated students is not conducive to learning. In addition to being harmful to learning, students who feel isolated are less likely to persist in online learning environments (Hart, 2012). Enter the Community of Inquiry model. According to the Community of Inquiry (CoI) model (Garrison, Anderson, & Archer, 2000), an enriching educational experience online in a collaborative learning environment requires three interdependent elements: social presence, teaching presence, and cognitive presence. This model has been well-studied in the literature (the article has been cited over 2,900 times in Google Scholar), and has been shown to be a meaningful framework for course development. However, CoI has not been explored extensively in relationship to library instruction. Creating an online learning environment that generates these three presences, according to the model, will allow learners to become engaged in the process of critical inquiry. This paper will explore the
research on each of the presences and indicate how librarians can use this research to develop a more engaging online environment.

**Cognitive Presence**

The most important presence in the CoI model is the cognitive presence, though all the presences are intertwined. Cognitive presence occurs when learners are interacting together to construct meaning. Garrison and his co-researchers (2000) argue that digital media can allow for more critical and deep thinking through textual responses, as learners tend to think more before responding via text. Discussion boards and chat rooms are still used in online learning today, but other opportunities for co-constructing knowledge with peers have presented themselves in the current online environment. Cognitive presence can be seen through the process of critical inquiry, which includes four phases (Garrison et al., 2000). The first phase is a triggering event that creates a sense of unease due to a knowledge gap. This is followed by exploring, where learners gather information. The third step of critical inquiry is integration, where learners make connections between the ideas they have gathered and develop solutions. The fourth step is resolution, where the solutions or hypotheses are tested in the real world.

Moving students through this critical inquiry process can be a challenge; most discussion board prompts that pose a single question to students do not allow for learners to move through the four stages of critical thinking (Darabi, Arrastia, Nelson, Cornille, & Liang, 2011). Even questions that provide students with structured ways to develop their critical thinking do not move students much beyond integration (Darabi et al., 2011). Instead, assigned debates and role playing can allow students to move into exploration and integration (Darabi et al., 2011). Instructors or facilitators need to be responsible for increasing the cognitive engagement of the students or participants online.

For library instruction, this could mean having students debate whether or not a resource should be used for an assignment after going over methods to evaluate information in a discussion board or in a chat room. Students should be assigned a position rather than allowed to choose on their own. This means that students must fully consider a position, perhaps not their own, and integrate the resources at hand to develop a strong argument. In role playing, students could represent various stakeholders who are trying to solve an authentic issue, and then use research to support their position. This can also be a method of having students consider issues of authority, as seen in the first frame of the new Framework for Information Literacy for Higher Education. Throughout this process, facilitation is necessary, but facilitators should allow students to explore their own ideas so that they may move through the critical inquiry process.

For students to move into the final stage, resolution, scaffolded or, perhaps a more precise word, facilitated discussion was required in a study of online undergraduate students (Darabi et al., 2011). Trained student facilitators were used in the study, who moved the conversation toward a consensus in developing a solution to a problem (Darabi et al., 2011). Those librarians holding a webinar in many of the standard collaboration software could break up their participants into small groups, assign a leader, and ask that the participants use the information presented in the webinar to create a lesson plan or complete some other collaborative activity. Whether the discussion is facilitated by an instructor or peer, the importance of teaching presence is clear in this learning activity.
Naturally, cognitive presence does not occur only in the discussion boards. Online educators should create other learning tasks that ensure that students can appropriately engage with the course content. However, there should not be such a focus on content itself (lectures, tutorials, readings, and other forms of direct information sharing) that students believe that their role in the course is to consume information passively (Garrison & Anderson, 2003). The opportunity to share knowledge and understanding is an important aspect of the CoI framework (Garrison & Anderson, 2003). If there is an assessment piece of the instruction, this should not focus on recall, but on the application of understanding in authentic situations so that students can move through the practical inquiry process.

Student interaction does not guarantee cognitive engagement. To encourage deep learning, teacher facilitation, direct instruction, and reflective assignments can be necessary (Garrison & Cleveland-Innes, 2005). In one study, two courses with high levels of student interaction did not lead to high levels of deep learning, but one with low student-student interaction and high levels of teacher involvement and assignments did lead to deep learning (Garrison & Cleveland-Innes, 2005). Thus, teaching presence, either through peer leaders or the instructor themselves, may be necessary to move learners through the critical thinking process.

**Teaching Presence**

To create teaching presence, instructors must cross the transactional distance, the psychological and physical space, that is inherent in teaching online (Moore, 1993). Teaching presence, according to Garrison et al. (2000), consists of instructional design, direct instruction, and facilitation of learning. Instructional design includes setting deadlines, setting up the curriculum and learning outcomes, and using the technology in a productive way (Anderson, Rourke, Garrison, & Archer, 2001). Direct instruction means delivering content, providing information from a variety of resources, summarizing salient points in a discussion, and providing assessment and feedback (Anderson et al., 2001). To facilitate learning, instructors should encourage participation in course discussions, enable consensus-reaching, and identify where students may disagree to encourage a continued discussion (Anderson et al., 2001). In a study of students at a college and university, facilitation of discussion was ranked highest by the university students as leading to their success in an online course (Kupczynski, Ice, Wiesenmayer, & McCluskey, 2010). The college students listed feedback as the most important factor for their success (Kupczynski et al., 2010). In another study that surveyed students from 32 colleges, directed facilitation through both moderating and encouraging student discussions and providing direct instruction contributed significantly to the perception of being in a learning community and of learning (Shea, Sau Li, & Pickett, 2006). Research has shown that teaching presence and social presence are predictors of perceived cognitive presence (Shea & Bidjerano, 2009). Additionally, teaching presence predicates perceived social presence (Shea & Bidjerano, 2009). Thus, teaching presence is essential in creating both higher-order thinking and a feeling of being a part of a community.

Ensuring that students feel the presence of an instructor or facilitator can sometimes be difficult. In a webinar, direct instruction and discussion facilitation can be an easy method of ensuring that participants feel that the instructor is involved and that they are learning as a
community; these actions have the greatest impact on perceived teaching presence (Shea et al., 2006). However, in asynchronous learning, this can be more challenging. In a study of adult students, students appreciated an instructor’s ability to engage the higher order thinking skills of the students (Kupczynski et al., 2010). Therefore, those providing online training, webinars, and courses for adult students should make sure to challenge the participants by encourage analysis, critical thinking, and evaluation. In a study of adults in an online training program, student satisfaction was most closely linked to direct instruction, then facilitating discourse, then instructional design – but all aspects of teaching presence were correlated with student satisfaction (Miller, Hahs-Vaughn, & Zygouris-Coe, 2014). Thus, while direct instruction is important, instructors should make sure that they have a well-designed session, course, or tutorial, and that they facilitate any discussions that engage their learners.

Asynchronous discussions, which can provide social presence, have been shown to lack in cognitive presence, as discussed above. If asynchronous discussions are used, a strong teaching presence is needed to be successful. The more the facilitator of asynchronous discussions interacts with learners, the more postings and interaction with each other the learners will have (Gilbert & Dabbagh, 2005). Without frequent interaction from instructors or facilitators in discussion boards, not only will students or participants feel abandoned, but they are also less likely to have discussions that move thinking and learning forward. Instead, without facilitator intervention, they will engage in serial monologues (Pawan, Paulus, Yalcin, & Chang, 2003). Librarians should model good discussion behavior by participating often, engaging with students and the course content, and employing higher-order thinking skills like synthesis, evaluation, and analysis. Suggestions from Garrison and Anderson (2003) include asking engaging questions, questioning the participants’ ideas or questioning ideas from course content, highlighting important or challenging points brought up in the discussion, making connections, offering differing perspectives or information, and summarizing the discussion.

If teaching an online course or providing online training, librarians should make sure to provide feedback on the performance of their participants. While this may occur in a discussion thread, many instructors provide feedback individually to students through direct emails or messages. Some learning managements systems (LMS) allow instructors to provide audio feedback on assignments. Students find that audio feedback improves instructor immediacy and increases perceptions of teaching presence (Ice, Cutis, Phillips, & Wells, 2007; Oomen-Early, Bold, Wiginton, Gallien, & Anderson, 2008). Asynchronous video feedback on student performance has also been used by some instructors, and has been found to be beneficial to students for better understanding their performance, while also allowing them to feel that their instructor is a real person, improving social presence (Borup, J., West, R. E., & Graham, C. R., 2012). Additionally, giving feedback that is respectful and constructive will also increase perceived social presence (Garrison & Anderson, 2003).

**Social Presence**

Social presence includes “emotional expression, open communication, and group cohesion” (Garrison, Anderson, & Archer, 2000, p. 99). In providing emotional expression, students reveal their feelings to others about their learning experience (Garrison, Anderson, & Archer, 2000). Being respectful and kind to each other allows for open communication where
students are willing to participate and to share their ideas freely. When students can share their emotional responses, along with their intellectual contributions, students will feel like they are interacting with real individuals. Group cohesion indicates that students are committed to the group learning experience. In determining the learner-learner interactions (social presence) that contribute to students’ sense of being in a learning community, 381 graduate students indicated that providing introductions, engaging in collaborative projects, sharing personal experiences, having discussions as a class, and sharing resources were all significant (Shackelford & Maxwell, 2012). Thus, there are multiple methods of creating student-student interactions.

In reviewing discussion board conversations among graduate students, Lee (2014) found that higher social presence was correlated to higher cognitive presence. However, the ratios of cognitive density, or the higher-order thinking, within the discussion board conversations were still low in both courses analyzed. Lee (2014) suggests that teaching presence is necessary to increase cognitive density, though her study did not address teaching presence. While others have claimed this as well (Joo, Lim, & Kim, 2011; Shea & Bidjerano, 2009), this claim warrants further investigation; Bernard et al. (2009) found that social presence (student-student interaction) has the biggest impact on academic achievement and that teaching presence (student-teacher interaction) has the lowest impact on academic achievement. While social presence can improve cognitive presence, students are not necessarily satisfied with the learning process just because they have a high level of interaction with other students (Joo, Lim, & Kim, 2011; Kim, Kwon, & Cho, 2011). Instead, teaching presence and the ease of using the online environment impacts student satisfaction with learning (Joo et al., 2011). Still, it seems that social presence, in conjunction with teaching presence, increases cognitive presence.

For instructors to best create an environment that allows for social presence, they may need to set guidelines or expectations of communication. Even in a webinar, if the leader makes it clear that the participants may ask questions, or, better yet, time permitting, includes an ice-breaker activity, this can increase social presence. Giving the opportunity for students or participants to discuss in small groups, either synchronously or asynchronously, can also increase social presence by encouraging collaboration and interaction. If teaching a class, permitting students to share information about themselves in a discussion board can allow students to feel like they are part of a learning community. Instructors can begin discussions that encourage students to brainstorm and reflect in a low-risk format to ease students into the community (Garrison & Vaughan, 2008). Garrison and Anderson (2003) suggest that instructors make sure to welcome participants, encourage participation, praise participants, be conversational, and urge participants to contact the instructor / facilitator if any issues arise. In attempting to create an online community, a facilitator can also ask participants to provide feedback on the facilitator’s work and ideas (Neff, 2002). Allowing students to feel like they are a part of the construction of knowledge will improve group cohesion.

For those librarians leading webinars or online trainings, allowing participants to introduce themselves may not be possible. However, it is still important to have a feeling of interaction among the participants to generate a learning community experience. Including a Twitter hashtag to use during the webinar can increase social presence as students share information, assist each other with problems, or reflect on issues presented during a session. In college courses, Twitter use has been linked to increased student engagement and grades (Hirsh,
However, it is important to note that in a study by Junco, Heiberger, and Loken (2011) instructors facilitated the Twitter discussion, leading to higher grades and engagement, so teaching presence was still important. The participants need to know that their ideas and views are being heard. Tweeting them back or bringing in their tweets into the webinar conversation can improve social presence.

Some web conferencing software, like Adobe Connect, allows users to engage with each other in a chat room. Breakout rooms used in these web conferences can encourage more student to student interaction, increasing social presence. Those who may feel uncomfortable participating in a larger group will be more likely to engage with their peers in a small group (Cornelius & Gordon, 2013). Participants placed into smaller breakout rooms can become more motivated, and instructors can also monitor and engage with participants at a more personalized level (Wang & Hsu, 2008). Moderators participating in and encouraging others to participate in the breakout rooms are important for their success (Banna, Grace Lin, Stewart, & Fialkowski, 2015). Learners should not feel abandoned in the breakout rooms, and facilitators moving from one breakout room to the next can help keep them on track.

Videoconferencing can also allow for participants to see each other as they interact. However, it is important to note that videoconferencing opportunities for groups does not always lead to increased student satisfaction (Giesbers, Rienties, Gijselaers, Segers, & Tempelaar, 2009; Giesbers, Rienties, Tempelaar, & Gijselaers, 2014; Skylar, 2009). This has been true for some continuing education for professionals as well (Buxton, 2014). Additionally, videoconferencing in a course does not necessarily result in higher learning achievement either when compared to asynchronous forums (Giesbers et al., 2014). However, not all studies support this, with a study of education students showing that students preferred the web conferencing and that students performed equally well after either instruction method (Skylar, 2009). Additionally, graduate students at one university rated synchronous, web conferencing lessons as having higher social presence and also being related to higher satisfaction (Moallem, 2015). If used, instructors and facilitators can make sure that there is a high level of interaction by ensuring that the technology works and that there is a backup plan in case of technology failure, introducing themselves, limiting student control of the learning environment until it is time for a student to present, allowing text chat, sharing resources, using breakout rooms, and seeking student participation (Martin, Parker, & Deale, 2012). All of these methods will increase perceived social, cognitive, and teaching presence.

Conclusion

Ultimately, the Community of Inquiry model ensures that instructors are meeting student needs in online learning environments. Instructors and facilitators cannot merely present content and expect student satisfaction and learning are occurring. Instructors must instead focus on the full learning experience for students that allows them to employ higher-order thinking, to interact with their peers, and to receive guidance from the instructor. By including cognitive, social, and teaching presence in online instruction, librarians can create a educational environment that engages students and promotes deep learning.
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Is Your Tutorial Pretty or Pretty Useless? Creating Effective Tutorials with the Principles of Multimedia Learning

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Abstract
With the proliferation of free and easy-to-use tools to make online tutorials, many libraries have been creating online tutorials for their users. These cover everything from showing users how to navigate the databases to covering issues like copyright and evaluation. While the tutorials range from entertaining to rather dry, many of them, regardless of their entertainment value, do not employ the methods that can lead to deeper learning. Mayer (2014a) has explored the concepts and research around online tutorials in *The Cambridge Handbook of Multimedia Learning*. The principles covered in the handbook and in the related research can be quite counterintuitive for those of us who create online tutorials. This paper explores these principles as they relate to tutorials created for library instruction. Additional research to expand on and support Mayer’s principles will be discussed to provide evidence-based strategies for deepening learning and reducing elements that detract from learning.

Introduction
With all the time, effort, and money libraries put into creating interactive and original tutorials for their users, wouldn’t it be unfortunate if all that work did not lead to learning? Unfortunately, many libraries make tutorials without using evidence-based research to drive their design. These tutorials distract and overload viewers, which, in turn, leads to decreased learning or no learning. Mayer (2014a) has explored the concepts and research around online tutorials and other forms of multimedia learning in *The Cambridge Handbook of Multimedia Learning*. The principles covered in the handbook and in the related research can be quite counterintuitive for those who create online tutorials without the proper educational background in instructional design. This paper will explore some of those principles and the research that supports them, and will provide strategies to improve multimedia instruction. By better understanding the design elements that assist rather than impair learning, librarians can create dynamic multimedia instructional materials that engage and educate users.

Dr. Richard Mayer’s handbook, published first in 2005 and revised in 2014, provides research-based methods on how to best design multimedia instructional materials. Though multimedia does not necessarily refer to computer-based formats, the focus of the handbook remains on computer multimedia, though even a textbook could contain multimedia. The book incorporates empirical research and often meta-analyses that provide evidence-based strategies
for those interested in instructional design. Mayer himself is a professor of psychology at UC who has conducted over one hundred experiments on effective online learning practices.

**Recognizing Learning**

Understanding how people learn is the first step toward creating effective learning. According to Mayer (2014b), individuals learn by selecting relevant pieces of information, organizing it in the mind, and integrating that information with previous knowledge. The organization occurs in the working memory, and for that information to have permanence, it must move into long-term memory. Information moves from the working memory to long-term memory when a learner links information in the working memory to information in the long-term memory. As students are learning, they are moving through this process, and their cognitive capacity may be strained, depending on if instructional material is well made or not.

To indicate that learning has occurred, many studies focus on both recall and transfer skills. Improved recall means that students are able to retrieve and supply information stored in their memory. This is not the same as recognition, which means that students are able to select the correct information from a multiple choice or similar setting, rather than recalling it in a short answer or other scenario where information must be retrieved from their memories (Clariana & Lee, 2001). Transfer skills refers to the ability of students to apply skills to various situations and domains. Transfer skills, while an essential component of education, are not always automatic (Perkins & Salomon, 1988). Among various strategies for teaching to transfer, reducing cognitive load and providing instruction in various formats are effective methods of improving student transfer of skills learned (Billing, 2007), and are also strategies supported by multimedia learning.

**Principles for Multimedia Learning**

**Multimedia, Animation, and Cognitive Load**

According to the multimedia principle, which is supported with several research studies, more learning occurs when both pictures and words are used for instruction (Mayer & Anderson, 1991, 1992). This is because of the dual-channel theory, which shows that words and pictures are processed separately, though humans have the ability to cross-process (converting images to words and vice versa) (Baddeley, 1992; Pavio, 1986). In their instructional design role, librarians should create learning materials that reduce cognitive load by removing “inappropriate instructional procedures” (Paas & Sweller, 2014, p. 38). Though instructional designers may be tempted to add images or sounds to increase engagement, this can have a negative impact on learning. Even when using a PowerPoint, distracting transitions and animations can lead to a decrease in learning. Choosing the appropriate amount of multimedia effects is more important than many librarians may believe, but the research supports making prudent decisions in instructional design.

One way to reduce extraneous load is to avoid animation unless it is essential to the understanding of a process. In some research studies, static images have been found to generate better learning (Butcher, 2014). Thus, screenshots may be better to use than screencasting, especially if the learners have little prior knowledge, or if the skills being learned are very
complicated (Butcher, 2014). Though librarians may think that it is necessary to have a
screencast of using the databases, often times a series of screenshots should be sufficient in
instructing students. Additionally, the distraction of extraneous movement or information is
removed when librarians use screenshots alone. However, it is important to note that a meta-
analysis discovered that animation had a greater impact on learning than static pictures (Höffler
& Leutner, 2007). This was particularly true when the animation itself represented movement or
a process using motion that needed to be learned (Höffler & Leutner, 2007). The meta-analysis
did find that unnecessary, entertaining animation was not advantageous over static images
(Höffler & Leutner, 2007). As Lowe and Schnitz (2014) state, deciding whether or not
animation may be better than static images requires “more careful analysis of the nature of the
learning task than would normally be undertaken by instructional designers” (p. 524). Therefore,
animations should only be used when they are demonstrating something that needs to be learned.

Used appropriately, transitions and animations can benefit learning, as supported in the
signaling principle. Some screenshot and screencasting software allow creators to highlight
certain words or images through the use of arrows or other attention-attracting mechanisms.
Using this to direct learners to the most important aspects of a lesson can increase learning (van
Gog, 2014). Students do not have to put as much cognitive effort into discerning which pieces of
information they should select, and they can focus on moving this information into their working
memory and then their long-term memory. Using a particular tone of voice when explaining a
vital piece of information for students can help them select the most important information to
organize and integrate for learning. In an experiment using voice signaling, students showed
improved retention and transfer skills over those students who did not receive instruction with
verbal signaling (Mautone & Mayer, 2001). Even in face-to-face instruction that does not use
multimedia, signaling verbally can be beneficial to students.

Showing an image or screenshot and then explaining it on another slide or in a handout
negatively impacts learning (Ayres & Sweller, 2014). When designing instructional materials,
librarians should create lessons that integrate information together for the learners where
possible. If the information is not integrated, students have to hold information in their working
memory while selecting information to be integrated with it, and this causes an extraneous
cognitive load. Thus, spoken words and pictures should be shown at the same time to improve
learning and problem-solving ability, which is supported by the temporal contiguity principle
(Mautone & Mayer, 2001). Additionally, related materials need to be physically located next to
each other to increase learning, as seen with the spatial contiguity principle (Mayer & Fiorella,
2014). This includes feedback in tutorials. For example, if learners are asked to apply
knowledge through an interactive testing feature, feedback on the performance should appear
next to the question itself (Clark & Mayer, 2003). Otherwise, students will have to flip between
the feedback and the question, and this can add to cognitive load (Clark & Mayer, 2003).

To improve learning, librarians should break up lessons into shorter learning modules.
When students are viewing long tutorials or attending long webinars without a break, they may
experience cognitive overload (Mayer & Pilegard, 2014). One of the benefits of online learning
is allowing for user control. Segmenting the instruction and allowing learners to repeat material
and pace themselves improves both recall and transfer in students (Mayer & Pilegard, 2014).
Learners should have access to a forward and back button in online tutorials, and a pause button
in videos. It is important to note that being able to sequence their own learning only benefits
students with a high level of prior knowledge (Clark & Feldon, 2014). Thus, lessons that require students to move through a linear lesson, while also allowing students to repeat and pause material, appear to be the most effective. Though a navigation page may be useful to students who cannot complete a learning module all at one time, librarians should consider whether or not they want to encourage learner control of the multimedia elements. According to an analysis of the research, instructional designers should allow learners to control the order of the selection and sequencing of their learning if the learners have a strong, prior understanding of the topic, and if they will receive appropriate scaffolding and additional instruction (Scheiter, 2014). Thus, providing a clear, linear order for learning will be the most efficient for most distance learners.

Audio

Because of the dual-channel processing ability of humans, the modality principle states that learners can process more when both audio and visual modes are used for instruction (Lowe & Schnotz, 2014). However, if the process being described has a high level of complexity, having only one mode can engender more learning (Kalyuga & Sweller, 2014). For most library instruction, though, having dual-mode instruction should be an efficient way to teach research skills. Many online tutorials libraries create include both audio and visual elements, which allows users to hear a process described, like searching a discovery system, while they are watching this process. This allows for the verbal information to be easily integrated with the visual information, which can lead to deeper learning because the information is more likely to be organized into working models in long-term memory (Mayer & Sims, 1994).

Multimedia instruction with audio in online tutorials can become ineffective in unexpected ways. For example, if words are displayed on a screen and read by a narrator, learning decreases (Kalyuga & Sweller, 2014). This is referred to as the redundancy principle. Though it may seem like reading information provided textually to students re-emphasizes concepts, this is not as effective for learning. If the material itself is simple, then typically the redundancy principle does not impact learning to a large degree (Kalyuga & Sweller, 2014). Because many librarians create online instructional tools that have applications for a variety of audiences, limiting redundancy will benefit all learners. Even when giving a presentation, librarians should avoid reading their presentation slides, not only because this is not a sophisticated presentation practice, but because listeners will retain less from the presentation.

Not only should redundant text be removed, but truly any information or content that is not necessary for learning should not be included in tutorials. This includes music, related anecdotes, or even providing too much of an explanation (Clark & Mayer, 2003). Though these tools may seem to increase student interest, they instead make learning more difficult by distracting the learner and making it difficult for the learner to understand the connections between the important content being presented (Clark & Mayer, 2003). Research has shown that additional sounds, music, pictures, and words all detract from learning (Clark & Mayer, 2003). This does not mean that a video promoting the library that has entertaining elements would be ineffective because the purpose is to only pique the interest of the viewer. For tutorials on important concepts, however, entertaining features would be ineffective.
Personalization and Characters

When librarians create instructional materials online, they should keep in mind the personalization principle. Personalization means that a conversational tone should be used to increase learning (Mayer, 2014c). Instead of using third-person pronouns, librarians should use first- and second-person pronouns, especially when making materials for lower-achieving students and for shorter lessons (Mayer, 2014c). In a study of college students, students rated higher in both retention and transfer skills when receiving multimedia instruction with a personalized, informal explanatory text than with formal instruction (Kartal, 2010). Regardless of whether the instruction is provided via text or audio, the instruction should not be overly stiff, formal, or academic. This may seem contrary to some goals of library instruction teams, who wish to appear more rigorous if they are in an academic setting. A conversational tone, however, can still convey expertise and knowledge without placing more cognitive strain on students as they navigate difficult language or processes that seem too theoretical because they are not personalized.

Students learn more from audio lessons that use a human voice without an accent, even when the same material is covered (Mayer, 2014c). Though software exists that creates animation with text-to-speech features, like Voki, students will not learn as much from this as they will from a human voice. Additionally, a character that looks very cartoonish or does not have human-like movements will not positively impact learning (Mayer, 2014c). Having a human-like character on the screen with a human voice is not only preferred by students, but can increase learning (Moreno, Mayer, Spires, & Lester, 2001). However, several studies indicate that while a character (often called a pedagogical agent) does not negatively impact learning through the split-attention principle, it typically does not have a positive impact above and beyond other multimedia learning (Clark & Feldon, 2014; Craig, Gholson, & Drisdol, 2002; Gulz, 2004). In fact, Clark and Feldon (2014) call the advantages of pedagogical agents a “questionable principle” that does not require further research (p. 156). Therefore, libraries should not feel compelled to employ characters, cartoons, or even their own talking head in their instructional materials because research does not support their use.

Content to Improve Learning

While some content in multimedia learning, like extraneous information, can be damaging to the learning experience, research has shown that some content across multimedia learning can be very beneficial. For example, exposing students to the concepts covered in a lesson before beginning the lesson (pre-training) can allow for deeper learning (Mayer & Pilegard, 2014). So, for example, before a librarian shows how Boolean operators can be used in a database, she or he could explain what they are and how they function. The cognitive load of explaining the function of a Boolean operator as they are used in a particular database could strain a student’s ability to learn. Pre-training allows students to work through a concept and store it in their long-term memory prior to a more complicated lesson. Once the have this in their long-term memory, they have a schema into which they can integrate new information about this concept as they work through the lesson.

Providing students with worked examples can also improve learning. Typically, a worked example refers to something like a math problem where a question is presented, and then
the entire process that it takes to attain the solution is explored. An example of this relevant to libraries could be a tutorial that works through copyright problems, applying the four factors of fair use, and then determining whether a particular information use is a violation of copyright or not. Worked examples can deepen the learning of students (Renkl, 2014), but there are some important factors to consider if worked examples are included. One is the passivity of learners; when they do not internally or audibly explain the problems to themselves as they see and/or listen to the worked examples (self-explanation), they will not learn as much (Renkl, 2014). Therefore, the tutorial should include prompts that ask students to make comparisons, reflect on conclusions, or provide explanations of what they learned in their own words (Renkl, 2014). Additionally, the worked examples need to avoid providing too much extraneous information and should focus on the particular skills required so that students may problem-solve on their own. A worked example on fair use should not provide extraneous information about patent law or trademarks, but focus on how to apply the four factors well.

Moving from a worked example to application will allow learners to begin to create the structures in their long-term memory that allows them to remember the content of the lesson. While games may appear to be a fun manner of showing the retention of learning, application problems that represent authentic scenarios will generate better learning (Clark & Mayer, 2003). Tutorials that require students to drag and drop correct elements of a citation, to insert the appropriate keywords, or to make a decision regarding a plagiarism case allow them to retain and transfer knowledge relevant to the topic. If the test of skills does not represent the actual environment or context in which the learner will be using the skills in reality, then the learning is less likely to be transferred (Clark & Mayer, 2003).

**Considering Audience**

Particular audiences may require particular designs and content in multimedia learning. The expertise reversal principle in multimedia learning states that many of the principles that are effective for novices become ineffective or harmful for learning for those who have a significant amount of prior knowledge (Kalyuga & Sweller, 2014). Typically, the more prior knowledge someone has, the less structure they need in their learning environment (Kalyuga & Sweller, 2014). Less scaffolding, less worked examples, and less explanations are actually more effective for learning for knowledgeable students (Kalyuga & Sweller, 2014). Since these students have mental models already, they are integrating new information with these models, not creating new mental models. Too much information can cause cognitive overload as they work with their long-term memory and the new information.

While elderly adults may have slower processing abilities, multimedia learning proves to be an effective way to provide instruction. Naturally, if there is an extraneous cognitive load in learning how to use a system, that can negatively impact learning. Because of the modality effect, though, older adults learn more when there is a dual-channel method of learning (Van Gerven, Paas, & Tabbers, 2006). In fact, researchers of multimedia learning and elderly adults suggest that instructional designers do not need to create particular instruction for the elderly, but can use the principles described above to design effective instructional materials for most learners (Van Gerven, Paas, & Tabbers, 2006).
Conclusion

Though multimedia learning does provide a way to create effective instruction, there are some important research findings to keep in mind so that the beneficial effects of multimedia instruction is not exaggerated. Research does not indicate that multimedia instruction is more motivating or produces more learning than older media or face-to-face instruction strategies (Clark & Feldon, 2014). It can benefit learning, but that does not mean that older methods of instruction should be abandoned. Additionally, librarians should not attempt to use multimedia instruction to match “learning styles.” Research on learning styles has indicated that attempting to match preferred learning style and instruction does not increase learning (Dembo & Howard, 2007). Instead, following the principles that benefit students as explored above will generate deeper, better learning.

This paper has demonstrated the evidence-based design principles that can be used to improve multimedia learning. Ultimately, tutorials should focus on elements relevant to the learning and should provide authentic scenarios and learner reflection. Though pictures of LOLcats and pop music may seem to generate more interest in library tutorials, if the goal of the tutorial is student learning, then librarians and instructional designers should remove extraneous content and focus on strategies that will increase rather than decrease student recall and transfer.
References


He asked me what!? - Using Shared Online Accounts as Training Tools for Distance Learning Librarians

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Kathleen Citro
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Abstract
This study explores the idea of creating a knowledge base from shared online accounts to use in training librarians who perform distance reference services. Through a survey, follow-up interviews and a case study, the investigators explored current and potential use of shared online accounts as training tools. This study revealed that the participants viewed the concept positively, but many encountered barriers to effectively employing a local knowledge base as a training tool.

Introduction

Training for new distance learning librarians and ongoing professional development for veteran librarians is a perennial topic of discussion. Distance librarians may have sole or primary responsibility for the off-campus student and faculty community at their institutions; they may work entirely in a virtual environment while their colleagues provide service to users in person; or they may be assigned to a particular college or program with unique service needs. Despite a considerable amount of information in the professional literature, courses, and webinars, it can be difficult for distance librarians to find training that addresses the specific needs of their unique student populations.

Regardless of the work environment, one general constant is that distance learning librarians provide some, if not all, of their services virtually (e.g., email, chat, text, via the Learning Management System (LMS), etc.). This enables them to track and archive reference questions and answers in a far more systematic way than has been possible in traditional face-to-face reference service points. In addition, these modalities are often shared so that the student requesting information submits to a generic account and receives information back from the library rather than an individual librarian, who may not always be available. A reference archive of this type could provide a method of training that may be helpful for distance learning librarians, or indeed, anyone providing reference assistance. The review and discussion of reference questions answered through shared online resources, which can vary from a basic email account to a vendor product such as LibAnswers by Springshare, can help librarians learn about new trends in questions and the sources needed to respond effectively. By leveraging resources such as these knowledge bases, distance librarians may quickly and inexpensively benefit from specialized peer training.
There is very little in the literature of library and information science on using shared online reference accounts as sources of ongoing professional development. This study proposes to address that by exploring the idea of shared online accounts as training tools, specifically, is this a common practice among distance learning librarians, and if so, does it provide the learning opportunities librarians need. The results of this study could benefit libraries by providing a framework for training developed from programs that are successful in this approach. On the other hand, if few libraries use this method, the results of this research may provide a springboard for implementing such training more broadly.

**Literature Review**

In a 2009 survey conducted among librarians who identified as having some distance learning responsibilities (Fritts & Casey, 2010), 91.5 percent reported that they did not receive training in any aspect of distance learning librarianship in their graduate degree programs. In addition, the most common response to an open-ended question about the type of on-the-job-training they received was *none*. However, “The respondents … consistently emphasized the need for current awareness and ongoing training and development activities for distance librarians” (Fritts & Casey, 2010, p. 623).

Of those who had received some training, 68.8 percent said that it came from conferences and professional associations and over 80 percent mentioned workshops and webinars as the most desired format of external training (Fritts & Casey, 2010). Cassner and Adams (2012) refer to this study in the introduction to their compilation of conferences, associations, training opportunities, and professional connections related to distance learning librarianship. Building on the findings of the 2009 survey, they suggest many avenues of acquiring new skills through associations and organizations for professionals who may receive little, if any, formal training in their own institutions (Cassner & Adams, 2012).

In the responses from the 2009 survey to open-ended questions on both how the distance learning librarians received on-the-job-training and the ways in which they would like to receive it, mentoring was suggested as a beneficial way to learn (Fritts & Casey, 2010). This process is a very common training method in reference librarianship. “Library schools do not teach everything individuals need to know to become a good librarian… Mentoring … librarians in the workplace is a way to enable individuals to gain valuable knowledge…” (Lee, 2009, p. 31). Mentoring can help a new librarian learn the job more quickly and feel a part of the team early on. In fact, at Regent University Library, new hires, who participated in an orientation and mentoring program in 2006-2007, agreed that the amount of training was what they needed and “the most conclusive result was the fact that the librarians felt supported in the job” (Lee, 2009, p. 35).

Peer mentoring is a common type of on-the-job-training for librarians, especially those in public services work. Reference librarians often work at a service point together and can assist each other to learn more about the best resources to answer complicated or unusual information requests. This type of peer mentoring becomes more difficult in a distance learning situation where librarians are generally responding to questions at a virtual service point and so are often not aware of the questions their colleagues are answering. However, the Frederick L. Ehrmann
Medical Library at New York University (NYU) developed a method of peer training that proved very effective for librarians who shared an email account and responsibility for providing reference assistance (Vieira & Dunn, 2005). All public services librarians were copied on responses to email requests and required to read them. In surveys of the librarians conducted in 2004, the response to this peer training method was positive. One librarian responded, “Because expertise in various areas differs among searchers, I appreciate and learn from other searches” (Vieira & Dunn, 2005, p. 71).

Sharing the answers to questions among reference librarians as a way to learn from peers, like the NYU approach, probably dates back to the earliest libraries and has been documented since the late 19th century (Bejune & Morris, 2010). From the reference notebook to the ready reference card file, librarians have learned their craft from each other informally when they have had the opportunity to read about common or complicated questions. As new technologies were introduced, librarians migrated their notebooks and files to the electronic world. Bejune and Morris chronicle a variety of these methods used over the years at the Purdue University Libraries, including capturing chat transcripts, building FAQs and developing a virtual notebook. All of these were done to establish a knowledge base librarians could refer to in order to learn new sources and techniques.

In a survey conducted in 2011 of distance learning librarians on their use of a knowledge bases in reference transactions, 56 percent of the respondents reported that they built the information repositories from local reference transactions. In addition, 50 percent of those who answered the survey said that they developed these knowledge bases as a resource for librarians to have access to the information exchanged in reference transactions (Casey, 2012). So, in effect, the majority of distance learning librarians who participated in the survey were developing a knowledge base for informal learning from virtual transactions. Furthermore the use of a knowledge base developed as a resource for reference librarians providing service to a virtual community is described as essential for the Florida Ask a Librarian Reference Consortium, where practitioners learned about the specifics of local libraries to provide better service to users in the local communities (Bishop, Sachs-Silveira, & Avet, 2011).

From the use of a knowledge base as a resource for reference librarians, it is a small step to begin using it as a training tool. “With chat logs, every single reference interview can be captured in its entirety for later examination, without any extra steps needing to be taken. This creates the opportunity for a whole new type of reference training” (Ward, 2003, p. 46). Ward describes a training program for graduate assistants on the reference desk of a university library in which they were required to read the transcripts of virtual reference transactions to develop a sense for proper reference interview techniques as specified in the Reference and User Services Association (RUSA) behavioral guidelines. Based on a post-assessment survey, participants showed improvement in the skills they learned through studying the reference transcripts in the knowledge base.

**Research Design and Methodology**

The investigators employed a mixed methods approach for this study, in which quantitative and qualitative data were collected. The quantitative information was derived from
a survey the investigators administered to academic librarians through electronic lists and Facebook. The answers to open-ended survey questions, follow-up personal interviews and a case study comprised the qualitative portion. This study was approved by the Embry-Riddle Aeronautical University Institutional Review Board for the Use of Human Subjects.

The population consisted of librarians who subscribe to electronic lists primarily available to members of the Association of College and Research Libraries (ACRL) or the Florida Association of College and Research Libraries (FACRL). Between August 28 and September 2, 2015, the investigators sent an invitation to participate in the survey to librarians subscribed to:

- DLS-L, the listserv for the Distance Learning Section of the Association of College and Research Libraries (ACRL);
- CJC-L, the listserv of the Community and Junior College Libraries Section of ACRL;
- ULS-L, the listserv of the University Libraries Section of ACRL;
- Collib-L, the listserv of the College Libraries Section of ACRL;
- NMRT-L, the listserv of the New Members Round Table of the American Library Association;
- FACRL-L, the listserv of the Florida Association of College and Research Libraries; and
- Offcamp, an independent listserv dedicated to distance learning library issues.

In addition, they posted an invitation on the Facebook wall of the ACRL Distance Library Section. Since many librarians subscribe to most if not all of these lists and may also follow the Facebook page, it is impossible to determine the number of people who received the invitation.

The authors developed a 20-question survey (see Appendix A) designed to explore the use of a knowledge base generated from local virtual reference transactions as a training tool. They tested the questions with research librarians and made changes based on their input to improve the survey. They included open-ended questions designed to capture other ideas and opinions about the use of a knowledge base as a training tool.

One of the survey questions asked those willing to participate in a personal interview to indicate this by supplying contact information. From the list of those who agreed to participate in an interview, the investigators randomly selected five names using Microsoft Excel's RAND function. Through this process, a random number was generated for each name, and the five names with the smallest associated denominations were selected. The investigators then emailed each of the five to schedule a 30-minute telephone call in October, 2015. The investigators began each of the interviews with a list of prepared questions (see Appendix B) generated from responses to the open-ended questions on the survey, which explored librarians’ attitudes toward and experience with knowledge bases in reference work. The investigators probed further with
questions that were specific to the conversations in each of the interviews. They recorded the conversations with the permission of the interviewees and took notes.

The Hunt Library at Embry-Riddle Aeronautical University (ERAU) served as the location for the case study. The Research and Worldwide Library Services department of the Hunt Library consists of 11 research librarians who provide reference and research assistance to 5,200 students on the Daytona Beach residential campus as well as to 25,000 students enrolled in over 150 distance learning centers or in online courses through the ERAU Worldwide Campus. The librarians work as a team to support all students and share time at in-person and email research points.

Findings

Survey

One hundred and thirty-eight librarians responded to the survey. Since the number of people invited to participate is impossible to calculate, the percentage of responses is not available. The survey instrument was designed to quantitatively measure librarian participation in distance reference services and associated training, including training using a shared online knowledge base. Within the survey instrument, demographic variables were chosen to reveal information about the participants and their role in library distance services (Table 1). Of participants, a preponderance (n = 133) reported employment at an academic library, with 57 percent of these participants working at a Doctoral-granting institution. Over half of participants (n=76) work in a Reference/Instruction department, while 19 percent described working in a department not listed in the survey. Applying an open-coding method to the responses in this category revealed that 6 percent of participants (n=8) work in a dedicated distance services department. As is the case with convenience samples, survey participants are not representative of the entire population of librarians, limiting the research findings in scope.

The next set of survey questions were selected to measure participant responsibilities in the provision of distance reference services. Ninety-two percent of participants (n=133) work in libraries that provide virtual reference services for distance learning students, with 69 percent (n=96) indicating that they personally provide virtual research services for distance learners. Q10 asked about the types of virtual reference services participants’ libraries provide for distance learning students (Table 2). Respondents could choose multiple types of services, and these varied widely across categories, with the greatest percentage of libraries reporting using phone (n=117) followed by LibGuides or other types of Research Guides (n=108).

Participants were given an open-ended response option in Q10 in which they could indicate if other types of virtual reference services are available in their libraries. These responses were coded and compiled using an open-coding method (Table 3). The largest number of participants (n=18) also use video or web conferencing software for reference services, while others reported that librarians are embedded in a course or learning management system (n=11).
Table 1

*Demographics of Survey Participants*

<table>
<thead>
<tr>
<th>Responses</th>
<th>%</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q2: Library type (N =138)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Academic</td>
<td>96.4</td>
<td>133</td>
</tr>
<tr>
<td>Public</td>
<td>0.7</td>
<td>1</td>
</tr>
<tr>
<td>School</td>
<td>0.0</td>
<td>0</td>
</tr>
<tr>
<td>Special</td>
<td>0.7</td>
<td>1</td>
</tr>
<tr>
<td>Other (please specify)</td>
<td>2.2</td>
<td>3</td>
</tr>
<tr>
<td>Q3: What is the highest level of degree offered by your institution? (N = 133)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Doctoral</td>
<td>57.9</td>
<td>77</td>
</tr>
<tr>
<td>Graduate</td>
<td>15.8</td>
<td>21</td>
</tr>
<tr>
<td>Baccalaureate</td>
<td>6.0</td>
<td>8</td>
</tr>
<tr>
<td>Associate</td>
<td>20.3</td>
<td>27</td>
</tr>
<tr>
<td>Trade or technical certification</td>
<td>0.0</td>
<td>0</td>
</tr>
<tr>
<td>Q4: What is your institution's FTE (full-time equivalent) student enrollment? (N = 133)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-1000</td>
<td>3.8</td>
<td>5</td>
</tr>
<tr>
<td>1,001-2,999</td>
<td>18.0</td>
<td>24</td>
</tr>
<tr>
<td>3,000-9,999</td>
<td>35.3</td>
<td>47</td>
</tr>
<tr>
<td>10,000-19,999</td>
<td>18.8</td>
<td>25</td>
</tr>
<tr>
<td>Over 20,000</td>
<td>24.1</td>
<td>32</td>
</tr>
<tr>
<td>Q5: Your Library Department. (N = 134)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reference/Instruction</td>
<td>56.7</td>
<td>76</td>
</tr>
<tr>
<td>Acquisitions</td>
<td>1.5</td>
<td>2</td>
</tr>
<tr>
<td>Electronic Services</td>
<td>3.7</td>
<td>5</td>
</tr>
<tr>
<td>Technical Services</td>
<td>3.7</td>
<td>5</td>
</tr>
<tr>
<td>Systems</td>
<td>0.0</td>
<td>0</td>
</tr>
<tr>
<td>Administration</td>
<td>14.9</td>
<td>20</td>
</tr>
<tr>
<td>Other (please specify)</td>
<td>19.4</td>
<td>26</td>
</tr>
<tr>
<td>Q6: How do you describe your primary role at your library? (N = 135)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Paraprofessional</td>
<td>0.0</td>
<td>0</td>
</tr>
<tr>
<td>Part-time Librarian</td>
<td>5.2</td>
<td>7</td>
</tr>
<tr>
<td>Full-time Librarian</td>
<td>72.6</td>
<td>98</td>
</tr>
<tr>
<td>Administrator</td>
<td>5.2</td>
<td>7</td>
</tr>
<tr>
<td>Manager/Director</td>
<td>16.3</td>
<td>22</td>
</tr>
</tbody>
</table>
Q7: Number of Employees at your primary work location. (N = 135)

<table>
<thead>
<tr>
<th>Category</th>
<th>%</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2.2</td>
<td>3</td>
</tr>
<tr>
<td>2-10</td>
<td>27.4</td>
<td>37</td>
</tr>
<tr>
<td>11-50</td>
<td>47.4</td>
<td>64</td>
</tr>
<tr>
<td>More than 50</td>
<td>23.0</td>
<td>31</td>
</tr>
</tbody>
</table>

Table 2

*How Does Your Library Provide Virtual Reference Services for Distance Learning Students?*

<table>
<thead>
<tr>
<th>Type of Virtual Service</th>
<th>%</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personal email accounts</td>
<td>54.7</td>
<td>76</td>
</tr>
<tr>
<td>Shared library email account</td>
<td>68.3</td>
<td>95</td>
</tr>
<tr>
<td>Chat</td>
<td>78.4</td>
<td>109</td>
</tr>
<tr>
<td>Text</td>
<td>51.8</td>
<td>72</td>
</tr>
<tr>
<td>Phone</td>
<td>84.2</td>
<td>117</td>
</tr>
<tr>
<td>LibAnswers</td>
<td>37.4</td>
<td>52</td>
</tr>
<tr>
<td>LibGuides/Online Research Guides</td>
<td>77.7</td>
<td>108</td>
</tr>
<tr>
<td>Other</td>
<td>23.0</td>
<td>32</td>
</tr>
<tr>
<td>No response</td>
<td>6.5</td>
<td>9</td>
</tr>
</tbody>
</table>

Table 3

*Other Types of Virtual Reference Services Reported*

<table>
<thead>
<tr>
<th>Type of Virtual Service</th>
<th>%</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>Video/web conference</td>
<td>14.0</td>
<td>18</td>
</tr>
<tr>
<td>Embedded in Course/Learning Management System</td>
<td>7.9</td>
<td>11</td>
</tr>
<tr>
<td>Consortial Ask a Librarian Service</td>
<td>2.2</td>
<td>3</td>
</tr>
<tr>
<td>Homegrown App</td>
<td>0.7</td>
<td>1</td>
</tr>
<tr>
<td>Fax</td>
<td>0.7</td>
<td>1</td>
</tr>
</tbody>
</table>

Survey questions next measured participant experiences with training for virtual reference services, including experiences with shared online knowledge bases for training and ongoing professional development. Of survey participants, only 27 percent (n=38) reported that their libraries have a formal training program for new librarians in providing virtual reference
services (Table 4). For a small percentage of these participants ($n=3$) this formal training program is not required, bringing the number of participants with a required formal training program for new librarians to 25 percent. The most common type of training for librarians performing virtual reference services was self-study and learning on the job, at nearly 70 percent ($n=93$). Other predominant types of training offered for new librarians included mentoring ($n=73$) and conferences or webinars ($n=34$). Of the types of virtual research training participants reported as mandatory for new librarians at their place of work, 25 percent reported that self-study or learning on the job is required ($n=35$) and 20 percent ($n=29$) indicated that mentoring is required.

Survey participants were next asked to select the knowledge base most used to share information about reference interactions in their place of work (Table 5). Due to limitations with the survey tool, multiple responses could not be selected for this question. Of participants, 20 percent ($n=28$) use LibAnswers (Springshare), while nearly as many utilize a shared email account for their knowledge base ($n=25$). Eighteen percent of participants ($n=25$) reported using no knowledge base to share reference information. Participants were provided with an open-answer text box in order to indicate other types of knowledge bases used. Many of the comments here were from participants who wanted it made clear that more than one knowledge base was used in their libraries to share information about reference interactions. Among other choices, participants reported using chat ($n=3$), Gimlet ($n=2$) and a homegrown system ($n=3$).

Only 21 percent of participants ($n=30$) reported that reviewing answers in the knowledge base was a required part of training for new librarians, with an even smaller percentage reporting that reviewing answers was a mandatory part of ongoing librarian professional development ($n=21$). Of the participants with a requirement for reviewing the knowledge base as part of their professional development, 23 percent ($n=5$) are required to review the knowledge base daily, and 28 percent ($n=6$) are required to view the knowledge base weekly.

Table 4

<table>
<thead>
<tr>
<th>Type of Training Program</th>
<th>%</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>No training provided</td>
<td>13.7</td>
<td>19</td>
</tr>
<tr>
<td>Formal training program</td>
<td>27.3</td>
<td>38</td>
</tr>
<tr>
<td>Self-study/Learning on the job</td>
<td>66.9</td>
<td>93</td>
</tr>
<tr>
<td>Mentoring</td>
<td>52.5</td>
<td>73</td>
</tr>
<tr>
<td>Conferences/webinars</td>
<td>24.5</td>
<td>34</td>
</tr>
<tr>
<td>Professional literature</td>
<td>18.0</td>
<td>25</td>
</tr>
</tbody>
</table>
Table 5

*Online Knowledge Base Use*

<table>
<thead>
<tr>
<th>Knowledge Base</th>
<th>%</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>LibAnswers</td>
<td>20.1</td>
<td>28</td>
</tr>
<tr>
<td>Shared email account</td>
<td>18.0</td>
<td>25</td>
</tr>
<tr>
<td>Wiki</td>
<td>3.6</td>
<td>5</td>
</tr>
<tr>
<td>Intranet</td>
<td>3.6</td>
<td>5</td>
</tr>
<tr>
<td>LibGuides</td>
<td>10.8</td>
<td>15</td>
</tr>
<tr>
<td>No online knowledge base used</td>
<td>18.0</td>
<td>25</td>
</tr>
<tr>
<td>Other</td>
<td>15.1</td>
<td>21</td>
</tr>
</tbody>
</table>

The survey also measured participant's opinions of the effectiveness of knowledge bases for sharing knowledge. Of participants working in an institution where a knowledge base is being used to share information about reference interactions ($n=124$), 60 percent of participants ($n=75$) report that this task is effective or very effective for sharing knowledge. This percentage changes somewhat based on the participant's role. Of participants who self-identified as either supervising librarians or staff who provide virtual reference services or managing a library department that provides virtual reference services, 95 percent reported ($n=22$) that this was an effective or very effective tool for sharing knowledge.

**Qualitative – Survey & Interviews**

The researchers reviewed qualitative data gathered from the survey instrument and used this data in creating follow up questions for interview participants. Raw data from open-ended survey questions Q19, Q20, and Q21 was categorized using an open, inductive coding method. Of the 16.6 percent of participants ($n=23$) who selected that a knowledge base is not effective in response to Q18, 18 participants provided additional feedback on what would make a shared knowledge base more effective for librarians who provide virtual reference services (Table 6).

Data indicated that a majority of these participants were concerned about problems with knowledge base usage ($n=10$); primarily that usage amongst librarians was low or not uniform. In the same context, participants ($n=3$) pointed to the need for greater functionality within their knowledge bases. Many of these problems stemmed from participant concerns about the accuracy or currency of information available in their respective knowledge bases.
Table 6

**Q19: What would make a shared knowledge base more effective for virtual reference services?**

<table>
<thead>
<tr>
<th>Inductive Categories</th>
<th>Participant Responses</th>
</tr>
</thead>
</table>
| Usage                | • Easier to access and requiring librarians to use it.  
                      • If it was being used by all who participate in providing reference.  
                      • If it was more widely used.  
                      • Better way to view it; make it more officially part of job.  
                      • Making it mandatory.  
                      • More uniform use.  
                      • It is difficult to remember to go back to past transactions. We discuss in person.  
                      • First of all, the service has to be marketed, promoted, and pushed.  
                      • If it was more widely used.  
                      • Remembering to use it.                                                                                                                                 |
| Functionality        | • More complete information included about interactions.  
                      • More current.  
                      • A more robust FAQ area.  
                      • Frequently asked questions with best answers, use in some kind of actual training for new reference librarians.  
                      • For it to be organized by type of information request.  
                      • Have a site search function of the KB.  
                      • In my library, Lib Answers isn't regarded as a place to find information, only as a place to deposit it. A change in thinking might alter its use or value. Additionally, without authority control, it's very difficult to find what you need - keywords are only assigned through use of natural language, resulting in several terms for a single idea. |
| Do not have one      | • Existing (we don't have one right now).  
                      • We need to create one.                                                                                                                                                                                                 |

Participants were also asked to provide any additional comments about shared online knowledge bases for librarians providing virtual reference services (Table 7). Of participants, 21 percent ($n=29$) provided additional feedback. Eleven participants responded with feedback on the usefulness of knowledge bases, especially for trending or repeat questions. Five participants shared drawbacks they find exist in using shared knowledge bases, reiterating the opinion that uniform usage of the knowledge base is problematic. Six participants provided suggestions on training or information they have learned about training through implementing a knowledge base at their libraries.
### Q20: Other comments about the usefulness of a shared knowledge base

<table>
<thead>
<tr>
<th>Inductive categories</th>
<th>Participant Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benefits of knowledge base</td>
<td>• Ours is relatively new, but proving useful, especially for full timers to share info with the evening/weekend librarians.</td>
</tr>
<tr>
<td></td>
<td>• It's a good idea.</td>
</tr>
<tr>
<td></td>
<td>• If done properly, it could be useful.</td>
</tr>
<tr>
<td></td>
<td>• Although not everyone reads them, they are helpful for identifying trends in certain classes or acknowledging a consistent issue.</td>
</tr>
<tr>
<td></td>
<td>• It's helpful for repeat questions related to student assignments.</td>
</tr>
<tr>
<td></td>
<td>• For those on the desk frequently, it's a great help. For those with sporadic desk coverage, it's often too big a knowledge base to try and wade through for a single question or two.</td>
</tr>
<tr>
<td></td>
<td>• Very convenient for linking a LibAnswer to support answering a student question.</td>
</tr>
<tr>
<td></td>
<td>• We suggest that new librarians review recorded information about transactions to give them an idea of the kinds of questions asked and how experienced librarians answer them. Also, they can review chat transcripts to learn virtual reference techniques.</td>
</tr>
<tr>
<td></td>
<td>• We periodically review the chat transcripts, which does provide useful information.</td>
</tr>
<tr>
<td></td>
<td>• We use LibAnswers as well as an informal 'knowledge base' of previously answered questions.</td>
</tr>
<tr>
<td></td>
<td>• The knowledge base is an invaluable resource.</td>
</tr>
<tr>
<td>Drawbacks of knowledge base</td>
<td>• Not really worth it, since most people don't use and then forget it exists.</td>
</tr>
<tr>
<td></td>
<td>• I think there's a lack of awareness that it exists and it's overly complicated.</td>
</tr>
<tr>
<td></td>
<td>• In principle, a shared knowledge base is great; however, our staffing model for virtual reference distributes coverage to the point that we each only do 1-2 hours a week. Remembering to check the knowledge base (and whether to contribute to it, second-guessing possible one-off interactions) is a whole other thing to consider managing.</td>
</tr>
<tr>
<td></td>
<td>• It's not as thorough as I'd like but there is an upgrade coming so maybe that will take care of it.</td>
</tr>
<tr>
<td></td>
<td>• It is pretty new at our institution</td>
</tr>
<tr>
<td>Training suggestions</td>
<td>• Everyone should read it more often.</td>
</tr>
<tr>
<td></td>
<td>• Needs participation from all librarians. Maintenance must be done.</td>
</tr>
</tbody>
</table>
• We also have a library DL committee which helps with creating policy and ideas for DL.
• Some basic training by the librarian who is in charge.
• It's very minimal - mostly hands-on training.
• Don't use ACRONYMS ever.

FAQs

• FAQ is helpful for repeat questions.
• The only useful 'shared knowledge base' at my library has been the construction of a FAQ, where specific answers are crafted for common, complex questions (i.e. setting up wireless library printing on a Macintosh laptop).
• The old knowledge base was very useful for information sharing. But it became outdated. We use LibAnswers as a public FAQ on our website but have not gotten into sharing things internally through it.

Other methods for knowledge sharing

• A lot of it is done by shared personal contact, not an online forum.
• We actually do better with a print notebook.
• For me, this survey is confusing because the embedded librarians are separate from the reference librarians. Both provide virtual ref/res services, but in complete different ways. The answers would be different if the two were separated into two different surveys.

Follow up interviews were next arranged with survey participants. Using a standard sample size for phenomenological studies (Creswell, 1998) a sample of five participants was randomly selected from those survey participants who volunteered for interviews (n=22). Interviews were scheduled one month following the close of the survey and were allotted up to thirty minutes of time each. Interview questions were derived from survey results (See Appendix B – Personal Interview Questions). Each interview participant was first asked whether they felt reference librarians had positive or negative opinions towards ongoing formal training. Participants indicated that they felt unable to answer this question as too many extenuating factors are involved in shaping opinions towards training. These extenuating factors were contributed to groups and included: faculty status; group think; time in position; and time or money limitations.

Next, participants were asked if formalizing the sharing of information amongst reference librarians would be effective for training. In this sense, participants were asked to imagine a scenario in which a librarian informally shares information about a reference question to the next librarian on the reference shift in passing. In an alternate situation, rather than perform this informal information sharing, the first librarian included the reference questions and his or her answer in a shared knowledge base that was later used for formal professional training and development. Eighty percent of interview participants (n=4) felt that formalizing training in this way could be effective for reference training but faced challenges. Although participants saw...
problems with sharing information by word-of-mouth, three participants felt that sharing information informally—whether it be a print notebook, group email notification, or internal chat amongst librarians, was equally if not more effective than storing the information in a knowledge base for later training. Only one participant agreed that formalizing this information sharing was useful for training, and had experience with this type of training.

Participants were then asked for their opinion on how a library could incorporate training using a knowledge base. A lack of consistency in responses made coding this answer difficult. Two participants felt that a knowledge base could be useful but only if there is a system in place to remind people to view it, such as an email reminder. One participant suggested that a knowledge base is more useful for technicians or students who perform reference and have limited experience answering questions. One participant indicated that the knowledge base was too difficult or time-consuming to implement. Lastly, one participant felt that a knowledge base, such as a reference desk answer tracker, could be a useful tool incorporated into ongoing professional training—such as having all librarians check it weekly on a Friday.

Participants were last given an open-ended question in which they could respond with any additional comments. Two participants discussed internal training teams at their libraries tasked with designing instructional, skills-based training for librarian professional development. Both indicated that training sessions on ways to utilize their shared knowledge base may be productive for their teams to pursue. One participant discussed other types of knowledge bases being used in her library, such as video tutorials. Two participants did not have any additional commentary.

**Case Study - Hunt Library**

A case study of librarian training at the Hunt Library at Embry-Riddle Aeronautical University formed an additional basis for the study’s qualitative data. Training for new librarians in the Hunt Library is an arduous formalized process. All new librarians participate in training which includes auditing a class (AS 120 – Principles of Aeronautical Science) and being trained on specific subject areas (e.g. Basic Aviation, Human Factors, Aviation Maintenance sources) by their colleagues in the department. The subject training includes review questions which require the trainee to answer the assigned questions with the sources included in the training unit. This model of training within the Hunt Library has been both necessary since most librarians are not familiar with the specialized resources which support the university curriculum, and effective as it provides mentoring opportunities on a formal and informal basis.

When the Library was charged in 1997 with providing library services to the Worldwide Campus, comprised entirely of distance learners, a new training program was developed. Prior to the merger of the libraries supporting the Daytona Beach and Worldwide campuses, services were provided to distance learners by two librarians who, independent of each other, answered research questions. Since the new model expanded the librarian pool to several librarians, it became clear that a shared approach to providing reference services would be more effective.

In the early years of the distance learning library service, students contacted librarians by toll-free phone (65%), email (30%) and fax (5%). The first step in developing a shared
approach to providing reference services was to create a system for capturing the reference transactions regardless of how the questions were received. A print-based system was developed which allowed all the reference librarians the ability to review all correspondence. Though initially this was beneficial to assess that established standards and protocols were adhered to, it soon became a subject development tool since librarians could review their colleague’s research strategies and note the sources consulted.

With email becoming a standard communication tool in the 2000s, the majority of student contacts were through email rather than telephone. Then, all correspondence could be captured in an electronic format. The first element of this process was the development of email draft messages, which were standardized responses to typical questions which the librarians could use as a template to respond to a reference query. Thus, the beginning of a shared online knowledge base.

As email became the most common method of communicating with distance learners, the department created a shared email account using Microsoft Office utilizing folders so like draft templates could be grouped together. One librarian was assigned responsibility for developing the categories of folders (see Figure 1) and ensuring that content was as up-to-date as possible; aiding in the creation of an authority control system.

![Figure 1: Organization of email knowledge base.](image-url)
Each email folder contains content which supports the subject category. The sent email files are reviewed by librarians to discern a pattern of repeated inquiries and to identify content that should be added to the folders. Additionally, the librarian responsible for this system sends out alerts via email to all those who staff the research service points so they are aware of trending or difficult questions.

Training on the use of this system is provided for all new research librarians. Additionally, the librarians are expected to review the folders on a regular basis for ongoing professional development. This process requiring the librarians to review the sent files is also very helpful to the associate director who has a regular opportunity to evaluate the librarians’ work and identify areas for re-training.

From the point of view of a librarian who has worked with the knowledge base for several years, ”Maintaining it is a time consuming commitment, but is a huge time saver, especially when answering questions outside of our primary subject expertise” (P. Cairns, personal communication, October 30, 2015). She also points out that it is helpful in answering run-of-the-mill questions as well, because ”It does what a knowledge base should - it prevents us from duplicating work needed to research and write responses to common questions.” This librarian also felt that the knowledge base provided for a more uniform response for students, no matter which librarian answered the question. She adds ”It standardizes our responses to certain questions while allowing for a certain degree of personalization.”

This knowledge base contributes to the effectiveness of the research librarians, according to veteran librarians. In a six-month period in 2015 the Hunt Library received 1,284 questions initiated through the virtual Ask a Librarian service, and hundreds of emails of thanks from distance learning students. According to the long-time Associate Director for Research and Worldwide Library Services and current Library Director, “Our statistics and the thanks we receive from students has consistently supported our positive assessment of librarian training and use of the knowledge base.” As a result of continued success, the library is now investigating more robust knowledge base systems as a logical next step” (K. Citro, personal communication, October 30, 2015).

Discussion

Although 92 percent of the study survey participants work in a library that provides virtual reference services, only 69 percent of participants \((n=96)\) reported that they personally provide these services. As many of the survey questions require familiarity with virtual reference services, this may present some discrepancies in the data. This was particularly noticeable during the interviews, in which the investigators found that levels of familiarity with virtual reference services and training for these services varied amongst participants. Had interview participants been selected from the group of librarians who self-identified as having direct participation in virtual reference services, there may have been more consistency in responses.

The majority of those who participated in the survey (86.3 percent) indicated that there was some form of training program for new librarians providing virtual reference services at
their libraries, although only 25 percent of these training programs were considered mandatory. Of the methods used for training, mentoring (at 52.5 percent) and self-study/learning on the job (at 66.9 percent) were the most frequently selected answers. Since the survey questions did not explicitly ask respondents to indicate whether they consider reviewing a knowledge base as a form of peer mentoring or self-study, it is difficult to connect the concepts. However, there is a possibility that some of the participants whose libraries require a review of a virtual reference tool may consider this a form of mentoring or self-study.

Survey responses also varied amongst librarians who self-reported as having management or supervisory functions, and those who did not perform these duties. Overall, librarians in management positions reported more positive views of shared online knowledge bases as sharing and training tools. The role of management in the training experience of virtual research librarians may need further exploration. In fact, one of the issues that emerged in the answers to the open-ended survey questions and to some degree in the interviews was a sense that a knowledge base might be an effective training tool if the use of it were mandatory and if time was allotted to such a practice by management.

While a majority of participants reported that shared online knowledge bases could be effective or very effective tools in sharing information, a significant minority did not see these as effective and reported various barriers in implementing and using knowledge bases. In particular, problems with uniform usage amongst librarians at their respective institutions in remembering to access the knowledge base and time constraints emerged as reoccurring themes in both the survey and interviews. An email notification system was recommended in both survey comments and during the interviews as a solution to the problem of remembering to access the knowledge base. This type of notification system was also discussed by the case study participants as a useful method for alerting reference librarians when pertinent new content was added to the knowledge base. Future research may explore additional best practices in knowledge base use and training, such as whether a notification system is necessary in conjunction with a shared online knowledge base.

Responses to the open-ended survey questions and to the interview questions also pointed to time constraints that may limit a librarian’s ability to voluntarily read through a shared online resource as well as a concern that usage may not be uniform. Whether the latter refers to uniformity in regard to librarians using to the knowledge base or uniformity in terms of quality of answers is difficult to ascertain, but either way this response seems to speak to lack of managerial action.

The case study explores the idea of uniformity further. Training for research librarians at the Hunt Library is consistent and required. Included in the training is the expectation that librarians will regularly review the questions and answers in the shared email account. In addition, a member of the department creates and updates draft templates for recurring questions and all members of the department are required to familiarize themselves with them. The longtime supervisor of the librarians mentioned that the knowledge base contributes to quality in that she is able to monitor responses and engage a librarian in retraining if necessary. In addition, a veteran research librarian in the department discusses that reviewing the knowledge
base helps her to continuously learn on the job as well as to provide easy access to currently common questions and answers.

**Conclusion**

As virtual reference services continue to grow and develop in today's libraries, so do the products available to store and share information. While many libraries have adopted shared online knowledge bases, the use of these as training tools for research librarians remains low, according to the participants in this study. Librarians agree that knowledge bases may be effective tools in training, but time constraints in their daily work and concerns about uniformity remain obstacles to adoption. Formal, mandatory training and usage of the knowledge base may present one solution to this, as may a notification system of reminders to prompt librarians to access their department’s knowledge base.

While the librarians who provide reference support to distance learners believe that ongoing training is important, the majority appear to be left on their own to seek it out or absorb needed updates to their skills sets through informal mentoring. Perhaps this is a carryover from the traditional reference desk at which librarians often worked in tandem with colleagues or were shadowed by a supervisor, when new, and so engaged in a constant process of training through observation and mentoring. In this era or virtual reference, librarians may often work in isolation and not have access to the mentoring and coaching that contributed to training. It is a bit unrealistic to expect that a librarian will carve out time to seek training on new questions and resources in the midst of a busy work schedule. Perhaps one answer is to encourage heads of reference to consider formal, mandatory training programs, which incorporate the regular review of the local knowledge base, such as is the case at the Hunt Library at ERAU and the Ehrmann Medical Library at NYU.

This study only begins to look at the possibilities of knowledge bases as training tools for librarians performing virtual reference services. Questions about the role of management in librarian training and development, procedures to alleviate problems with uniformity and knowledge retrieval within knowledge bases, and solutions to alleviate the time constraints that make professional development difficult remain areas in need of further exploration.
References


Appendix A
Survey Questions

Survey Part 1 – Demographic Questions

1. Library Type
   a. Academic (go to Q 2)
   b. Public
   c. School
   d. Special
   e. Other ________

2. What is the highest level of degree offered by your institution?
   a. Doctoral
   b. Graduate
   c. Baccalaureate
   d. Associate
   e. Trade or technical certification

3. What is your institution’s FTE (full-time equivalent) student enrollment?
   a. 1-1000
   b. 1,001-2,999
   c. 3,000-9,999
   d. 10,000-19,999
   e. Over 20,000

4. Your Library Department:
   a. Reference/Instruction
   b. Acquisitions
   c. Electronic Services
   d. Technical Services
   e. Systems
   f. Administration
   g. Other________

5. How do you describe your primary role at your library:
   a. Paraprofessional
   b. Part-time Librarian
   c. Full-time Librarian
   d. Administrator
   e. Manager/Director
   f. Other________
6. Number of Employees at your primary work location:
   a. 1
   b. 2-10
   c. 11-50
   d. More than 50

Part 2 – Survey Questions

This survey will ask a number of questions regarding distance learning students and library virtual reference services. For the sake of this survey, distance learning students may be defined as any students who are not physically present while using the library. Virtual reference services may be defined as library reference services that are initiated electronically.

7. Does your library provide virtual reference services for distance learning students?
   a. Yes
   b. No (Go to Q 13)

8. Do you provide virtual reference services for distance learning students as part of your job description?
   a. Does not provide virtual reference services for distance learners
   b. Personally provides virtual reference services for distance learners
   c. Supervises librarians and/or library staff who provide virtual reference services for distance learners
   d. Manages a library department that provides virtual reference services for distance learners

9. How does your library provide virtual reference services for distance learning students? Check all that apply.
   a. Personal email accounts
   b. Shared library email account
   c. Chat
   d. Text
   e. Phone
   f. LibAnswers
   g. LibGuides/online research guides
   h. Other____________

10. How do new librarians at your library receive training for providing virtual reference services? Check all that apply.
    a. No training provided
    b. Formal training program
    c. Self-study / Learning on the job
    d. Mentoring
    e. Conferences/webinars
    f. Professional literature
    g. Other____________
11. Is some or all of this training mandatory?
   a. Yes
   b. No (Go to Q 13)

12. Which type of training is mandatory? Check all that apply.
   a. Formal training program
   b. Self-study / Learning on the job
   c. Mentoring
   d. Conferences/webinars
   e. Professional literature
   f. Other______________

13. Does your library use any of the following online knowledge bases to share information about reference interactions amongst librarians? Select the one most used.
   a. LibAnswers
   b. Shared email account
   c. Wiki
   d. Intranet
   e. LibGuide
   f. No online knowledge base used (Go to Q 17)
   g. Other ___________

14. Is reading about the reference interactions posted in a shared online knowledge base a required part of training for new librarians at your institution?
   a. Yes
   b. No

15. Is reading about the reference interactions posted in the shared online knowledge base a required part of ongoing training or professional development for librarians at your institution?
   a. Yes (Go to Q 17)
   b. No

16. How frequently are librarians required to read through answers in the shared online knowledge base?
   a. Daily
   b. Weekly
   c. Monthly
   d. Each semester
   e. Other______________
17. How effective is the information posted in the shared knowledge base for librarians who provide virtual reference services at your library?
   a. Very effective
   b. Effective
   c. Not effective

18. In your opinion, what would make the shared online knowledge base a more effective tool for librarians who provide virtual reference services at your library?

19. Do you have any additional comments about the usefulness of the shared knowledge base for librarians who provide virtual reference/research services at your institution?

20. Is there anything that we haven’t asked about librarian training for virtual reference services that you would like to share more about?

Thank you for taking this survey.

We will also be conducting 30 minute interviews from a select number of survey participants. If you are willing to participate in a follow-up interview, please provide your information below. This information will be separated from survey responses in order to maintain confidentiality.
Appendix B

Personal Interview Questions

1. In your experience, do reference librarians have an attitude, either negative or positive, toward ongoing formal training?

2. Reference librarians often share trends in questions or information about current issues in an informal way. Do you think formalizing this type of information-sharing would be an effective method of training?

3. How do you think a library could incorporate ongoing training using a knowledge base?

4. Do you have any other comments you wish to share with us?
My Website Reads at an Eighth Grade Level: Why Plain Language Benefits Your Users (and You)

Danielle Skaggs
West Chester University

Abstract
Writing in plain language aims to help users find what they need and ensures that the information is both useful and understandable. This is key for distance students whose primary library interaction may be with the library website. A mix of user research and readability scores can be used to measure whether content is findable, useful, and understandable. There are several strategies authors can adopt to help them write in plain language, including keeping the users’ needs and tasks in mind and structuring the content so that it can be quickly scanned. Converting existing website content to a plain language format can be a large task; running a content audit can help determine which pages should be prioritized for revision. Once the website is written in plain language, an ongoing content strategy is necessary to help it stay that way.

As library resources have gone increasingly online, the library website has gained importance. It’s where library users are encouraged to go to get high quality sources, where librarians have poured out their knowledge in subject guides, and where library policies are kept. Online interaction is becoming the main type of interaction that users have with the library. This has certainly been true for distance students who often do not have the option to come in to the library, but it is increasingly true even for on-campus users. They find it easier to stay in their office or dorm room, or even to stay upstairs in their study room while they text or chat with the librarian downstairs at the reference desk.

The growth of usability testing for library websites reflects the increased importance of the library website for interactions with the library community. Running a usability test on the homepage to clear out jargon and increase the navigability for users has become increasingly common; there is now even an established list of jargon to avoid based on a compilation of these studies (Kupersmith, 2012). However, much of the focus of these usability tests has been on “navigation, search, and findability” of the website itself (Schmidt & Etches, 2014, p. 103). The usability of the content itself is usually not tested, as “content planning, development, and management” are not as robust in most libraries (Schmidt & Etches, 2014, p. 103).

The problem with not focusing on the usability and understandability of the content on library websites comes from two common behaviors of web users. The first is that “people are often on a mission when they’re using the web” (Schmidt & Etches, 2014, p. 107). A study of traditionally college-aged students found that the web is often a tool they are using to accomplish their goals, not the end in itself (Nielsen, 2010). The second common behavior is that most
people decide whether a page is going to be useful for accomplishing their goal after 10 seconds or less of scanning the page (Nielsen, 2011b). If libraries are not designing their content with these two behaviors in mind, library users may become frustrated and leave. Enough frustrating experiences, and the library’s usage and perceived relevance can drop.

One method to help counteract these problems is to adopt plain language throughout your website. Plain language focuses on understanding and writing for the user’s goals, making content easily scannable for the user, and writing in easy to understand sentences. All three of these aspects help library users when they are on a mission and increase the likelihood that they will find the content they need.

**What is Plain Language?**

The United States government defines plain language as “communication your audience can understand the first time they read or hear it” (Plain Language Action and Information Network, n.d.-e, para. 1). The government definition is helpful since the modern plain language movement began with efforts to improve government information, particularly regulations and consumer information, culminating in the passage of the Plain Writing Act of 2010 (Plain Language Action and Information Network, n.d.-b; Locke, 2004).

There is no simple test for determining whether a website’s content consists of plain language based on this definition, in part since it depends on what audience is being measured. The government provides a three-part question to determine if content is written in plain language. Can users from the specified audience “find what they need; understand what they find; and use what they find to meet their needs?” (Plain Language Action and Information Network, n.d.-e, para. 1)

**Measuring Plain Language**

One way to assess whether website content is meeting plain language requirements is to conduct usability testing focused on the website content, instead of focusing on navigation or labels. To get started with this type of testing, determine tasks for a particular audience through user surveys, the development of personas, or a combination of the two. Then test these tasks, particularly those that involve choices based on text. For example, if an institution has more than one type of interlibrary loan and there’s a page describing which type to use, give the user an interlibrary loan task and start them on that page. If they are able to choose the correct type of interlibrary loan service, the content is successful at guiding users.

Another assessment method is to use Cloze testing, which tests a user’s reading comprehension of the page being analyzed (Nielsen, 2011a). To conduct a Cloze test, take a web page, copy it into a document (as in Figure 1), and replace every 6th word with a blank space for the user to fill in (as in Figure 2). Every 6th word replaced is a good standard to start with but this ratio can change based on the content; increasing the number of words between blanks makes it easier to fill out. The document is then given to one or more users, who fill in the blanks with their best guess as to what word should be there. To score the test, calculate the percentage of blanks filled in correctly (count synonyms as correct answers). Pages with a score of 60% or
above are generally considered well-written. While this doesn’t answer all three questions that go into determining plain language, it does answer whether users are able to understand what they find on the website.

<table>
<thead>
<tr>
<th>Who is Considered a Distance Student?</th>
</tr>
</thead>
<tbody>
<tr>
<td>The WCU Libraries define distance students as students who:</td>
</tr>
<tr>
<td>- take all of their classes online -or-</td>
</tr>
<tr>
<td>- take all of their classes at <a href="#">WCU in Philadelphia -or-</a></td>
</tr>
<tr>
<td>- take all of their classes at the <a href="#">Graduate Center</a> -or-</td>
</tr>
<tr>
<td>- take a combination of online classes, classes at WCU in Philadelphia, and classes at the Graduate Center.</td>
</tr>
<tr>
<td>Non-distance students may find the information in this guide useful for accessing resources while off-campus, but they will not be able to request books be mailed to their home.</td>
</tr>
</tbody>
</table>

Figure 1. Sample text from a webpage put into a document to be used for Cloze testing.

<table>
<thead>
<tr>
<th>Who is Considered a Distance ____________?</th>
</tr>
</thead>
<tbody>
<tr>
<td>The WCU Libraries define distance _________ as students who:</td>
</tr>
<tr>
<td>- take all _______ their classes online -or-</td>
</tr>
<tr>
<td>- take _______ of their classes at <a href="#">WCU in Philadelphia _______</a></td>
</tr>
<tr>
<td>- take all of their classes _______ the Graduate Center -or-</td>
</tr>
<tr>
<td>- take _______ combination of online classes, classes _______ WCU in Philadelphia, and classes _______ the Graduate Center.</td>
</tr>
<tr>
<td>Non-distance _________ may find the information in _________ guide useful for accessing resources _________ off-campus, but they will _________ be able to request books _________ mailed to their home.</td>
</tr>
</tbody>
</table>

Figure 2. Every 6th word removed to create the Cloze test.
While user testing is central to the assessment of plain language, readability scores are another method that can help determine whether a website uses plain language. These scores provide a quantified measure of how easy or hard it is to read the content being assessed. An easily-accessible readability score is the Flesch-Kincaid Grade Level, which Microsoft Word provides as part of the statistics shown at the end of the spellcheck process (see Figure 3). Using this readability score is a relatively easy way to improve your content (Assistant Secretary for Public Affairs, 2013b); however, this option within Microsoft Word must be turned on (“How to Use Word’s Readability Score to Improve Your Writing,” 2011). The higher the grade level, the more education the reader needs to understand the content. The text that generated Figure 3 was not very readable, requiring readers to have 17.1 years of education (the equivalent of a bachelor’s degree plus one year of graduate work). In general, a Flesch-Kincaid Grade Level of 8 is recommended for lower literacy users (Nielsen, 2005). While academic library websites are aimed at users with a higher level of literacy, aim for a Flesch-Kincaid Grade Level lower than that of the expected user. While college students generally have a high literacy level, when they are reading on the web, they “prefer to scan” and aiming for a Flesch-Kincaid Grade Level lower than that of the expected audience (such as 10 or 11) increases their ability to successfully scan for the right information (Nielsen, 2010).

**Strategies for Writing Plain Language**

Guides for writing in plain language, sometimes called writing for the web, are numerous (Assistant Secretary for Public Affairs, 2013b; Nielsen, 1997; Plain Language Action and Information Network, n.d.-a, n.d.-d; “Write better,” n.d.). The following guidelines are based on the advice common to all of these sources.

![Readability Statistics](image)

*Figure 3.* Readability statistics presented at the end of Microsoft Word’s spellcheck.
Write for the User

Make sure that text on the page helps users carry out the tasks they need to accomplish. Personas, mentioned briefly earlier, can help with understanding what tasks your users want to accomplish. Calabria (2004) outlines the process from a general user experience perspective while Tempelman-Kluit & Pearce (2014) provide a process based on analysis of chat reference transcripts.

Content should also be written simply and addressed directly to the user. This means using active voice and the present tense as a general rule. Address the reader as “you” and use a conversational tone. The reading level of the text should be appropriate for that of the user; a page for high school outreach should have a lower reading level than that designed for faculty. As an example of what plain language looks like in practice, compare Figures 4 and 5. Figure 4 provides an example that is not focused on the user, while Figure 5 presents a possible revision of the content to address plain language requirements.

NOTE: Libraries engaged in borrowing materials nationally and internationally are subject to protocols which preclude the borrowing and lending of the following materials:

- Textbooks required for current WCU courses
- Books published within the last 12 months
- Certain video, CD, DVD and microfiche/microfilm materials
- Certain dissertations/theses

Figure 4. Language is not addressed to the user or to the task the user is trying to accomplish.

Are there restrictions on what I can request through ILL?

In general, we can't get you:

- Textbooks required for current WCU courses
- Books published within the last 12 months
- Certain video, CD, DVD, and microfiche/microfilm materials
- Certain dissertations/theses

Figure 5. Text from Figure 4 has been rewritten to address the user and a heading to improve scannability has been added.
Provide Useful Headings and Links

Headings help break up the page into chunks of information, and users often scan headings to see if the information following will help them accomplish their task. Writing headings that correspond to user tasks and/or questions improves the ability of users to find the information they need. One improvement made from Figure 4 to Figure 5 is the addition of a heading addressing a potential user question.

When writing link text, similar treatment applies. The text of the link itself should provide a clear indication of what content will be found on the page to which the user will be taken. This not only helps users navigate to other parts of the website, it also increases the accessibility of the website for screen reader users. These users can navigate from link to link, and descriptive links are far more helpful to this group of users than links such as “click here.” Ideally, the link text will match the title of the page to which it leads; however, if that title has not yet been written in plain language, it might be better to provide a concise description as the link text.

Avoid Jargon

The text of the page should be free of jargon, including the library-specific jargon identified in previous usability studies (Kupersmith, 2012). Avoiding jargon also includes eliminating unnecessarily complicated terminology. For example, if a user needs to do something, avoid using shall in the text and instead use must to indicate that the action is required.

Put the Most Important Information First

Since users are likely scanning the page, put the most important information at the top of the page. Journalism has depended on this style of structuring information, called the inverted pyramid, for years. This limits the amount of work the user has to do to find that important information, and also ensures that the user finds it before giving up on the page. Deciding on what information is the most important for users may be clear to the page authors, but if it is not, user research may be necessary.

If the information on a page is of relatively equal importance, it may be useful to organize the information in logical order instead. For example, if the page details how to sign up for an account, presenting the information in order of what the user needs to do makes sense.

Be Concise

Library websites often reflect the desire to provide knowledge about all potential problems or approaches a user might need to know. However, a study of how users read on the web found that reducing the text of a web page by half increased the usability of the web page by 58% (Nielsen, 1997). This might be because it is easier for users to scan shorter blocks of text. A crucial step in writing in plain language is to be concise.
Beyond paring down excess words in a sentence, consider paring down content as well. Include only the content that the user needs; don’t provide information for every contingency the user might encounter or any task the user might want to do. The top half of Figure 6 is an example of trying to provide the user with information on all of the options that are available, while the bottom half demonstrates how to only provide the information that the user needs.

Try to avoid large blocks of text. Rearranging information into lists and tables can help break up large amounts of text, and also serves to improve the scannability of the page. Lists and tables also help incorporate white space into the page; incorporate white space into the page design as a way to provide visual breaks between chunks of content. Headings help provide white space as well.

Reference Services for Alumni:
As part of the University Library’s mission to assist researchers with their questions regarding the collections, resources and services of the University of Michigan libraries, U-M alumni are encouraged to contact the various reference service desks for assistance, either in person, via phone, via email, or via instant message. University Library reference staff and subject specialists are happy to help you use our collections and resources. Just Ask a Librarian! If you need assistance with your research, please feel free to browse the library’s subject-based guides.

Can Alumni use Reference Services?
-Yes. See Ask a Librarian service page for options.

Implementing Plain Language for an Existing Website

Implementing the guidelines for writing plain language when composing a new web page are relatively straightforward. How should the much larger task of reviewing and revising an existing website to use plain language be tackled? One key idea to take from the government’s tips are to aim for continuous improvement (Plain Language Action and Information Network, n.d.-c). Having a plan for improvement and goals are necessary, but it may take time to get the various stakeholders on board with plain language. Part of getting stakeholders on board is to provide training on what plain language is and how to write in plain language.

Continuous improvement applies not only to the entire site, but can also be mirrored in the approach to individual pages. Instead of attempting to start over fresh for each page, take multiple passes at reviewing the content; tackle one strategy for writing in plain language on each pass (Schmidt & Etches, 2014).

Conduct a Content Audit to Assess What Currently Exists

The first step of the project to rewrite the website in plain language should be to gather information about what content already exists. This provides an idea of the scope of the project and can shape the strategy or timeline for the project. The content audit is the primary methodology for determining what content exists. A content audit is an inventory of all content on the website, including linked documents that can be downloaded. In the content audit, each piece of content (webpage, PDF, audio or video file) is assigned a unique ID, and then quantitative data about the content is gathered such as the content name and URL. Additional types of quantitative data you may want to collect are provided on the usability.gov website (Assistant Secretary for Public Affairs, 2013a).

Making qualitative assessments as to each piece of content’s usability and importance is a valuable part of the content audit process that can help with prioritization. Schmidt & Etches (2014) recommend rating each piece of content on how “useful to members” and “useful to library” it is (p. 105). Content that is highly useful to either members or the library can be prioritized in the project timeline. Assessing the estimated level of work to rewrite the page in plain language would be an additional piece of useful information to gather, since it would help with project timeline estimates. Adding website analytics such as page visits for each piece of content is also useful.

Decrease the Number of Web Pages

After conducting the content audit, the amount of content contained by the website may be surprisingly large. At this point, considering whether the library has the resources to properly maintain this content may be necessary. A balance may need to be struck between what users want and need to accomplish on the site, what the library needs to have on the site, and the size of the site that can be improved and maintained with existing resources. If the website’s size is reduced, more attention can be paid to improving the remaining content (Schmidt & Etches, 2014).
Having website analytics included in the content audit can help at this stage of the process. If a piece of content has extremely low traffic and hasn’t been rated highly useful, it could be considered for complete removal from the website. If cutting content isn’t a possibility, content with low traffic and low usefulness could be moved to the end of the project timeline while the initial phase of the project focuses on higher traffic and highly useful content.

Maintain Plain Language on the Website Using Content Strategy

Once plain language has been implemented on the website, there still needs to be a strategy for keeping new content and revised content written in plain language. Content strategy is a growing discipline devoted to the “creation, publication, and governance of useful, usable content” (Halvorson, 2011, p. 23). At this point in the plain language implementation, several aspects of content strategy, such as a content audit to understand the scope and state of existing content and rewriting existing content to better serve users, have already been undertaken. Now the need is to plan for reviewing new and revised content, ensuring that the website continues to be written in plain language.

There are a number of resources devoted to understanding and implementing content strategy (Halvorson, Rach, & Cancilla, 2012; Kissane, 2011; McGrane, 2012), and a growing body of work within librarianship on the topic. One key question to answer as content strategy is implemented is who will be responsible for oversight and governance; Earley (2010) outlines a strategy for determining who to include on the library’s governance committee or team. For an in-depth example of how to implement content strategy at a library, Blakiston (2013) describes the University of Arizona Libraries implementation of content strategy.

Conclusion

Advocating for plain language means advocating for paying as much attention to the content of library websites as is paid to the usability of website navigation and labels. Many libraries are adopting a user-centered focus; writing in plain language extends this focus to website content. Writing in plain language requires authors to shift their focus from providing extremely comprehensive content to providing findable and useful content as defined by users (instead of librarians).

This shift to writing in plain language is necessary for libraries. Library users are no longer as dependent on academic libraries to find resources, and they bring expectations for how the web should act to the library website. Adapting the library website to what is known about the online behavior of users is necessary to keep the user’s experience positive, particularly when the website is the user’s first line of contact with the library. Libraries already are known for providing credible information; being known for providing findable, useful, and comprehensible content could help libraries compete against other online resources.
References


Librarians and OER: Using a Community of Practice to be more Effective Advocates

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Leva Lee
BCcampus

Abstract
As the costs of scholarly and educational publications skyrocket, open educational resources (OER) are becoming an important way to provide content and enhance the teaching and learning experience. Librarians have a key role to play in developing, advocating, and managing OER. For many librarians, however, championing OERs means adding an additional responsibility to their already heavy workloads, which may be overwhelming. This article describes how a grassroots group of academic librarians in British Columbia, Canada joined together as a community of practice to learn and to share ideas, strategies, and tools to support the use of OER. The BCOER Librarians focus on the education and professional development of librarians to help facilitate the use and development of OERs and to create authoritative and sustainable resources to support librarians in OER-related interactions with faculty.

Introduction
With the ever increasing cost of scholarly and educational publications, open educational resources (OER) are becoming an important method of providing access to quality information and of enhancing the teaching and learning experience for both faculty and students. Yet many faculty encounter barriers to discovering, evaluating, adapting, and disseminating OER. These challenges have provided a new and exciting role for academic librarians, who are well positioned to participate in the development, description, management, and distribution of OER, as well as in advocating for and supporting their use. Many academic librarians have spearheaded programs to support the adoption and production of OER at their institutions. In many places, these services mean taking on new roles without relinquishing any other responsibilities. Some librarians may choose not to take on this new role if they feel overwhelmed or unable to devote sufficient time to create or sustain anything more, thus missing an opportunity to provide an important service at their institution and to broaden their own professional expertise. One way to provide service sustainably is to share time and resources through collaborative efforts such as a community of practice. The BCOER Librarians are a group of librarians in British Columbia that have come together and emerged as a successful community of practice on librarians and OER. Collectively, they are increasing their knowledge, interest, and expertise in open education not only with each other, but also with others interested
in supporting open education in a sustainable way by sharing ideas, tools, and strategies for promoting and supporting OER. This article will describe how a community of practice is an effective way for librarians to become successful OER advocates.

Open Educational Resources

The open education movement is based on the view that “knowledge is a public good” and the Internet is an effective and efficient way to share knowledge (Smith & Casserly, 2006, p. 10). It seeks to broaden educational opportunities by using the Internet to allow rapid and free dissemination and to enable people from around the world to access knowledge, to connect, and to collaborate. Open educational resources (OER) are a key part of this movement.

There are many definitions for OER available. The William and Flora Hewlett Foundation provides one of the most cited definition of OER:

OER are teaching, learning, and research resources that reside in the public domain or have been released under an intellectual property license that permits their free use and re-purposing by others. Open educational resources include full courses, course materials, modules, textbooks, streaming videos, tests, software, and any other tools, materials, or techniques used to support access to knowledge (n.d., “OER defined”, para. 1).

In other words, they are educational materials that are either in the public domain or have been licensed under an open copyright license such as Creative Commons (http://creativecommons.org/) so that they are not only freely accessible, but also permits people to engage in the 5Rs of Openness: retain, reuse, revise, remix, and redistribute (Wiley, 2014).

There are many factors that drive faculty to participate in the open education movement and to use OER in their courses. Motivations may include leveraging the Internet to freely share educational resources with the world, making education more affordable and accessible to students, and revising content freely and legally to control their courses and textbooks in new and innovative ways (Wiley & Green, 2012). OER also have advantages for distance learners (Hatzipanagos & Gregson, 2015). Because of their open and online nature, OER can provide campus and distance learners with the same level of access to and engagement with course materials. The rapid rise of textbook costs over the past twenty years, which has placed a heavier and heavier financial burden on students, is another important impetus for the rise of OER. Between 2002 and 2012, new textbook prices rose 82 percent (United States General Accountability Office, 2013), which was approximately three times the rate of inflation. The high cost of textbooks and related fees are leading students to find other means of obtaining course texts (including sharing or pirating them) or to simply choose not to purchase them at all. In some cases, a lack of affordable course texts leads some students to be unable to complete their postsecondary studies (Raschke & Shanks, 2011). Because of their free and open nature, OER are a possible solution to the textbook affordability crisis by making education more affordable to students. It is not just faculty, students, and librarians that see the benefits of OER. Indeed, governments are encouraging the use and development of open textbooks and other OER. In Canada, the Premiers of British Columbia, Alberta, and Saskatchewan signed a Memorandum of Understanding on Open Education Resources (OER) in March 2014 in which
the three provinces agreed to collaborate on open textbook initiatives (Alberta Ministry of Innovation and Advanced Education, British Columbia Ministry of Advanced Education, & Saskatchewan Ministry of Advanced Education, 2014). States such as California, Minnesota, North Dakota, Oregon, and Washington have also passed state bills supporting open textbooks (Scholarly Publishing and Academic Resources Coalition, n.d.). The U.S. Federal Government’s new Open Government National Action Plan also includes commitments to expand access to OER (Open Government Partnership, 2015).

Despite the benefits of OER and the growing support for their use by many different stakeholders, there are barriers to faculty adopting them in their courses. Some of the obstacles include concerns about the quality of OER and how the adoption of OER could impact faculty promotion and tenure. However, two of the key obstacles seem to be the lack of awareness of and/or difficulty in finding suitable resources (Clobridge, 2015; Walz, 2015). These challenges are not surprising because there is not only an overwhelming abundance of both the quantity and the variety of formats of information that are available today, but also an ever increasing profusion of tools to create and access information (Shank & Bell, 2011). This proliferation of online tools and information makes the adoption of OER even more intimidating for faculty.

**Librarians and OER**

To reduce the barriers to OER adoption, faculty require additional support from inside their institutions. Academic librarians are ideally suited to help navigate the OER world and to address some of these challenges by leading, supporting, and collaborating in OER initiatives with OER adopters and authors. As Staley and Malenfant commented in the Association of College and Research Library’s Futures Thinking for Academic Librarians: Higher Education in 2025 (2010), “This is an excellent opportunity for libraries to prove their worth as information collectors, organizers and evaluators” (p. 10). Existing library values, relationships, capacities, and infrastructure are complementary to OER support (Walz, 2015; Kazakoff-Lane, 2014). Their long-term philosophical support for “access” to information, their existing relationships with both faculty and students, and their outreach and instructional support experience make librarians a natural partner in OER initiatives and a potentially powerful voice for more affordable learning resources (Okamoto, 2013; Mitchell & Chu, 2014). Librarians may play many roles in the OER movement, including:

- using outreach skills to advocate and promote OER;
- providing strategies to find and evaluate current, relevant, and high quality OER;
- maintaining subject-based guides to find resources;
- providing long-term stable access to OER via institutional repositories;
- leveraging metadata, indexing, and classification skills to enhance access;
Librarians not only excel at finding, evaluating, and organizing resources, they are also early adopters of technology (Allen, Bell, & Billings, 2014). Distance librarians in particular have a long history of keeping pace with technological trends related to online learning and building the skills and knowledge required to support its needs and demands (Cassner & Adams, 2012). This experience makes an active role in OERs to be a natural fit for distance librarians. In short, academic libraries have the philosophy, competencies, relationships, and strengths to support, promote, and even cultivate and create OER.

Many academic librarians have seized the opportunity to spearhead programs to support the adoption and production of OERs at their institutions. For example, Arizona State University, Shoreline College, Washtenaw Community College, and Tidewater Community College have incorporated OER support into their portfolio of programs. By creating LibGuides and websites about OER and open textbooks and by providing resources to help faculty to find OER to use in their courses, librarians are providing faculty with the tools they need to help them successfully integrate OER into their courses. In fact, some libraries have taken OER support a step further; the libraries at institutions such as Kansas State University, Temple University, and Oregon State University are participating in the development and publishing of open textbooks (Walz, 2015; Bell, 2015; Clobridge, 2015). Thus, as these examples demonstrate, librarians are taking an increasingly active role in the OER movement at their institutions.

While the OER movement provides a wonderful opportunity for librarians to expand into new and exciting roles, there are also stumbling blocks which must be considered. One of the central barriers facing academic librarians is that new technologies are emerging “with faster speed and power to transform the academic library and the role of the academic librarian” (Shank & Bell, 2011, p. 105). Over the past two decades, libraries have faced enormous changes brought on by the advance of the Internet and web technology. To remain relevant to a changing society, the services and resources offered by academic libraries have had to constantly evolve to meet the changing needs of a wide variety of users. The growing demand for online learning has had a particular impact on libraries, forcing them to evaluate, change, and add services (Corbett & Brown, 2015). According to the NMC Horizon Report: 2015 Higher Education Edition, some of the key trends impacting higher education include advancing cultures of change and innovation, cross institutional collaboration, and the proliferation of OER (Johnson, Adams Becker, Estrada, & Freeman, 2015a). These trends, as well as those identified in the NMC Horizon Report: 2015 Library Edition, will have a huge impact on academic libraries now and into the future, making it even more critical for librarians to look more closely at how learning and new knowledge can be more easily and quickly shared (Johnson, Adams Becker, Estrada, & Freeman, 2015b).
Academic librarians need to find ways to rapidly and dynamically learn not only what is new and emerging in their field, but also what is new in higher education teaching and learning as a whole. As Cassner and Adams (2012) observed, “librarians need to develop new skills and competencies to reflect changing user expectations and shape the future of higher education and society” (p. 128). In today’s world, librarians need to possess the skills and knowledge necessary to employ new digital technologies and information formats and to be able to evolve as they change. Academic librarians must also blend these skills and knowledge to partner with faculty and students and to develop new services and relationships. To take on OER-related roles, librarians need to learn the language and culture of open education, developing their expertise in areas such as open licensing, e-learning, and knowledge about OER technologies and standards (Gema Bueno-de-la-Fuente, Robertson, & Boon, 2012). In this situation, librarians involved in distance and online learning have an advantage over other academic librarians as they are often more familiar with e-learning issues. In addition to learning about the culture of OER, librarians also need to learn about the existing OER tools and resources. For example, repositories such as MERLOT (www.merlot.org), OER Commons (www.oercommons.org), and JORUM (www.jorum.ac.uk) have different search interfaces and use different search operators. Knowing the scope of the various repositories and how to search them effectively is an important skill. Librarians then need to find or build existing tools such as guides, assessment rubrics, and promotional material to help faculty use OER.

Time is another challenge that librarians face in taking on OER responsibilities. Like many professionals, including faculty, librarians have multiple demands on their time and often manage multiple spheres simultaneously. Indeed, as Dewan (2014) notes, job descriptions for librarians often include the ability to manage a diverse workload as a position requirement. In many organizations, librarians often take on new roles without relinquishing any of their other responsibilities. In these situations, it would be a challenge to find the time not only to learn about OER, but also to provide effective help to faculty interested in engaging more with them. Some people may enthusiastically create new guides or services, only to falter when the first flush of “newness” is gone and other responsibilities become more pressing. Carefully built library guides may become stagnant and outdated. Half-finished “tools” may languish on the desktop, waiting for a flash of inspiration or a moment of time to continue working on them. Or, feeling overwhelmed and fearing that they will not have time to create or sustain anything more, librarians may choose not to undertake a new role, losing an opportunity to provide a needed service to their institution and to broaden their own professional expertise. Ultimately, a heavy and diverse workload may mean that having the opportunity to learn about and become an OER advocate may seem overwhelming to some librarians.

Indeed, the challenge of constantly changing technology, multiple responsibilities, and evolving roles may create a barrier for librarians who are interested in learning more about OER and becoming more involved in championing them at their institutions. As Brown, Wolski, and Richardson (2015) observed, “The leap from theory into practice … [needs] to be underpinned by a skills development program, a mentor/coach, and a support network of specialists” (p. 229). In other words, there is a critical need for informal training, mentoring, and support networks as librarians move into new roles. A community of practice, where fellow librarians can provide this needed training, mentoring, and support, is one way of making the transition from theory to practice more manageable.
Communities of Practice

A community of practice (CoP) is a well-known framework for collaborative learning that has been implemented in a wide range of educational and institutional settings to contribute to individual, organizational, and social development (Churchman & Stehlik, 2007). It may be described as a network of people with common interests that emerges to learn from one another and to share their knowledge, expertise, and tools on an ongoing basis in order to develop better solutions to problems or challenges (Wenger, McDermott, & Snyder, 2002). Participants share information and ideas, discuss common issues, produce tools and documents, and develop personal relationships. A CoP can accelerate the sharing or flow of knowledge by acting as learning spaces where people can share their knowledge and experience with their peers and learn from one another, thus fostering innovation and creative problem-solving (Burk, 2000). As trust and relationships build within the group, members become increasingly engaged and are more likely to share their knowledge with each other (Crosby, 2014). The process of sharing information and experiences with the group helps the members to learn from each other and gives them the opportunity to develop themselves personally and professionally.

There are three elements of a community of practice: domain, community, and practice (Wenger-Trayner & Wenger-Trayner, 2015). It has an identity that is defined by a shared domain of interest. Brought together by a shared learning need, the CoP may emerge spontaneously because of the members’ common interest in a particular area or it may be created specifically with the goal of gaining knowledge related to a particular field (Lave & Wenger, 1991). By pursuing their interest in the domain, members engage in joint activities, have discussions, help each other, and share information. They build relationships that enable them to learn from each other, but they do not need to work together on a daily basis. The key is that they interact and learn together. CoP members develop a shared repertoire of resources: experiences, stories, tools, and ways of addressing recurring problems. In other words, they create a shared practice. The combination of these three elements constitutes a community of practice. And it is by developing these three components in parallel that one cultivates a community.

As academia has become more focused on interdisciplinarity and collaboration, librarians have begun to participate in various communities of practice within and beyond their own institutions. A CoP is both a strategic approach to knowledge sharing and an innovative way to foster learning. Kim (2015) observes that CoPs may be an effective way for libraries to take on more active roles in knowledge sharing and collaborative learning to support the knowledge activities of people in a knowledge society. Indeed, the tools created in a community of practice are not only a way to share knowledge, but also a means of reducing costs because they lessens the duplication of efforts. Moreover, CoPs provide a place for professional socialization; they help members to exchange ideas with colleagues, to build their own professional identity, to create a sense of connectedness, and to offer an informal form of apprenticeship for new members. When successful, a CoP can elicit new ideas and solutions which may lead to innovation in the profession. They also benefit the individual members by having an opportunity not only to work with and learn from knowledgeable colleagues, but also to build one’s own professional reputation (Henrich & Attebury, 2010). Churchman and Stehlik (2007) noted that during situations of extreme change, communities of practice “may be attractive to members seeking to make meaning or sense of their situation and ways in which to negotiate their
professional identity in the new context” (p. 272). With the proliferation of open education and its impact on the role of librarians, a community of practice is an effective way for librarians to learn, to share knowledge, and to develop resources that may be used by anyone.

**BCOER Librarians as a Community of Practice**

The BCOER Librarians is a grassroots group of postsecondary librarians in British Columbia (B.C.), Canada who are working together to discover and share ways to support the use of quality OER by faculty and students. Having a common interest in OER, the group has built a community and has developed and shared activities, experiences, tools, and resources to advance their learning and that of others interested in open education. As a group that shares, develops, and diffuses learning, knowledge, and practice, the BCOER Librarians fit the definition of a community of practice. The emergence of the group is a natural development seeded by B.C.’s strong history of collaborative library efforts and interest in open education.

The academic libraries of British Columbia have a long record of successful collaborations through the work of active consortial groups, including the British Columbia Electronic Library Network (http://www.eln.bc.ca/), e-HLbc (http://ehlbc.ca/), and COPPUL (http://www.coppul.ca/). While these groups formed to facilitate consortial purchasing of electronic resources for their member organizations, each group has also undertaken other collaborative efforts over the years which have set the stage for the BCOER Librarians. Examples of these initiatives include developing and maintaining provincial union databases, running a shared virtual reference system (http://askaway.org), and creating a distributed retrospective print repository program (http://coppul.ca/programs/shared-print). These efforts have enabled librarians from across the province to make connections and work together on projects. Some members of the BCOER Librarians have worked together in the past on consortial-related endeavors, which has helped to facilitate the building of trust and relationships in the community of practice.

British Columbia also has a strong interest in open education, led by BCcampus (http://bccampus.ca/). Funded by the British Columbia Ministry of Advanced Education, BCcampus supports the teaching, learning, and educational work of the BC postsecondary system by coordinating pan-institutional collaborative projects and by introducing and supporting innovations in teaching, learning, and educational technology. Their three primary service areas are open education, collaborative programs and services, and student data services. One of its major initiatives is the B.C. Open Textbook Project, which aims to increase access to higher education by reducing student cost, giving faculty more flexibility, and improving learning outcomes (http://open.bccampus.ca). The Ministry has funded the project to provide free, openly licensed textbooks in each of the top forty highest enrolled subject areas and in selected skills training and technical programs. British Columbia is the first province in Canada to work on this type of project (British Columbia Ministry of Advanced Education, Innovation, and Technology, 2012). As of November 2015, there are 134 open textbooks in the B.C. Open Textbook Collection and 294 known open textbook adoptions. There have been 115 peer reviews of textbooks in the collection involving 21 institutions and 83 reviewers. Eighteen institutions in British Columbia have adopted textbooks from the collection. Savings for B.C. postsecondary
students have been in excess of $900,000 (CAD) (BCcampus, 2015b; A. Coolidge, personal communication, November 9, 2015).

The increasing availability of open textbooks and the growing interest in OER in the B.C. postsecondary system provided the impetus for the BCOER Librarians. British Columbia librarians involved in higher education began to consider how they could collectively tackle the challenge of how to assist faculty and students with finding high quality OER. In Fall 2013, a few librarians decided that it would be helpful to meet and share ideas, tools, and strategies on OER projects in support of faculty. Although B.C. had a growing interest in and much activity related to open education, particularly regarding open textbooks, few in higher education were addressing how to assist faculty with the discovery and use of quality OER. This informal discussion led to an exploratory teleconference meeting in December 2013, in which a small group of librarians decided to take the lead in developing more OER expertise. The group agreed to work together to address not only how to improve faculty awareness and knowledge of OER, but also their own ongoing professional learning in this area (BCcampus, 2015a). The group began meeting regularly, and named themselves the BCOER Librarians.

As of November 2015, there are 18 librarians from 12 B.C. public postsecondary institutions in the community of practice. Participating librarians come from larger institutions (e.g., University of British Columbia, Simon Fraser University, and the University of Victoria), teaching focused universities (University of the Fraser Valley, Kwantlen Polytechnic University, and Thompson Rivers University), technical institutes (British Columbia Institute of Technology), two year community colleges (Douglas College and Camosun College), and cognate organizations such as BCcampus and the Public Knowledge Project (PKP). Master of Library and Information Studies (MLIS) students from the University of British Columbia iSchool also participate on projects. Most members are from the Metro Vancouver area, but some are from other parts of the province, including Vancouver Island and the Southern Interior (e.g., Thompson Rivers University in Kamloops, B.C.). To date, membership numbers in the group have fluctuated, as participation is interest driven and voluntary. As is the nature of a community of practice, members will only participate if the group is meeting their individual needs for sharing and learning with each other (Wenger-Trayner & Wenger-Trayner, 2015).

Activities of the BCOER Librarians

Supported by BCcampus, the BCOER Librarians have been very active in the two years since its formation. The group meets for monthly teleconferences and uses a listserv for posting questions, sharing information, and organizing meetings. Two wikis are used: one for team plans and notes (http://bcoerguides.pbworks.com) and the other (http://bccampus.mediawiki.com/bcoer) for collaborative projects. There is also a public-facing website hosted by BCcampus for wider sharing of information and resources: http://open.bccampus.ca/bcoer-librarians. To date, BCOER Librarians have organized two hackfests, created multiple tools, held an OER Awareness event for librarians, and participated in numerous outreach activities such as webinars and conferences.
Hackfests

Energized by the B.C. Open Textbook Summit keynote by Quill West on librarians and OER leadership in April 2014, a dozen people, including members of the BCOER Librarians and MLIS students from the University of British Columbia’s iSchool, gathered for a hackfest in May 2014 (BCcampus, 2014). Its success led the group to hold a second hackfest in July 2015.

Derived from the coding/programmer community, a hackfest (or “hackathon”) is a focused hands-on event which provides an unique opportunity for people to gather in a semi-structured way in order to concentrate on resolving particular problems as suggested by the attendees (Popowich, 2014). It comprises several elements: intense collaboration, playful exploration, and the freedom to work on what one wants with an end product in mind. A key component of a hackfest is to be away from day-to-day responsibilities in order to dedicate time to projects.

Prior to both hackfests, the members of the BCOER Librarians posted project ideas in a shared Google document to crowdsource ideas relating to current needs and to identify potential joint projects. At the beginning of each event, the group reviewed the list and chose the projects that would be tackled based on the interest of the hackfest attendees. Participants then self-organized into working groups and devoted the rest of the day to working on the identified projects.

The May 2014 hackfest had two OER working groups emerge: a subject guides group and an awareness group. The former worked on testing a rubric to assess OER repositories with the aim of creating OER subject guides. By the end of the day, 31 OER Science repository resources were successfully reviewed and ranked. The awareness group focused on developing advocacy tools that librarians could use to promote OER at their institutions. They created a poster presenting key talking points to engage faculty in discussions about OERs and open textbooks (Lee, 2014b).

The ability to meet and work together in person at the first hackfest allowed the BCOER Librarians to establish a good working rapport and to set a direction for future activities. It was also a very good learning experience as attendees got a better sense of what could be accomplished in a half day of intense, concentrated work. The participants had originally hoped to complete a set of fully developed OER guides and a finished poster, but realized that much more time would have been required to achieve those goals. The group also learned that additional expertise outside of the hackfest time would be needed to complete their projects. For example, the help of a graphic artist would be required to finish the advocacy poster. All in all, the first hackfest experience demonstrated that it takes a considerable amount of time to navigate the OER world on the web and to curate quality resources. It also reaffirmed that the work is made much easier and effective through collaboration (Lee, 2014b).

For the second hackfest in July 2015, the BCOER Librarians encouraged participants to invite fellow librarians to attend, which brought a new and very active member to the team. The attendees decided to focus on two projects: 1) drafting a strategic planning guide for libraries on OER; and 2) working with the BCOER MediaWiki site to explore and possibly define
workflows, content organization, and functionality for the group’s work. Timing was ripe for a strategy planning guide, as interest in OER and open textbooks has been steadily growing in B.C. and libraries are receiving more inquiries for OER help from faculty. Working on developing more expertise using the MediaWiki site was a priority project given the group’s goal to create and share more OER subject guides this year. By the end of the day, a draft strategic planning guide was completed, more content was added to the MediaWiki, and a better understanding of the site’s functionality was achieved. Although participant numbers were lower than the first hackfest because some people were away on summer vacation, attendees were pleased with what they were able to accomplish with a small, but agile group and the hackfest format (Lee, 2015).

Advocacy Tools

The BCOER Librarians group has been busy developing comprehensive guides and tools such as an OER repository assessment rubric, an advocacy poster, and OER guides. These resources are all OERs so that others may reuse or adapt them to suit their own needs: http://open.bccampus.ca/bcoer-librarians/bcoer-tools/.

OER Repository Assessment Rubric (OERR Rubric) (http://open.bccampus.ca/files/2014/07/OERR-Rubric.pdf). The “OER Repository Assessment Rubric” was created by a team at the University of British Columbia (UBC) with the assistance of UBC MLIS students. It is designed to be a tool for librarians to use when evaluating OER repositories in order to ensure high quality standards in the selection of OER repositories, primarily for inclusion in BCOER guides, but also for other librarians to use for their own purposes. The rubric was developed to evaluate repositories in the following areas: authority, audience, access and diversity, user-friendliness, subject coverage, search functionality and browsing, media type, and licensing and permissions. It provides a definition for each area and offers a three level evaluation system. The rubric was rigorously tested at the May 2014 hackfest. The final version was completed and shared on the BCOER Librarians website in February 2015.

OER Advocacy Poster (http://open.bccampus.ca/bcoer-librarians/bcoer-tools/). An OER advocacy poster was created at the May 2014 hackfest as a tool to engage faculty in discussions about OER and open textbooks. The poster’s key ideas are an overview of the “5Rs of Openness”, an explanation of what OER could be, the benefits for students, the advantages for faculty, and some statistical facts about OER. By the end of the hackfest, the poster’s content and general layout had been determined, but it required some gaps to be filled, such as local B.C. statistics, graphics, and final design work. The poster was completed and shared on the BCOER Librarians website in October 2014. It was revised in April 2015 to reflect more current statistics and textbook cost savings.

BCOER Guides (http://open.bccampus.ca/bcoer-librarians/bcoer-guides/). In Fall 2014, a subgroup of BCOER Librarians from B.C. Institute of Technology, Kwantlen Polytechnic University, and Douglas College teamed up to create three related LibGuides: Open Education Resources Primer, Open Textbooks, and Open Education Resources by Material Type. The former provides a general introduction to OER, covering topics such as the “5Rs of Openness”, Creative Commons licenses, and more information for specific audiences such as faculty, librarians, and students. The guide on open textbooks provides an introduction to open
textbooks, general information about the B.C. Open Textbook Project, and offers suggestions on how to find existing open textbooks. The guide on material type has information on open data, open books, open databases, open multimedia, and open courses/MOOCs. It also links back to the guide on open textbooks. These guides have been used and adapted by BCOER member libraries such as the University of British Columbia, Thompson Rivers University, and University of the Fraser Valley, as well as by some postsecondary libraries in Atlantic Canada including Dalhousie University, Nova Scotia Community College, and St. Francis Xavier University.

BCOER MediaWiki (http://mediawiki.bccampus.ca/index.php/Category:BCOER). In March 2015, members of the BCOER Librarians started to experiment with using a MediaWiki (https://www.mediawiki.org) hosted by BCcampus for the co-creation and updating of OER subject guides (http://open.bccampus.ca/bcoer-librarians/bcoer-guides/). The group decided that using MediaWiki would be a more effective way to collaboratively develop and maintain OER guides than the existing LibGuide format because its embed code for content can be easily imported into other platforms. To facilitate the use of the “embed page” feature, the BCOER MediaWiki provides step-by-step instructions on how to embed content into both LibGuides and Wordpress. Another benefit of the MediaWiki is that all changes and updates made in the “master” MediaWiki site are syndicated to all sites that use the embed code, making it easier for librarians to share in the maintenance of guide content. Since MediaWiki is open source and free to use, the BCOER Librarians can potentially involve more librarians to help with the creation, maintenance, and sharing of new OER content, making this a more efficient and sustainable model for maintaining guides. As a first step and case study to see how the MediaWiki embed page feature worked, Thompson Rivers University successfully embedded the OER Primer’s content that had been created in the MediaWiki site at the July 2015 hackfest into its OER guide: http://libguides.tru.ca/oer.

Faculty Guide for Evaluating Open Education Resources (http://open.bccampus.ca/files/2014/07/Faculty-Guide-22-Apr-15.pdf). The “Faculty Guide for Evaluating Open Education Resources” is a tool for faculty to use when choosing OER at the course level. It provides a checklist of suggested questions that faculty may want to consider to ensure that they select high quality OER. The first version of the checklist was completed and posted in March 2015 by a UBC MLIS student as a project for a cooperative education placement. After feedback from members of the BCOER Librarians, it was revised and shared on the BCOER Librarians website in April 2015.

Professional Development Efforts

As the BCOER Librarians’ confidence in their knowledge about OER has grown, they have begun to actively share their knowledge with others outside the group. After the May 2014 hackfest, the members began to talk about methods of providing professional development for librarians and to think about seeking opportunities to share their knowledge about OER with others. They discussed possible activities such as holding an in-person OER awareness event for postsecondary librarians, running a monthly drop-in webinar to field questions on OER, creating a regional listserv for discussion on OER topics, or facilitating an online forum for inter-institutional discussions and for conversations with faculty. While not all of these suggestions
have come to fruition as of yet, the group has created a listserv for internal communication, organized an in-person OER awareness event, participated in webinars, and presented at conferences such as the 2015 B.C. Library Conference and the 2015 B.C. Open Textbook Summit to promote OER and to share the group’s tools, resources, and activities.

The BCOER Librarians have also provided outreach to numerous groups outside of the province such as Canadian Association of Research Libraries (CARL) in October 2014, the Council of Atlantic University Libraries / Conseil des bibliothèques universitaires de l’Atlantique (CAUL-CBUA) in February 2015, International Open Education Week in March 2015, and Open Oregon in June 2015. They have also been invited to share their work at the annual meeting of the Alberta Association of Academic Libraries in November 2015. In addition, the BCOER Librarians have been invited to be a Country Champion by the OER World Map (https://oerworldmap.org/), a project funded by the Hewlett Foundation to help promote awareness of the work of OER leaders and projects around the world.

The following events are selected activities that highlight the range of activities that members of this community of practice have undertaken.

**B.C. Post-Secondary Community Feedback Session.** In June 2014, members of the BCOER Librarians facilitated a session at the B.C. Educational Technology Users Group (ETUG) Spring Workshop to obtain community feedback from educators. ETUG (http://etug.ca/) is a grassroots group of B.C. educators who are interested in teaching, learning, and educational technology. The majority of participants at the feedback session were from the postsecondary field and included instructors, librarians, instructional designers, educational technologists, and students. Participants were asked to identify what they felt were the primary challenges to using OER. The obstacles they identified included awareness about OER, discoverability, quality, resource longevity, understanding open licensing, overall resistance to change in postsecondary, and generally knowing about opportunities (ETUG spring workshop, 2014). For the BCOER Librarians, this feedback reaffirmed that the projects and plans that they currently had underway and those that they were planning for the future would help to address these challenges.

**OER Awareness Event: Open Education Resources: Librarians, Leadership, and Opportunity.** On October 27, 2014, a half-day event OER awareness event, Open Education Resources: Librarians, Leadership, and Opportunity, was held at Douglas College in New Westminster, BC. It was a step towards helping academic librarians understand and advance their professional learning in OER. The session’s topics included the open education movement in the international, national, and provincial context; OER and open textbooks in the B.C. postsecondary realm; librarians and OER leadership; and librarians working on innovative projects such as the first B.C. Open Textbook Sprint. Over 40 academic librarians from B.C. and Washington State attended. Based on anecdotal feedback from participants, the awareness event was a very helpful orientation to and discussion about OER for librarians (L. Lee, personal communication, October 29, 2014). The event was recorded and shared as a resource on the BCOER Librarians website: http://open.bccampus.ca/bcoer-librarians/professional-learning/.
Beyond OER. The joint collaboration related to OER has motivated the members of the community of practice to work together on other “open” issues of interest to librarians. In October 2014, the BCOER Librarians co-promoted International Open Access Week by creating a webpage to share the events being held at various B.C. institutions (Lee, 2014a). A year later, for International Open Access Week 2015, the University of British Columbia Library, Simon Fraser University Library, BCcampus, the Public Knowledge Project, Council of Prairie and Pacific Libraries, and the B.C. Research Libraries Group partnered to offer an evening reception and panel event on openness in higher education. The partners shared in the planning of the event, costs for the venue, catering, and sponsorship for the live streaming and recorded webcast of the speakers.

At the ETUG Spring Workshop in June 2015, the BCOER Librarians presented a poster on how LibraryBox technology (http://librarybox.us) can be used to share OER with learners in remote and rural areas without reliable Internet connectivity or with learners who are otherwise unable to access the open web: http://etug.ca/files/2015/06/LibraryBox_poster-01.png. This poster is an OER, revised from a poster created by Ryerson University Library and Archives (RULA).

Future Considerations

Wenger, McDermott, and Snyder (2002) identify five stages of development through which a community of practice evolves: potential, coalescing, maturing, stewardship, and transformation. In existence for two years, the BCOER Librarians have now emerged as a community of practice. The group has established their domain as OER and librarianship; built trust and relationships; created multiple tools and resources to share with others; and have been actively engaged in activities where the group members are learning together and sharing their knowledge. As they approach the maturation stage, an important priority will be to consider ways to showcase the value of their work. In addition, the group may also need to take on the tasks of clarifying or re-clarifying its role as a community of practice, managing its boundaries, and organizing its knowledge (Kim, 2015). Some of this work is already underway as the group plans for a new website so that the knowledge resources created by community members can be found more easily. To bring fresh ideas and life to the community, the BCOER Librarians will also need to consider how to attract new members and to include them in events such as hackfests or through open learning spaces such as online forums or drop-in webinars.

To help with the sustainability of this CoP, it will be important for the BCOER Librarians to continue to foster a distributed leadership model so that the continuance of the community does not rely on any single member (Team BE, 2012). It is important that members take the lead in community roles such as facilitating dialogue at the monthly teleconference meetings, note-taking, and representing the BCOER Librarians and their work at meetings, events, and conferences. The group’s activities need to continue to be flexible and to allow for varying degrees of participation by members so that individuals are able to contribute and engage as much or as little as they wish or are able (Attebury, Perret, Kenyon, & Green, 2013). To help with the continuity of the group’s activities and work, it is crucial that notes are kept and posted in a public wiki where summary ideas and actions are readily available for all. The administrative tools provided by BCcampus’ sponsorship---the group listserv, access to
teleconferencing services, and meeting coordination—must be recognized as key supports enabling communication and collaboration amongst members.

As the BCOER Librarians move into their next phase as a community of practice, they will need to review their purpose and what they wish to learn and do together going into the coming year. To remain relevant, the community must be adaptable to members’ changing priorities, interests and needs. The December 2015 in-person meeting of the BCOER Librarians will be an opportunity for this important discussion and planning to take place.

**Conclusion**

Inspired by the growing open education movement in British Columbia, the members of the BCOER Librarians came together as a community of practice to increase their knowledge, interest, and expertise in OER and to share their ideas, tools, and strategies for promoting and supporting them. This article not only briefly reviewed the OER movement in higher education and the role that librarians could play in it, but also described how a community of practice could be an effective way for librarians to become effective OER advocates. The BCOER Librarians have learned that a distributed leadership, some administrative support, and being open to new members and new ideas are keys to sustaining an active group. By creating shared resources that multiple people can use and adapt, these librarians are not only practicing openness themselves, but also ensuring that they are not duplicating efforts individually. In other words, this sharing of time and resources provides service and promotes sustainability in OER advocacy. Given that one of the challenges that librarians face in promoting OER is that it is often an additional responsibility added to an already heavy and diverse workload, joining forces with others via a community of practice or using the resources that another CoP has created is a way for academic librarians to provide an important service and broaden their own professional expertise in a new and exciting area of higher education.
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Globetrotting Students and Faculty: Adapting Library Instruction to Global Sites

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Abstract
As e-resources become more ubiquitous, and the technologies available to access them more sophisticated, libraries have greater opportunities to reach out to global users. However, this same distance means that some users never even set foot in a physical library. This case study will describe how one large academic library started a business, economics, and marketing library online instruction pilot for global users in an effort to replicate library instruction offered at the home institution. Librarians assessed global library use and research needs; prepared unique lesson plans for each global site; and created digital learning objects using synchronous and asynchronous methods to establish an instruction strategy for Business and Economics courses. The goal was to test instruction practices and develop an online instruction template that would be replicable and sustainable for library instruction in other subject areas in New York University Libraries and other institutions.

Background
Study abroad and distance learning programs are hardly new concepts for universities. New York University’s (NYU) own study abroad endeavors began in 1958 with a site in Madrid, and in the decades since have expanded to eleven global academic centers and two portal campuses. The libraries service users across six continents and nine time zones. In 2012, university president John Sexton spoke of his vision for a global network university wherein he saw “the university as an organism, a circulatory system” for faculty and students to move between continents for learning and research” (Connell, 2012, p. 48). This vision was reflected in NYU’s Division of Libraries’ Strategic Plan 2013-2017 goal to “build a global organization that works collaboratively and effectively to support integrated services across the NYU Global Network University” (New York University Division of Libraries, 2013, p. 1).

NYU’s degree granting “portal” campuses in Abu Dhabi and Shanghai have fully staffed libraries, but the eleven global “academic centers” in Africa, Australia, Europe, North America, and South America do not. Local research and study support at academic centers such as Accra, Buenos Aires, Florence, and Sydney usually consists of an on-site reading room and, possibly, agreements with local libraries. Therefore, NYU libraries’ e-resources and dedicated global library services are critical to these centers. The steadily increasing global student population is now at roughly 1,300 students, including 250 freshmen. For the Libraries to support the
information literacy development of global students as it does those in New York City, online library instruction is essential. The pilot serves as an opportunity to experiment with various methods of lesson planning, online instruction, and outreach to strengthen the library support we offer to users abroad.

**Literature Review**

**Virtual Business Libraries**

Over the past decade, academic libraries have transformed their physical collections and services into virtual spaces that can be accessed from anywhere around the world. At the same time, many academic business libraries have been reorganized into completely virtual spaces, offering specialized chat and email reference services along with access to almost all business resources. Collection development in business has also shifted from print books to electronic resources, such as databases and data (Long, 2014). Students and faculty have also come to fully expect online support services from libraries. Dewan and Steeleworthy (2013) write, “Chat services are expanding as in-person reference declines; similarly e-resource usage has increased as users research from home. Online tutorials accessed at point-of-need fill a service gap by providing self-service instruction at a place and time when students need it most” (p. 282). Academic business libraries have been early adopters of online resources and as the demand for up-to-date business articles, reports and data increases, business libraries will need to continue to expand their online collection and services.

As more students study abroad and faculty are required to teach and research globally, there is a misconception that access to library resources stops once they are in another country. Hence, academic business libraries’ most difficult challenge is that students, staff and faculty associate the physical library building as the only point of access to library information, and many are not aware that library information and services are available virtually for their research needs (Long, 2014). Librarians need to actively promote and demonstrate how to access and use library resources to students studying abroad, as well as to faculty teaching and continuing their research in other countries. For that reason, the main purpose of our online library business instruction pilot is to promote the numerous online databases and other library resources available so that students and faculty can succeed in their scholarly pursuits.

**Association of College and Research Libraries (ACRL) Framework**

The Association of College & Research Libraries (ACRL) Framework for Information Literacy for Higher Education can be a useful resource for shaping outreach strategies to global sites. Particularly relevant is the “Information Has Value” frame, which states, “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” (Association of College & Research Libraries, 2015, “Information has Value,” para. 1). In a world of Google, students studying abroad may be positioned to believe that all “online” information is ubiquitous and free. Even if these students have some understanding of the academic information environment and licensed library resources, they may still fall prey to assuming that access does
not extend to them. Denda (2012) writes, “Although remote access to resources via proxy server can ensure students the same access to digital collections and services that on-campus users enjoy, the report indicated that the most prominent challenge for libraries is the lack of awareness by study abroad students of their eligibility to continue receiving full library services while they are away” (p. 156). Instructional support developed around the “Information Has Value” frame can help address this challenge by stressing the distinction between free and subscription-based resources, reasons why licensed information is costly, and that global sites are included in license negotiations.

The lesson plan for our online instruction pilot aims to show how business resources are organized and explore unique searching strategies that are required to conduct business research. Many undergraduate students are familiar with multidisciplinary databases like JSTOR. Databases like JSTOR have Google-like search boxes that provide quick access to information for research topics. However, one of the goals of the online instruction session is to explore new ways to find information and promote the large number of business databases available online through NYU. We designed our lesson plan around a section of ACRL’s framework, “Searching as Strategic Exploration” which states, “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” (Association of College & Research Libraries, 2015, “Searching as Strategic Exploration,” para. 1). Business research is often an intricate process in which students may need to consult different types of business resources and search in several databases to find articles, reports, statistics and data. Therefore, students who attend a session of the online library resources instruction pilot will expand their knowledge of databases available and explore how to search and evaluate business information to be able to complete marketing, company and financial related assignments while studying abroad.

**Flipped Classroom**

We modeled the lesson plan for our online business library instruction pilot after the flipped classroom concept. Instructors in a flipped classroom reverse students’ effort and assign content specific assignments that are due before class and schedule active learning activities that are normally considered homework during class time. The flipped classroom uses new multimedia technology, such as videos, tutorials and podcasts to deliver course content online. This permits students to control the pace of their own learning. For instance, students can re-watch a video as many times as they need to learn a concept. Class time is then devoted to hands-on activities. In universities, faculty in many disciplines already practice a similar model. For instance, science students often have assigned reading on a theory and then have lab time to do an activity that puts the theory into practice (Benjes-Small & Tucker, 2013). Business courses in higher education have also had similar traditions. Business students read a case study that highlights a business concept in a particular corporation and discuss in class the implications of the case study and develop strategies to resolve similar problems in real life business situations.

**NYU’s Global Environment**

At NYU Libraries, most of the business resources are available online and collection development is consistent with the national trend of reallocating funds from books in print to
databases, e-books and datasets. The Stern School of Business, which offers numerous courses at the global sites, is the focal point of the Libraries’ curricular support for business. Business-related courses in other schools, such as the Wagner Graduate School of Public Service and the School of Professional Studies, are also supported. Primary collection areas include marketing, finance, accounting, management, banking, and international business. NYU Libraries is also a depository for United Nations, World Tourism Organization, and publications of intergovernmental organizations such as the Organization for Economic Co-operation and Development (OECD), International Monetary Fund (IMF) and World Bank. Statistical resources receive high priority and include leading edge online sources along with historical statistics in print (New York University Libraries, 2007). As an institution whose main campus is in a densely populated city with limited available physical space, collecting heavily in online business resources meets important challenges at home in addition to those abroad.

While online resources are key, print resources also play a role in global library services. The Libraries have extensive delivery services that provide access to the physical collection. Students and faculty at NYU’s global sites and campuses may request scans of articles and book chapters for their private study, scholarship, or research. If NYU does not own a particular source, Delivery Services staff will request chapter and article scans from other libraries. Overall, global students have access to most of the physical and digital collections, in compliance with copyright laws. Purchasing decisions involve the global factor, with collection development librarians regularly considering the needs of students and faculty at the global campuses and academic centers. An online resource is purchased only if the license ensures accessibility for all global locations.

**Evaluation of Needs and Establishing an Online Library Instruction Pilot Plan**

When the decision was made to conduct an online library instruction pilot, our first step was to evaluate the course offerings and syllabi at the sites to determine where to focus our efforts. We found that six global sites had programs in business, marketing, or economics, which would make a rather sizable group for a pilot. We chose to further limit the scope to introductory level courses in this field, because students in these courses, primarily freshmen and sophomores, were the least familiar with the libraries’ offerings, and thus most in need of library support. Applying this criteria, students taking business courses at Florence, Madrid, and Sydney became our target audience.

While designing our lesson plan we looked to other lesson studies we had conducted in online learning that we conducted internally. We consulted the scholarly literature on the subject, seeking to identify challenges and best practices we would need to consider to conduct an effective distance-learning pilot. We identified several factors and organized them into three categories:

- **Syllabi Review and Lesson Planning:** Were there common research needs reflected across the board in the syllabi we were evaluating? How best could we apply the flipped classroom method into our lesson plan? How could we obtain feedback from faculty and program administrators on the lesson plan?
Logistics: How could we attain the buy-in from faculty and program administrators necessary to ensure their involvement in the development and promotion of these sessions to their students? How could we translate that buy-in from faculty and program administrators at the locations into student attendance? What was the best method of providing instruction across different time zones?

Technology: What hardware and software did we have available to us to aid us in our efforts? Were these in sync with what was available at the locations where our students would be attending from? Could these tools be used on a larger scale as we scaled up our distance learning instruction?

Syllabi Review and Lesson Planning

We obtained syllabi for the Fall 2014 and Fall 2015 Business and Economics undergraduate courses at all six global sites offering business courses in NYU from administrators at the NYU Office of Global Programs. Even though the syllabi cover almost all the same content, each global site has their own syllabus template with distinct sections that are required to be customized by faculty. A review of each syllabus was conducted and assessed for potential library needs for each course. We created a spreadsheet with the results of our review, including information on the course name, semester/year, location of global site, course description, and research sources identified throughout several sections of the syllabus. Specifically, we looked at the following syllabus sections: Assessment Components, Required Texts and Supplemental Texts, and Internet Research Guidelines. We analyzed each section for possible inclusion of library resources. In the “Assessment Components” section, we examined requirements for the class, such as research papers and other assignments that might require research skills and library resources. In the “Required Texts and Supplemental Texts” section, we searched the NYU catalog for all the listed books, newspapers and scholarly publications and found that most were available via the library electronically. NYU’s collection development policy does not include textbooks, so we did not include textbooks in our spreadsheet review, but did include any other types of scholarly or business materials. In the “Internet Research Guidelines” section, instructors mentioned websites and online resources that would be suitable to use in their class. The guidelines were also a place instructors included the plagiarism policy and stressed the importance of citing sources. Many instructors required students to cite their online sources and therefore highlighting citing features in databases and citation research guides was included in the lesson plan.

Our syllabi review successfully identified major trends in publications used by faculty members for required reading or as part of an assignment. It was clear that faculty mostly relied on articles from journals and newspapers, as well as magazines, case studies, e-books, and data from international organizations. Faculty also used non-traditional resources like blogs and websites (see Appendix A for more information on publication types found during the syllabi review). One of the most common assignments was finding articles from major international and business newspapers. Not surprisingly, the most frequently suggested newspapers by business and economics faculty was The Economist and The Financial Times (see Appendix B for more information on the newspaper titles found in the syllabi review). As a result, we included a
After the syllabi review, we identified several courses as heavy users of library business resources. Their most frequently mentioned library business resources were Datastream, Factiva, Global Market Information database (Euromonitor), Lexis Nexis, Mintel, and Organization for Economic Co-operation and Development (OECD). When developing the lesson plan, we formed course objectives based on the library needs of these courses and emphasized the most heavily used business library resources (see Appendix C to see the complete lesson plan).

Pre-class assignment. For the pilot, we implemented the flipped classroom pedagogy by creating a pre-class assignment using the survey software, Qualtrics. Part of our pre-class assignment asks students to watch two videos showing an overview of business resources available at NYU Libraries and instructions on how to find company and financial information. The videos emphasize the most widely used business databases and also highlight library reference services, such as the online chat service. We included multiple choice and open answer questions directly related to the videos in the assignment. In addition, we asked students to find publications and specific articles from prominent business journals, such as The Wall Street Journal, to help students practice finding newspaper articles (see Appendices D and E to find a selection of questions used in the pre-class assignment).

The business department at NYU’s Bobst library created the videos prior to the start of our online instruction pilot to promote business library resources and to serve as learning tools during online chat reference and in-person consultations. The videos are accessible to anyone online through a computer, tablet or mobile device via NYU Libraries’ YouTube channel. As of October 12, 2015, the video, “A tour of NYU’s Virtual Business Library (VBL)” had been watched 70 times (New York University Libraries’ YouTube Channel, 2013). Through the pre-class assignment for this pilot, the videos are re-purposed as tools to introduce online business sources to students studying abroad.

We received excellent feedback from colleagues in terms of wordings of the questions and also revisions of the length of the survey. The videos were well liked and we believe are very useful in introducing the main business resources of the university. Colleagues completed the pre-class assignment and gave suggestions on ways to modify the order of the questions to create a better flow and relate the questions more explicitly to the information in the videos. Ideally, the students would complete the online assignment before the beginning of the online library instruction session and the results of the assignment would help assess the level of understanding of the students. During online instruction sessions we’d go over the sections of the assignment that students had difficulty with, have a hands-on activity in which students practice searching for their research topic, and have the opportunity to ask questions.

Logistics: If You Build it Will They Come?

In preparation for the online instruction sessions, our first two concerns were whether we would be able to align instruction goals with the research goals of faculty, and also a possible lack of student involvement. In order for this program to succeed we set out to engage with
program administrators at these locations, and faculty members teaching courses in these subjects. Cultivating working relationships with program administrators led to many opportunities for outreach and collaboration. However, one of the challenges for outreach is the high turnover rate for faculty in global sites. A faculty member might teach one semester and not the next. As a result, the lack of consistency makes it difficult to reach out to faculty individually. In addition, many are adjunct faculty from local universities; therefore they rely heavily on local library resources or publicly available information for their courses. In addition, they may not use NYU’s classroom content management system or library resources. Therefore, the outreach strategy consisted in asking administrators at the global sites to contact the faculty via listservs with information about the pilot and a sample lesson plan to assess their interests. As part of these discussions we gathered their input on any additions or changes they thought matched their individual programs best. We incorporated their suggestions into the modules for their students, and ensured that the materials we covered were relevant to student’s success in their classes. It also had the added benefit of increasing faculty buy-in, in whom we were relying on to promote these sessions to students.

In New York City, we conduct similar library sessions during regularly scheduled class time, and we highly encourage faculty members be present and participate in the sessions. In our experience, their presence makes students more likely to accept that these sessions are an integral part of their class experience. Such an approach was not always possible when time zone differences are thrown into the mix. Teaching a session at 5pm Sydney time, during a class session, would mean the library instructors in New York would have to conduct the session at 12am their time. Situations like this meant that we relied heavily on program administrators at those locations to provide us with suitable times, when students were available, that match both their time zones and ours.

Another difficulty was that the online library instruction sessions were not able to be scheduled during regularly scheduled class time. Because of this, students were more likely to skip such sessions because they saw them as unnecessary or extra work that they did not have time for. User anonymity was another barrier to user attendance, since users might feel less pressure to attend since attendance would not be tracked. As a result, we decided to rely on the familiarity and proximity of faculty and program administrators at the global locations in planning and executing promotion of these instruction sessions, and encouraging student participation. Since faculty and program administrators had become an integral part of the planning and development process for the pilot, and understood the benefits for their students, they were much more invested in the prospect of its success.

Technology: Our Quest for the Right “Stuff”

To conduct these webinars, we first had to secure a quiet space that was equipped with a computer that had a web camera, microphone, and stable Internet access. While finding a computer with the relevant equipment is easy enough, ensuring that it is a relatively quiet space is equally essential, yet more difficult to achieve. Previous experience had told us that background noise during web conferences and video chats can be extremely distracting for attendees, and make it difficult for them to understand what is being said. For this reason setting up a webcam and microphone in a typical office environment can be problematic. A dedicated
webinar space designed for this is ideal, but an isolated area where background noise can be kept to a minimum can work in a pinch.

The software suite one chooses to use to conduct webinars and online teaching is also extremely important. As Neidorf (2012) wisely states, “The tools that support the interactions of your distance learning program are more than a collection of functions and features...your choice of tools and how you use them will impact which students come to you, how successful they are, and the subtle messages you project about the value, purpose, and goals of your program” (p.13). She breaks down the consideration on what factors one should look at when making this decision as follows; what tools are available, what impact might the tools have on delivery of the course, what impact they may have on the satisfaction of both instructors and students, does the tool present any budgetary concerns, and is it applicable to the present project (Neidorf, 2012).

We were fortunate to have an array of tools to choose from, but eventually settled on the Citrix GoToTraining platform for the pilot. One reason for this is that it was a platform we were familiar with. We also had good experiences with its stability and functionality when using it for meetings, discussions, and training sessions at the locations we were serving. Furthermore, it provided us with the functionality necessary to present users with access to instruction materials before, during, and after the session allowing us to present them to the students in the way and time we intended.

Assessment

Traditionally, librarians in the New York campus have used an assessment survey after every scheduled and pre-scheduled general library instruction session. This survey asks students their year, NYU school affiliation, if they believed the library session helped them with their course assignment, what they thought about the session and any recommendations to improve the session (see Appendix F for the complete library instruction post-session survey). We plan to use the same survey with small modifications so that instruction librarians in New York are able to compare student responses in New York with the rest of the global sites, thus creating consistent reporting of instruction assessment throughout NYU.

Outreach to Faculty and Program Administrators

To conduct a global online instruction pilot, outreach to program administrators is essential. For this pilot, collaboration with the program administrator at the Florence global site was the most successful. There is a physical NYU library at the site with a library manager who is receptive of new library services and understands the value of libraries resources and services.

On her counsel, the pilot’s first online instruction session targeted the business and economics faculty in Florence. Our main objectives were to promote library resources that related to their courses and show how library resources could assist their students in completing their assignments. Most of the faculty members at NYU global sites have a joint appointment between NYU and another university, and many are not aware of the array of online library resources that NYU provides. The program administrator sent out login information via email to faculty wishing to connect to the session at home and booked a viewing room for faculty, in case
they decided to watch the online instruction session as a group. This flexibility allowed faculty to connect at their own leisure and resulted in higher virtual attendance. The session covered business resources that would be valuable for their students to complete their course assignments such as showing databases that had newspaper articles from prominent business sources and international newspapers, along with databases related to finance, marketing and economics. During the session we were also able to discuss the faculty’s own research interest in statistical and data resources. Overall, the session for faculty was very successful and was a crucial step in being able to provide and promote online instruction sessions for students in global sites. Ultimately, we hope to get more support from academic stakeholders, so that they encourage their students to attend future online library instruction sessions.

**Lessons Learned**

We conducted four webinar sessions; one with Sydney, one with Madrid, and two with Florence. As stated previously these sessions were, with the help of onsite faculty and administrators, scheduled at mutually convenient times. Of those students that were eligible to attend these webinars only a handful did. Even so, any interaction we had with students, even if it was only to respond to an email from a student who could not attend the session, was an opportunity to market the library resources and introduce them to the resources via email. Low attendance was not through lack of promotion or investment on the part of those promoting the sessions. We learned that catering to a small population in a global site leads to low attendance. For instance, in the fall of 2015, there were only 3 students enrolled in introductory business and economic courses in the Sydney global site. Through our post-session discussions and evaluation we determined that several factors contributed to our low student attendance rate, most notably, insufficient integration of the sessions into the class schedules and in some instances inconvenient timing.

In general, low attendance for optional in-person library instruction sessions at the main library in New York has also been a challenge. Many students register, but only about half the students may attend. Low attendance is not surprising for online library instruction sessions, considering that there are no repercussions for not showing up. Students may also expect a recording of a missed session. Asynchronous learning while watching a recording of a session may also provide benefits to students and give them another opportunity to learn how to access and use library resources. For instructors, however live online interaction with students and faculty may also provide opportunities to answer any questions and provide a time for discussion of library needs and difficulties. There are many benefits to asynchronous and synchronous online learning and we will continue to experiment with the best methods to design and promote online library instruction.

Having the syllabi for the business and economics courses in the global sites was extremely helpful in forming a general lesson plan for the online library instruction pilot. However, the lesson plan and the target population of the sessions were too specialized. In the future, the authors plan to have a general introduction to business and economic resources for not just one global site but multiple sites that are within close time zones. In addition, there has been a surge of non-business students doing business research in other subject areas (food studies, industrial and organizational psychology, health, etc.), so promoting online library instruction
sessions to any student that is interested in learning more about business may also increase virtual attendance. Based on the syllabus analysis, we also created a pre-assignment activity that relates directly to their course assignments, such as finding an article in a local newspaper. However, it was difficult to get students to complete the activity. Nevertheless, the assignment is a useful resource for students who were not able to make the online instruction sessions, as it reviews the main lesson objectives of the online instruction session, and serves as an outreach tool for the business resources.

Another challenge is that each global site has a distinct student and faculty population with unique concerns. For instance, some sites have relatively new administrators that may not only be familiar with university resources and services offered. Consequently, they may not be aware of the role of the library in instruction and in providing online library resources.

In the future, we hope to work with faculty and departments to not only incorporate elements of their syllabus into online library instruction lesson plans, but also incorporate online instruction sessions as part of their regularly scheduled class time. Hence, outreach to faculty before the beginning of each semester when they are still planning for their courses is essential. This will hopefully increase the possibility of having instruction sessions during their class time and ensuring student attendance. We expect this to be difficult, because faculty are often not on site before the beginning of the semester. In some countries, there are even labor laws that prevent reaching out to program administrators and faculty prior to the beginning of the semester. Another consideration is that time zone differences may prevent us from conducting sessions during their normal class time. However, we would make allowances for students to take the sessions during alternate times in lieu of their normally scheduled classes. As the online instruction sessions become more mainstream and more faculty and administrators become of aware of the opportunity for their students to receive library instruction, we are optimistic that the demand for instruction will increase. In addition, it is our hope that the online sessions will not only include business and economics but other subject areas in the humanities and social sciences.

Conclusions

As NYU continues to pursue global initiatives, we hope to collaborate more closely and efficiently to provide library instruction and research help to students and faculty all over the world. In the future, we hope to enlist the aid of other librarians abroad at Abu Dhabi and Shanghai campuses to reduce time zone constraints and allow greater flexibility to offer more online instruction sessions. In addition, advances in technology will facilitate outreach and promotion of online library instruction sessions. Developments in new webinar software will increase the level of communication and live interactions with students and faculty. Social media will also provide new outlets to explore ways to connect global faculty and students to library resources. Overall, we hope that online library instruction sessions become part of many class experiences, not just a supplemental option. As online library resources expand, especially in business, it will be easier to provide support to students studying abroad. At NYU, the global campuses are fairly new, but librarians in New York and in the global sites and campuses will continue to work collaboratively to expand library services.
References


Appendix A

Publication Types included in Business & Economic Course Syllabi at NYU Global Sites
Fall 2014 and Fall 2015

Note. Percentages represent the number of times each type of publication was required as part of an assignment or an assigned reading.
Appendix B

Newspaper Titles included in Business & Economic Course Syllabi at NYU Global Sites
Fall 2014 and Fall 2015

Note. Percentages represent the number of times the publication was required as part of an assignment or an assigned reading.
Appendix C

Introductory Research in Business and Economics Online Instruction Session
Lesson Plan

Purpose
The synchronous sessions are intended to provide an overview of online library business resources available to students in New York University global sites in order to assist in research projects and assignments while studying abroad.

Goals
At the end of the online session students will be able to:
- Recognize New York University’s resources through NYU’s library homepage and Virtual Business Library
- Identify key business resources related to course requirements
- Explore online learning objects, such as research guides and online tutorials.
- Learn how to seek help from a Librarian

Part 1: Pre-Class Assignment

Students will be required to complete an online assignment before the beginning of the session to familiarize themselves with all the business resources available online via NYU Libraries. Specifically, students will watch two tutorials that will review the resources available through NYU’s Virtual Business Library (library.nyu.edu/vbl) and be asked relevant questions. Students will also explore how to find an article in the library homepage, library.nyu.edu.

https://nyu.qualtrics.com/SE/?SID=SV_3fQTqcxFYmXIESF

Part 2: During the synchronous webinar the instructor will review business resources that match the professor’s course objectives, assignments, or specific topics, such as finance or marketing.

Overview of the Virtual Business Library (VBL)
- Describe the different sections of the VBL (Company & Financial Information, Industry Information, Economic & Statistical Information, etc.) and core databases in each section.
- Show different ways of finding specific publications, such as the Financial Times, Wall Street Journal or Harvard Business Review.

Marketing
- Describe how to search for industry reports in the database, IBISworld.
- Explore how to find consumer information in the databases, Mintel and Global Market Information Database.
- Show how to find marketing for niche industries like e-business and worldwide internet usage via the database, e-marketer.
Finance
- How to find e-books, journal, and other economic and financial literature
- How to find stock information, analyst reports, and other financial data
- Describe how to find comprehensive company data for U.S. and International companies

How to seek help from a Librarian
- Describe NYU’s online chat and email service, Ask a Librarian
Appendix D

Selected Question From Pre-class Assignment

The first thing we want to show you is how to use the Journals tab in the library homepage to find specific articles. From library.nyu.edu, please go to the Journals tab and search for the Wall Street Journal.

How far back does NYU have access to the Wall Street Journal (Online)?

2013  2010  1997

Pick one of the databases from your results for the Wall Street Journal (Online) and find the following article:


Which database did you try?
Were you able to find the article?
Appendix E

Selected Question From Pre-Class Assignment

Let's start exploring NYU's Virtual Business Library (VBL) by watching this video:

NYU's Virtual Business Library Overview

Virtual Business Library

- Business FAQ
- Ask a Librarian
- Off-Campus Access
- Find E-Journals
- Business Database Descriptions A-Z

Welcome!

After watching the video, in which section of the VBL would you find databases that have market research reports?

- Company & Financial Information
- Industry Information
- Marketing Information
- Country Information
Appendix F

Library Instruction Post-Session Survey

Q1 Library Instruction Feedback Survey

Thank you for taking the time to reflect on what you learned and answer the following questions.

Q2 I am a:
   ☑ Freshman/Sophomore (1)
   ☑ Junior/Senior (2)
   ☑ Graduate/PhD Student (3)
   ☑ Faculty Member (4)
   ☑ Other: (5) ____________________

Q3 My school is:
   ☑ CAS (1)
   ☑ Courant (2)
   ☑ Gallatin (3)
   ☑ GSAS (4)
   ☑ IFA (5)
   ☑ ISAW (6)
   ☑ LSP (7)
   ☑ Nursing (8)
   ☑ Polytech (9)
   ☑ SCPS (10)
   ☑ Social Work (11)
   ☑ Stern (12)
   ☑ Steinhardt (13)
   ☑ Tisch (14)
   ☑ Wagner (15)
   ☑ Other: (16) ____________________

Q5 What course was today's class for?

Q6 Was this your first session in the library?
   ☑ Yes
   ☑ No

Q7 Will this library instruction session help you with the research assignment for this course?
   ☑ Yes
   ☑ No
   ☑ Comments: ____________________
Q8  What did you learn today from the library instruction that you did not already know?

Q9  What would you have liked to learn that was not covered in this session, or what is still unclear to you after the session?

Q10 Please feel free to add any other comments:
Long Distance Relationships: Assessing the Library Service Needs of Rural Students in eLearning Courses

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Abstract
In states with limited road accessibility, rural students can feel isolated from library services. This paper explores the creation, implementation, and results of an on-going longitudinal study assessing the library service needs of rural students in eLearning courses. To align with current practices in online pedagogies, including the Association of College and Research Libraries’ Standards for Distance Learning Library Services and recent revisions to the Framework for Information Literacy for Higher Education, this survey has been designed to help the library identify and improve services to enhance rural student success.

Introduction
The University of Alaska Anchorage has seen a marked increase in enrollments in eLearning courses. The university library has initiated numerous efforts to support eLearning students, staff, and faculty. This paper explores the creation, implementation, and results of a survey assessing the library service needs of rural students in eLearning courses. Assessment has been a regular feature in the library’s efforts to address students’ needs. However, the needs of rural students have not previously been differentiated from those of the general student population. Using the Standards for Distance Learning Library Services (2008) as a guide, the survey asked questions to “assess both the appropriateness of [distance students’] use of services and resources and the degree to which needs are being met and skills acquired” (Association of College and Research Libraries [ACRL], “Needs and outcomes assessments”, para. 2). In addition, the survey asked questions related to the recent revisions of the Association of College and Research Libraries’ Framework for Information Literacy for Higher Education (2015). The findings from this survey will guide the library in improving overall services for rural students. Results will be shared with other campus libraries in the University of Alaska system to support rural student success throughout the state.

Background
The UAA/APU Consortium Library (CL) serves as the library to two universities: the University of Alaska Anchorage (UAA) and Alaska Pacific University (APU). UAA is a public university and is the state’s largest post-secondary institution with an enrollment of around 27,000 students. APU is a small private liberal arts and sciences university with an enrollment of
around 700 students. In addition, the CL is a member of a unique joint library catalog consortium of 74 public, academic, special, and K-12 libraries throughout Alaska that serves about 60% of the state’s population.

Between 2012 and 2014, annual student headcount in eLearning courses at UAA increased 18.4%. eLearning programs now comprise 30% of all programs at UAA (Institutional Effectiveness, Engagement and Academic Support, 2014). Over the last few years, the CL has also committed to expanding access to electronic resources, including new formats (e.g. streaming videos, ebooks, and multimedia databases). This increase in eLearning courses and electronic resources has “blurred the distinctions between main campus online users of library resources and distance learning online users” (ACRL, 2008, Introduction section, para. 2). The CL has traditionally provided services to distance students, including interlibrary loan (ILL) and document delivery. However, it has become increasingly challenging to define distance students. Even the terminology used to describe these students and courses has been used inconsistently with the terms online, distance, and eLearning being used interchangeably.

Assessment has been a regular feature in the CL’s efforts to address students’ needs. The CL conducted its first LibQual+® survey in 2008 to assess users’ satisfaction with library service quality and continues to conduct the survey every three years. The results of these surveys found that many students were not aware of the resources and services that the CL offers. The needs of distance students, however, have not previously been differentiated from those of the general student population.

Based in part on the increase in eLearning courses and the challenges involved in serving distance students, the CL decided to create a new position in the Access Services Department which would also serve as the primary contact for distance education students. The newly hired Distance Education Librarian began work at the CL in August 2014 and was eager to assess how effectively the CL was meeting the needs of distance students.

The Distance Education Librarian contacted the Education Librarian and the Electronic Resources Librarian at the CL regarding the development of a user needs and awareness survey. The UAA College of Education and the Education Librarian collaborate to offer information literacy-oriented online library instruction to undergraduate and graduate distance students. The Electronic Resources Librarian frequently provides instruction in using electronic resources and troubleshoots access issues for distance students. The complementary roles of these three faculty librarians were a natural fit in the initial establishment of the Distance Library Services Team (DLST).

The newly-formed DLST was particularly interested in getting feedback from rural students, which the team defined as anyone living outside of the three largest urban areas in Alaska: Anchorage, Fairbanks, and Juneau. According to the United States Census Bureau the definition of an urbanized area is 50,000 people or above (2010). Although Juneau does not fit this definition as it has only 33,000 people, the team decided to include it as it is the third largest city in the state.
The DLST wanted to see how well the library was serving “distance learners...who are truly geographically isolated from the originating institution, often hundreds or thousands of miles away...Such individuals frequently have little institutional contact or identity” (ACRL, 2008, Introduction section, para. 5). The team contacted UAA’s Distance Student Services as well as the other two University of Alaska campus libraries in Fairbanks and Juneau to see if any similar surveys of rural students had been conducted. These organizations expressed a great deal of interest in the results of the survey.

**Literature Review**

The DLST’s review of the literature revealed that a wide variety of assessment methods have been used by academic libraries in an attempt to understand the changing library needs of distance students in higher education. The analysis of the following articles focused on overarching distance library services themes, specific assessment methodologies, and lessons learned.

Nielsen (2014) and Ritterbush (2014) both highlighted specific trends and themes related to the topic of distance library services. Nielsen examined the top-ranked universities in the nation and the specific services they provide to meet the library needs of their distance students. Providing research access portals and tutorial gamification were some of their strengths. Access to research consultation opportunities for distance learners was identified as the area needing the most improvement. Ritterbush concluded the need for future distance library services surveys to focus on assessing information literacy skills.

The University of North Carolina’s Livermore Library at Pembroke discussed specific methodology involving the distribution of a survey to distance students. Following each online reference transaction, they collected demographics information, satisfaction levels, and comments (Alewine, 2012). Wahl (2013) used data from LibQUAL+® surveys, interviews, and focus groups to analyze distance students’ levels of satisfaction with the University of North Texas Libraries. Both articles demonstrated the necessity of offering a variety of feedback modalities, while limiting the number of survey questions to elicit a high response rate.

A survey conducted by Kansas State University Libraries (KSUL) was particularly relevant to the DLST’s needs and the authors graciously gave the team permission to adapt their survey (Pitts, Coleman, & Bonella, 2012). The DLST was particularly impressed with KSUL’s dual survey goals of marketing the unique library services that are available to distance students as well as assessing their library needs.

This paper contributes to the literature by identifying and assessing the unique library needs of rural Alaskan distance students while highlighting how effectively the CL meets the Standards for Distance Learning Library Services (DLS Standards) and fits within the Framework for Information Literacy for Higher Education (Framework).
Methods and Procedures

In developing the survey questions, the DLST attempted to incorporate some of the suggestions gleaned from the literature review. Questions were added to assess respondents’ information literacy skills and to encourage respondents to share their thoughts on what the library could do to help them be more successful in their course work. The DLST also consulted with a research professional at the UAA Center for Human Development to make sure that the survey questions were effectively worded to elicit useful information.

The survey consisted of 30 questions in the following categories: Demographics, Use of the Library Website, Access to Library Resources, and Information Literacy/Library Instruction. There were also two open-ended questions that asked respondents to identify what the CL does well and what areas could be improved (see Appendix B). Since this is the first survey of this specific population and is thus serving as a baseline for the CL, there was a great deal of information the team wanted to collect. However, based on the review of the literature, the number of questions was limited to ensure a high response rate.

After completing UAA’s Institutional Review Board (IRB) training and receiving an exemption from the IRB, the team then received the appropriate permissions to administer our survey and to request student email addresses from the University Registrar. We sent the survey via email to UAA students, 18 years of age or older, who were taking at least one 0% location-based eLearning course during the 2015 fall semester, as identified by the University Registrar. Respondents had the opportunity to enter a drawing for a $50 Amazon gift card. The survey was open for two weeks and two reminder emails were sent out.

Results and Discussion

Of the 4,664 survey invitations sent out, there were 695 responses. The DLST identified several trends in the results of the survey and connected them to the DLS Standards and the Framework in the discussion of the results.

Demographics

As the focus of this research paper was the library needs of rural distance students, the first survey question was to determine the respondent’s location. Twenty percent (139) of respondents indicated that they lived in Alaska, but outside of the three main urban areas: Anchorage, Fairbanks, and Juneau. The survey asked respondents to specify their location if they lived outside of the three urban areas. The Municipality of Anchorage measures 1,961 square miles. With the borders of the Municipality extending such a vast distance from the UAA campus, not all students who live within the borders consider themselves residents of Anchorage. Even though 12% of respondents listed their residence as one of the communities officially within the Municipality, the team decided to include them as part of the rural student population.

The top five majors for rural students were Health Sciences, Education, Business and Public Policy (BPP), Humanities, and Social Sciences. For the most part this was very similar to the results for all students surveyed with the exception of two majors. Education represented
26% of all rural student majors, but only 12% of all students. This was reversed for Physical and Life Sciences: 9% of all students vs 5% of rural students.

Rural students reported taking courses in disciplines outside of their majors, specifically in Humanities, Social Sciences, and Physical and Life Sciences. This is very similar to what the overall survey population reported. The most striking difference can be seen in the information collected about the Arts. Even though only 1% of rural respondents and 3% overall were Arts majors, eLearning Arts courses were taken by 24% and 22% of students respectively. Humanities majors accounted for only 9% of rural respondents, but 52% of these students reported taking a Humanities eLearning course (see Figure 1).

Rural students are less often seeking an undergraduate degree and more often working towards either an associate degree or a certificate program (see Figure 2). They also tend to be older students, with only 38% of rural students reporting as between 18-24, the typical age of undergraduate students, as opposed to 48% of all students. In addition, 35% of rural students are above the age of 35, in contrast to only 19% of all students (see Figure 3).

*Figure 1. Majors vs. courses taken: rural students vs. all students.*
Figure 2. Level of study: rural students vs. all students.

Figure 3. Age range: rural students vs. all students.
Use of the Library Website

Rural students reported frequently using the CL website with 62% percent of respondents visiting it at least once a month. This number was much higher than the DLST had originally hypothesized. Reasons for using the CL website included finding articles (74%), citation help (46%), finding books (44%), placing holds on items (9%), and renewing items (7%). Fourteen percent never visited the CL website. Some of the reasons provided for this were: “no need to,” “didn’t know about it,” “never heard of it,” and the most promising, “I haven’t yet but will start.”

Access to Library Resources

The DLS Standards Services section recommends specific essential services to support distance students including the prompt delivery of items from the institution’s collections or through ILL (ACRL, 2008). The CL meets this section of standards by offering delivery of materials to distance students. Unfortunately, as the results from this survey show, students are mostly unaware of this service. Over 50% of respondents didn’t know that the CL delivered books, journals, videos, or CDs. Only 24% had ever had a book delivered, 21% a journal, and less than 13% had either a video or CD delivered to them. Twenty percent of students have used the ILL service and of those students, 46% found it extremely helpful in completing their course assignments. An additional 35% rated the service favorably.

A major concern of the CL is that students are not aware of the range of electronic resources that the CL offers. The survey results corroborated this concern. Only 43% have used ebooks, 56% have used databases, and 61% have used electronic journals. Unfortunately, 25% were unaware that the CL offers ebooks, 20% were unaware of electronic journals, and at least 36% were unaware of streaming media.

The DLS Standards (2008) require “that the distance learning community has access to library materials equivalent to those provided in on-campus settings... [including] convenient, direct access to library materials in appropriate formats...” (ACRL, “Resources”, para. 1). The survey asked students if they experienced problems when using CL resources and wanted to know the frequency of these issues. The average for all of the issues listed was that 56% of the respondents indicated never having any of the problems that were listed and an average of only 1% reported always having problems. In fact, an average of only 12% total responded in the negative range for all of the issues listed. The Electronic Resources Librarian had not anticipated such a low number of students reporting access issues as this was expected to be a much bigger problem for this population. The most complaints were about slow download times, links to full text not working, and resources being difficult to use (see Figure 4).
By a huge majority (81%), students typically read electronic materials for their eLearning courses on a desktop/laptop computer. Tablet and smartphone use was much lower than expected (see Figure 5). Although most students read course materials on a screen, only 42% state that as their preference; one fifth (21%) said “It depends” and listed a variety of reasons that were often contradictory. For instance, one response was “if it’s short I read from screen, but if it’s longer I print,” but in direct opposition to this was the response, “If an [sic] journal article is several pages long, I will read it on the computer so I don’t waste paper.” Some students indicated a preference to print items when they wanted to take notes or use direct quotes from the materials (see Figure 6).

Information Literacy/Library Instruction

Overall, many distance students are not aware of, nor do they use, instruction and research services (see Figure 7). Only 19% had ever had a librarian present in a course, but of those, 84% rated the information presented as helpful and 40% rated it at the highest level, extremely helpful. Only 13% had used Ask A Librarian (chat, email, phone, or the reference desk/in person). Surprisingly, the highest used research service was citation help. Student use of citation formatting assistance through the CL successfully aligns with the “Information has Value” Framework (Association of College and Research Libraries [ACRL], 2015).
Figure 5. How do you typically read electronic materials?

Figure 6. Preferred reading source: electronic materials.
Figure 7. Are you aware that the CL offers the following services?

An overwhelming majority of students (86%) use the Internet as a tool to complete their research. This is closely followed by articles (70%), databases (61%), and books/ebooks (60%). Students indicated they less frequently used subject/course guides, Wikipedia, and librarian assistance. The broad range of resources used for research indicate that students are following the “Research as Inquiry” Framework. They “use various research methods...and seek multiple perspectives during information gathering” (ACRL, 2015, p. 7).

Open-ended Questions

The final questions asked students to indicate what the CL was doing well and what needed improvement. Several themes emerged including convenient access to scholarly materials, an appreciation of the variety of electronic resources, and a need for marketing the CL services. Selections from student comments include: “I often take online courses because I am limited on time between work and school, and it is helpful to be able to access these things whenever, wherever” and “The consortium library offers a world of articles, with easy to use refining tools to find just what topic one needs to complete a project” and “get the word out more about how helpful they can be to distance students.”

Conclusions

The CL has been successful at meeting the DLS Standards and the Framework on many levels. The DLST had hypothesized that rural distance students would be infrequent users of the CL website, so it was encouraging to see 62% reported using the website at least once a month. The team had also not expected such a high percentage to use the website for citation help. The CL successfully meets the access entitlement principle that is foundational to the DLS Standards
with its excellent support of electronic access and broad range of materials available. In addition, the students report that using these library services is helpful in completing their course assignments. This successfully aligns with two of the six frames (“Research as Inquiry” and “Information has Value”) in the Framework (ACRL, 2015). The CL will maintain and strengthen these services through our online presence via chat, email, online guides, and library instruction.

However, there are some areas that need to be improved. There is still a significant percentage of distance students who have never used the library website. The majority of rural distance students are unaware that the CL provides access to document delivery, ILL, ebooks, streaming media, and research assistance from librarians. Relatively few have had a librarian visit a course, but those who have, rated the experience as very helpful. When asked what the CL could do to improve, many respondents replied that they wish they had known previously about the myriad services and resources offered by the library. This survey provided an excellent opportunity to inform distance students about the services the CL provides and reinforced the need for more marketing of the library’s resources and services.

The DLST will be sharing the information gathered from this survey with a variety of interested parties including the broader Consortium Library, UAA Distance Student Services, UAA Disability Support Services, and the other campuses within the University of Alaska system. The intention in sharing the survey results with these diverse groups is to promote Alaska-wide collaborations to ensure rural distance student success.

Future surveys will delve further into electronic resource usage and satisfaction levels, collection assessment, and will explore trends in mobile device usage. As the plan is to perform this survey on a regular basis, many of the questions will need to remain consistent so that the success of marketing efforts and library instruction can be tracked. Although this research paper limited its scope to rural distance students, the survey was sent to all distance students at UAA. The next step for the DLST is to evaluate the results from all distance students. In addition, as the Consortium Library also serves Alaska Pacific University, the survey will be adapted for their student population.

The information from this survey will help direct our marketing efforts specifically to rural distance students. The open-ended questions elicited multiple suggestions about creating online guided tutorials, virtual library tours and orientations, and email messages with customized information for distance students. The DLST also realized the need to provide additional promotional tools for ILL services, document delivery, library instruction, and research assistance. Newer technologies like Guide on the Side and LibGuides will be incorporated to assist in creating distance-focused materials.

The importance of connecting Alaska’s rural distance students is clearly stated in the Consortium Library’s vision statement. “The library provides access to its collections connecting to a diverse group of library users on and off campus, in the local community, at extended sites and through distance education programs” (University of Alaska Anchorage/Alaska Pacific University Consortium Library Intranet, personal communication, 2011). We want even those students who live in isolated Arctic regions to know that the Consortium Library is a valuable part of their long distance relationship with the University of Alaska Anchorage.
References

Alewine, M. (2012). Listen to what they have to say! Assessing distance learners' satisfaction with library services using a transactional survey. *Journal of Library & Information Services in Distance Learning, 6*(3), 136-146. doi:10.1080/1533290X.2012.705103


Nielsen, J. (2014). Going the distance in academic libraries: Identifying trends and innovation in distance learning resources and services. *Journal of Library & Information Services in Distance Learning, 8*(1-2), 5-16. doi:10.1080/1533290X.2014.907219


Appendix A

Suggested Reading


Behr, M., & LaDell-Thomas, J. (2014). What do they have that we don’t have? Local libraries and distance students: Why do students stray and can we get them back? *Journal of Library & Information Services in Distance Learning, 8*(3), 137-167. doi:10.1080/1533290X.2014.945830

Catalano, A. (2014). Improving distance education for students with special needs: A qualitative study of students’ experiences with an online library research course. *Journal of Library & Information Services in Distance Learning, 8*(1-2), 17-31. doi:10.1080/1533290X.2014.902416

Klages, G., Bailey, S., & Easter, J. (2014). Faculty and librarians unite! How two librarians and one faculty member developed an information literacy strategy for distance education students. *Journal of Library & Information Services in Distance Learning, 8*(3), 242-262. doi:10.1080/1533290X.2014.945867

Moorefield-Lang, H., & Hall, T. (2015). Instruction on the go: Reaching out to students from the academic library. *Journal of Library & Information Services in Distance Learning, 9*(1), 57-68. doi:10.1080/1533290X.2014.946347

Appendix B

UAA Distance Library Services Survey Fall 2015

The University of Alaska Anchorage/Alaska Pacific University Consortium Library is conducting this online survey to obtain feedback regarding your experience using Consortium Library services and resources. You have been invited to participate in this survey because you are taking one course 100% online through the University of Alaska Anchorage. This survey will take less than 20 minutes to complete.

Your participation in this survey is voluntary. Students under the age of 18 should not complete this survey. You may choose to withdraw at any time without penalization by closing your browser tab. Your response will be confidential and we do not collect identifying information such as your name, email address, IP address, or student ID. The survey is in no way tied to your course performance or grade and your instructor will not see your responses.

The results of this survey will be used for scholarly purposes only and may be shared with University of Alaska representatives. All data is stored in a password protected electronic format. If you have any questions about the research we are conducting, please contact Lorelei Sterling, Distance Education Librarian, at 907-786-1872 or lsterling@uaa.alaska.edu. This survey has been reviewed according to University of Alaska Anchorage Institutional Review Board (IRB) procedures for research involving human subjects. If you have any questions regarding your rights as a research participant, contact IRB Compliance Officer, Sharilyn Mumaw at 907.786.1099 or simumaw@uaa.alaska.edu.

Electronic consent

Clicking on the “next” button below indicates that:

● you have read the above information
● you voluntarily agree to participate
● you are 18 years of age or older

Option: Print or save a copy of this consent form to keep for your records.
Section 1: Demographics

1. Where do you reside?
   - Anchorage (1)
   - Fairbanks (2)
   - Juneau (3)
   - Other Alaska Location (Specify) (4) ____________________
   - Out of State (5)
   - International (6)

2. What is your ethnicity?
   - Alaska Native (1)
   - African American/Black (2)
   - American Indian (3)
   - Native Hawaiian/Pacific Islander (4)
   - Asian (5)
   - White (6)
   - Multi/Other (7)
   - Prefer not to answer (8)

3. In which discipline is your major/intended major? Check all that apply.
   - Arts (e.g. music, theater, dance) (1)
   - Business and Public Policy (e.g. economics, accounting, marketing) (2)
   - CTC (e.g. aviation, construction, culinary arts) (3)
   - Education (e.g. early childhood, special education) (4)
   - Engineering (e.g. civil, electrical, computer science) (5)
   - Health Sciences (e.g. nursing, public health, social work) (6)
   - Humanities (e.g. history, English, native studies, languages) (7)
   - Law (e.g. legal studies, paralegal, justice) (8)
   - Physical and Life Sciences (e.g. biology, mathematics) (9)
   - Social Sciences (e.g. sociology, psychology) (10)
   - Undeclared (11)
   - Other (Specify) (12) ____________________
   - Not Applicable (13)
4. In which disciplines have you taken online course(s)? Check all that apply.

- Arts (e.g. music, theater, dance) (1)
- Business and Public Policy (e.g. economics, accounting, marketing) (2)
- CTC (e.g. aviation, construction, culinary arts) (3)
- Education (e.g. early childhood, special education) (4)
- Engineering (e.g. civil, electrical, computer science) (5)
- Health Sciences (e.g. nursing, public health, social work) (6)
- Humanities (e.g. history, English, native studies, languages) (7)
- Law (e.g. legal studies, paralegal, justice) (8)
- Physical and Life Sciences (e.g. biology, mathematics) (9)
- Social Sciences (e.g. sociology, psychology) (10)
- Other (Specify) (11) ____________________

5. What is your level of study?

- Associate degree (1)
- Undergraduate degree (2)
- Graduate degree (3)
- Certificate (4)
- Continuing Education (5)
- Non-degree seeking/Other (6)

6. What is your age range?

- 18-24 (1)
- 25-34 (2)
- 35-44 (3)
- 45-54 (4)
- 55-64 (5)
- 65 and up (6)
- Prefer not to answer (7)

7. Do you identify as a student with a disability?

- Yes (1)
- No (2)

   If No Is Selected, Then Skip To 10.

8. Do you work with Disability Support Services to access Consortium Library materials?

- Yes (1)
- No (2)
9. Do you require specific accommodations to access Consortium Library materials?
   - Yes (Specify) (1) _________________
   - No (2)

Section 2: Use of the Library Website

10. How frequently do you use the library website (https://consortiumlibrary.org/)?
   - Once a day (1)
   - Once a week (2)
   - Once a month (3)
   - Once a semester (4)
   - Never (Why not?) (5) _________________

11. Why do you use the library website? Check all that apply.
   - Find books (1)
   - Find articles (2)
   - Citation help (3)
   - Renew items (4)
   - Place holds (5)
   - Study rooms (6)
   - Library event information (7)
   - Contact your liaison librarian (8)
   - Contact reference desk (9)
   - Non-academic/Personal use (10)
   - Other (Specify) (11) _________________

12. Rate how helpful the library website is in completing your course assignments.

<table>
<thead>
<tr>
<th>Library website (1)</th>
<th>1 (1)</th>
<th>2 (2)</th>
<th>3 (3)</th>
<th>4 (4)</th>
<th>5 (5)</th>
<th>6 (6)</th>
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<td></td>
</tr>
</tbody>
</table>
13. How do you prefer to get library information? Check all that apply.

- Email (1)
- Facebook (2)
- Twitter (3)
- Subject Liaison Librarian (4)
- Instructor (5)
- Other students (6)
- Other (Specify) (7) ____________________

Section 3: Access to Library Resources

14. Are you aware that the Consortium Library delivers the following materials to distance students?

<table>
<thead>
<tr>
<th>Material</th>
<th>Unaware (1)</th>
<th>Never accessed/not needed (2)</th>
<th>Used (3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Print books</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Print journals</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Videos</td>
<td>☐</td>
<td>☐</td>
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<tr>
<td>CDs</td>
<td>☐</td>
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<td>☐</td>
</tr>
</tbody>
</table>

15. Sometimes a distance student needs a resource (book, journal, video, CD) that the Consortium Library does not own. Interlibrary Loan (ILL) is a service that borrows materials from libraries around the world and delivers them to students. Have you ever used Interlibrary Loan (ILL)?

- Yes (1)
- No (2)

If No is selected, then skip to 17.

16. Rate how helpful Interlibrary Loan (ILL) is in completing your course assignments.

<table>
<thead>
<tr>
<th>Rate</th>
<th>1 (1)</th>
<th>2 (2)</th>
<th>3 (3)</th>
<th>4 (4)</th>
<th>5 (5)</th>
<th>6 (6)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ILL</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>
17. Are you aware that the Consortium Library offers the following electronic resources to distance students?

<table>
<thead>
<tr>
<th></th>
<th>Unaware (1)</th>
<th>Never accessed/not needed (2)</th>
<th>Used (3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electronic books (1)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Electronic journals (2)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Databases (3)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Streaming video (4)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Streaming audio (5)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

18. How do you typically read electronic materials for your online course(s)?

☐ Desktop/laptop (1)
☐ Smartphone (iPhone, Android, etc.) (2)
☐ Tablet (iPad, etc.) (3)
☐ Dedicated ebook reading device (Nook, Kindle, etc.) (4)
☐ I print it out (5)

19. How do you prefer to read electronic materials for your online course(s)?

☐ I read it from a screen (1)
☐ I print it out (2)
☐ It depends (Describe) (3) _________________

20. Have you ever encountered any of the following when using Consortium Library materials?

<table>
<thead>
<tr>
<th></th>
<th>1 (1)</th>
<th>2 (2)</th>
<th>3 (3)</th>
<th>4 (4)</th>
<th>5 (5)</th>
<th>6 (6)</th>
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<tbody>
<tr>
<td>Login problems (1)</td>
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<td>☐</td>
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</tr>
<tr>
<td>Links to full text don’t work (2)</td>
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<td>☐</td>
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<tr>
<td>Resource difficult to use (3)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
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<tr>
<td>Poor text quality (4)</td>
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<tr>
<td>Slow download times (5)</td>
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<tr>
<td>Printing/downloading limits (6)</td>
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<td>☐</td>
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<tr>
<td>Prompted to purchase article (7)</td>
<td>☐</td>
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<td>☐</td>
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<tr>
<td>Other (Specify) (8)</td>
<td>☐</td>
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</tbody>
</table>
21. Some distance students use local libraries (public/academic/other) instead of the Consortium Library to complete course assignments. How frequently do you use your local library?

- Once a day (1)
- Once a week (2)
- Once a month (3)
- Once a semester (4)
- Never (5)

If Never Is Selected, Then Skip To 23.

22. Why do you use your local library instead of the Consortium Library to complete your course assignments? Check all that apply.

- It’s nearby/Convenient location (1)
- Has the resources I need (2)
- It’s what I am used to (3)
- Other (Describe) (4) ____________________
Section 4: Information Literacy/Library Instruction

23. Are you aware that the Consortium Library offers the following services to distance students?

<table>
<thead>
<tr>
<th>Service</th>
<th>Unaware (1)</th>
<th>Never accessed/not needed (2)</th>
<th>Used (3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research assistance (1)</td>
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<tr>
<td>Citation help (2)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
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<tr>
<td>Evaluation of sources (3)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>In-depth consultations (4)</td>
<td>☐</td>
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<td>☐</td>
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<tr>
<td>Subject or course guide (5)</td>
<td>☐</td>
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<tr>
<td>Subject specific research (6)</td>
<td>☐</td>
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<tr>
<td>Subject Liaison Librarians (7)</td>
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</table>

24. Have you ever used the Ask a Librarian (http://ask.consortiumlibrary.org/) service to obtain immediate help?

☐ Yes (1)
☐ No (2)

If No Is Selected, Then Skip To 26.

25. Which Ask a Librarian service have you used and how helpful was it? Check all that apply.

<table>
<thead>
<tr>
<th>Service</th>
<th>1 (1)</th>
<th>2 (2)</th>
<th>3 (3)</th>
<th>4 (4)</th>
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<td>Email (2)</td>
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<tr>
<td>Chat (3)</td>
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<td>Reference Desk/In person (4)</td>
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</table>
26. Consider the following scenario: You have been assigned to write a research paper for a lower division course. You have formulated a research question and are ready to find the best possible resources.

What resources do you normally use to complete your research? Check all that apply.

- Internet search engine (Google, etc.) (1)
- Wikipedia (2)
- Books/ebooks (3)
- Articles (4)
- Consortium Library databases (5)
- Consortium Library subject or course guides (6)
- Contact a librarian for help (Ask a Librarian or Subject Liaison Librarians) (7)
- Other (Specify) (8) ____________________

27. Has a librarian ever presented in one of your online courses?

- Yes (1)
- No (2)

If No Is Selected, Then Skip To 29.

28. Rate how helpful the information presented by the librarian was in completing your course assignments.

<table>
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<th>Information presented by the librarian (1)</th>
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29. What does the library do well to assist you in completing your online course assignments?

30. Are there any areas where the library could improve to assist you in completing your online course assignments?
Going Where They Are: Intentionally Embedding Librarians in Courses and Measuring the Impact on Student Learning

Terri Pedersen Summey  
Cynthia Akers Kane  
Emporia State University

Abstract
The concept of embedded librarians is a way for academic librarians to be intentionally and strategically inserted in the learning and teaching process through a variety of initiatives. In a mid-size university, in order to better address the research and curricular needs of students and faculty members, librarians became more intentional about embedding themselves in academic departments and online courses. To assess the impact upon student learning, the librarians are working on a pilot project utilizing a variety of methods. This article describes the first phase of this assessment project, a survey of faculty teaching courses in which faculty were embedded. Finally, information on next steps to assess the embedded librarian program using student surveys, focus groups, and interviews is presented.

In today’s technological society, academic libraries and librarians seek ways to remain relevant to the campus community. This is especially critical because the library is no longer the sole provider of information. Librarians can no longer passively wait for library users to come to them. It is paramount that librarians actively engage members of the academic community of which they are a part. One way to do this is to embed librarians in the teaching and learning activities on campuses through embedded librarianship.

The concept of embedded librarians is not new, as it has antecedents in branch librarians of the seventies and academic departmental liaisons of the 1980s and 1990s. However, it is a way to proactively reach out to the campus community (Drewes & Hoffman, 2010). Similar to the concept of journalists embedded with troops in combat situations, embedded librarians are moving out of the library, physically and virtually, to go where their users are located. As Kesselman and Watstein (2009) state, “... bringing the library and the librarian to the users, wherever they are-office, laboratory, home, or even on their mobile device-is at the forefront of what it means to be embedded” (p. 385).

There is not a one-size-fits-all definition for embedded librarianship. As a result, librarians in academic libraries may be embedded in their communities in a variety of ways and at varying levels from course integrated instruction to being fully embedded as a member of an academic department. The key to embedded librarianship is to become an insider in the academic learning community through “...more direct and purposeful interaction” (Dewey, 2005, p. 6) with its faculty and students. Research has identified various ways that librarians may be embedded in academic communities including in-depth research, acquiring and organizing
subject resources, information literacy instruction, research consultations, and collaborative research and teaching partnerships, office hours in an academic department, physically residing in an academic department, or in online courses through a course management system (Dewey, 2005; Drewes & Hoffman, 2010; Kesselman & Watstein, 2009; Shumaker & Talley, 2010; Xiao, 2010; York & Vance, 2009). For distance students, integration in a course management system of the librarian and library may include discussions, tip sheets or library guides, modules, tutorials, videos, online conferencing, course readings, email assistance, and/or a link to the library or specific librarian (Kesselman & Watstein, 2009; Xiao, 2010).

Some of the most important outcomes of embedding librarians in courses and academic departments are the relationships formed with faculty and students. In order for embedded librarian programs to be successful, especially with online learning and distance education students, librarians need to establish collaborative relationships with faculty. Even though librarians need to find ways to interact with students directly, in the case of distant students, faculty often act as gatekeepers. Therefore, librarians need to work collaboratively with faculty to reach out to students in their classes. Developing a relationship enables the librarian to work with the faculty member to design library instructional modules that meet the learning outcomes of the course. Additionally, engaging with faculty members can help to make them more aware of the skills and knowledge possessed by librarians and the services that they can provide to students (Cooke et al., 2011; Drewes & Hoffman, 2010; Duke, 2012; Edwards, Kumar, & Ochoa, 2010; Shumaker & Talley, 2010; Webster & Rielly, 2003).

For students, developing relationships and providing library information and resources in online courses has a variety of benefits. The presence of librarians in discussion forums and with virtual office hours, helps to provide assistance at the point that the students need it. This increases students’ confidence and comfort-level in using library resources to complete research assignments (Edwards et al., 2010). As Edwards et al. (2010) state, embedded librarianship is the “…intense integration of a librarian into a course, program, department, or college, where information literacy content is recognized as an essential part of the curriculum, and students have multiple opportunities for rich interactions with the librarian” (p. 272).

Librarians at Emporia State University (ESU) are intentionally becoming embedded in the teaching, learning, and research activities on campus. Formally, embedding is in courses through the course management system, course-integrated instruction, and hours in academic departments. Informally, socialization and relationship building occurs in social groups such as student organizations and other extracurricular activities. As with similar programs, most of these embedded activities were started without establishing formal outcomes or developing an assessment plan. In order to measure the impact that embedded librarianship has on teaching, learning and research at Emporia State, the authors undertook developing an assessment plan. To create a more complete picture of the impact of the embedded librarian program, the authors plan to utilize a variety of assessment methods including surveys, focus groups, and interviews. In this article, the authors describe embedded librarianship at Emporia State University and describe the beginning stages of the assessment efforts regarding the program. Future steps to further assess the embedded librarian program are also presented.
Embedded Librarianship at Emporia State

In the fall of 2013, Terri Summey, one of the librarians at Emporia State University desired to become more integrated in the departments for which she served as a departmental liaison. In order to do this, she identified faculty champions with whom she had developed an existing relationship. As a pilot project, Summey approached a faculty member in the department of Health, Physical Education, and Recreation (HPER) and inquired about a more active involvement in one of her courses in which the students completed an extensive research project. As a result, she teaches several sessions with the class and is able to form relationships with the students in the class. To supplement the instruction, Summey created library guides that are integrated into Canvas, the course management system (CMS). The success of this initial project led to becoming more embedded in a variety of courses.

The Department of Health, Physical Education and Recreation has a thriving online program at the master’s degree level. Because they are at the graduate level, many of the courses in this program have a research component. As a result, Summey worked with the Learning Technologies team on campus to create a librarian role in the CMS. In this role, librarians can add modules to the course, create assignments, and participate in threaded discussions. Through this role, librarians are placed in courses in order to create and present information literacy modules. Summey, the liaison with HPER collaborates with faculty members in order to create information literacy modules for the online courses that they teach. These instructional modules are tailored to the specific assignments and requirements for the individual courses. In the spring of 2015, she worked with a student in the Instructional Design and Technology (IDT) program at Emporia State University to create an online module with a pre-test and post-test, videos, and library guides. Once completed, this module was deployed in several courses as a beta test. It will be used in future semesters with updates as needed.

Along with liaison work with HPER, Summey is the liaison for the Teachers College at Emporia State. In this role, she works with the following departments: Elementary Education / Early Childhood / Special Education; School Leadership, Middle and Secondary Education; and IDT / Teachers of English for Speakers of Other Languages (TESOL). As with her work with HPER, she is embedded in a variety of courses and initiatives in these departments such as Hornet Connected Learning, a mobile based learning program involving iPads and eTextbooks. Her work includes physical office hours for students on the ESU campus and virtual office hours for students at a distance. Several of the departments in the Teachers College have robust online programs including School Leadership, Instructional Design and Technology, and TESOL. As with HPER, for these departments Summey designs instructional modules to assist students as they work through research assignments. In addition, she provides research consultations through email, over the telephone, and using video conferencing technology. Recently, the ESU Library decided to discontinue our electronic reserves service. We determined that many faculty were not using the service and that placing the reserve resources in the CMS would facilitate their use by the students. One concern that we raised was that putting the materials in the CMS would mean that students did not have to come to the library site. However, with staff reductions, we felt that this was a necessary step. As a result of this change, the liaison librarians also help to identify resources and work with departmental faculty to place the reserve items into their courses.
Cynthia Kane followed up in the fall 2014 semester by contacting the chairs of the Department of Psychology and the Department of Counselor Education about trying out some physical office hours in their respective buildings. These two departments were ideal for this approach because of their locations. Psychology is housed on the 3rd floor of Visser Hall, a campus building on the north side of ESU and removed from the William Allen White Library building on the south side. Counselor Education, which covers the sub-disciplines of Art Therapy and Rehabilitation Services, is even more physically removed and is in a building called the Earl Center, several blocks west of the ESU main campus. A mix of undergraduate and graduate students are in these disciplines, and particularly with the graduate students, classes are offered during the day, evening, and partially or completely online. As a result, these students may not have the time or the inclination to come to the library and ask for research assistance.

Kane established in fall 2014 an average of four hours per week physically in the Psychology Department and the Counselor Education department, after visiting with department chairs and faculty about the optimum hours to reach students in person. She uses an office on the 3rd floor of Visser Hall for Psychology, near the main office and faculty offices. For Counselor Education, it has proven most effective to hold office hours in the student lounge of the Earl Center. The students in that building tend to congregate in the student lounge, particularly for meals and snacks before late afternoon classes begin.

The School of Library and Information Management (SLIM) presents an interesting opportunity for a blend of embedded librarianship. Accredited by the American Library Association, SLIM offers its Master of Library Science program in cohort groups to ensure that all students take courses in a sequential fashion. Cohorts are located at the ESU campus in Emporia and also in the Overland Park, KS area, Colorado, Oregon, and Utah. The graduate courses are a mix of face to face and online, and completely online. The face to face courses in general meet on two non-consecutive weekends, on a Friday evening and all day Saturday.

Partially due to the course formats and to the overall enrollment of non-traditional graduate students in the cohorts and even in Emporia, the SLIM students are overwhelmingly a distance student population. Therefore, embedded librarianship in this discipline takes place via a librarian presence in certain courses through Canvas, ESU’s learning management system. In addition, Kane works in tandem with SLIM faculty who teach four foundational graduate courses taken by students in their first year.

The embedded portions of these courses is a part of Research Literacy (Dow & Sutton, 2014), used to establish threshold concepts for each course that culminate in the SLIM student becoming a beginning professional in the profession. Specific student learning outcomes in the four courses are taught by an ESU librarian in a sequential order:

Summer and Fall:

- LI801, Foundations of Library and Information Science  
  - Threshold concept: Bodies of Knowledge
- LI810, Research and Inquiry in Library and Information Science  
  - Threshold concept: Evidence-based Practice
Spring and Summer:

- LI802, Information-Seeking Behavior and Reference Services
  ○ Threshold concept: Customization of Resources

- LI804, Theory of Organization of Information
  ○ Threshold concept: Organization of Information

The library instruction for the four courses and threshold concepts is intentionally embedded in the first weekend of each course. For the course sections in Emporia and Overland Park, the ESU librarian teaches face to face. Interactive technologies such as Zoom, a video conferencing software that allows sharing of screens and downloading of video/audio sessions for future reference, are used by the librarian for the instruction sessions in Colorado, Oregon, and Utah.

Library Assessment

Barbara Walvoord, professor emerita at the University of Notre Dame, is known for her ongoing work concerning the assessment of student learning. In her book *Assessment Clear and Simple* (2004), she offers a definition of assessment as “the systematic collection of information about student learning, using the time, knowledge, expertise, and resources available, in order to inform decisions that affect student learning….Assessment involves communicating across cultures, within and outside the institution” (p. 2). She adds that “The end of assessment is action”, resulting in:

1. Changes to curriculum, requirements, programmatic structures, or other aspects of the students’ course of study;

2. Changes to the policies, funding, and planning that support learning

3. Faculty development (p. 4-5)

Walvoord’s last comment about action is echoed in Mary J. Allen’s work *Assessing Academic Programs in Higher Education* (2004). Aimed at the program/curriculum level, Allen recommends the following steps that she believes “underlie the assessment of student learning”:

1. Develop learning objectives.

2. Check for alignment between the curriculum and the objectives.

3. Develop an assessment plan.

4. Collect assessment data.

5. Use results to improve the program.

6. Routinely examine the assessment process and correct, as needed. (p. 10)
Both Allen and Walvoord stress that while it is tempting to stop with the collection of assessment data and consider one’s job completed, it is essential to put into practice a phrase commonly heard in this process to ‘close the loop’. “Faculty discuss assessment results and reach conclusions about what results mean….The assessment plan should not be set in concrete. If faculty find flaws in an assessment plan, they should change it” (Allen, 2004, p. 11). Walvoord (2004) succinctly states that “pitfalls of assessment” include “gathering data no one will use” (p. 5).

Assessment in academic libraries in many respects mirrors the same types of student learning assessment found in departmental curriculums. An example would be one or more credit-bearing courses in general education and/or in major fields of study in which basic or advanced information literacy competencies have been identified as essential for students to master. At the ESU Libraries and Archives, librarians teach a course titled UL100: Research Skills, Information, and Technology. This two-credit-hour course is part of Emporia State University’s General Education curriculum, fulfilling a requirement of “Information Technology”. Assessment of UL100’s student learning outcomes takes place not only at the formative level of assignments, but also at the summative level of pre-tests and post-tests using the Project SAILS Assessment of Information Literacy Skills to measure both individual and group mastery of competencies. A combined formative and summative assessment of UL100 by students is performed through the IDEA Student Ratings of Instruction at the end of each semester.

As we in the Libraries and Archives established collaborations for embedded librarianship in various disciplines across campus, we realized that we could easily encounter the same risk cautioned by Allen and Walvoord. We might, in other words, be continuously collecting assessment data about our endeavors but not pause to examine what was working with embedded librarianship and what could be improved. At the same time, we wished to capture from students and faculty the same types of formative and summative information about our intentional work that we were gathering through our UL100 assessments.

Assessment of Embedded Librarians

Most of the research articles on embedded librarianship describe best practices and provide details on successful embedded librarian programs. However, only a few articles present information on assessing the impact of embedded librarianship. Similar to Emporia State University, many libraries and librarians began embedded librarian programs without formal assessment plans in place. Often formal assessment of the programs are added later when librarians wish to evaluate the impact of the programs on student learning and in order to utilize the gathered data to improve the existing program. In order to assess the programs, one of the first steps is to determine specific goals and outcomes for the program, or more specifically, what do librarians wish to accomplish through their roles as embedded librarians. In her work on assessment, Oakleaf (2009) identifies an information literacy assessment cycle, which may be modified to assess embedded librarian programs. Her steps include: review learning goals, identify learning outcomes, create learning activities, enact learning activities, gather data to check learning, interpret data, and finally, enact decisions which then cycles back around to the beginning. A modification of this cycle for assessing programs may involve the following steps:
review goals of the program, identify specific outcomes for the embedded librarian program, create embedded librarian modules and other activities, enact the modules and activities, gather data regarding the embedded librarian program, interpret the data, and modify the program utilizing the data that was gathered.

Reading through the literature on embedded librarianship, one quickly discovers that a variety of qualitative and quantitative techniques are used for assessment. Several programs used surveys to gather data from instructors of the courses and their students. Others concentrated on one population or the other, either faculty members or the students. Faculty were surveyed to assess their awareness of the embedded librarian program (Bezet, 2013), the needs of faculty regarding the library (Washington-Hoagland et al., 2002), and to measure faculty satisfaction with the embedded librarian program (Tumbleson & Burke, 2010).

Similar to surveys administered to faculty members, students were surveyed to assess their needs from the library and librarian (Washington-Hoagland et al., 2002), measure their satisfaction with the resources and assistance provided by the embedded librarian (Tumbleson & Burke, 2010; Xiao, 2010), and to assess their awareness of the services and resources provided by the embedded librarian (Bezet, 2013). In addition, students were surveyed to identify short-term and long-term benefits of an embedded librarian program (Pan, Ferrer-Vinent, & Bruehl, 2014), their preference for services and for contact by the librarian in their online courses (Tumbleson & Burke, 2010), students’ perceptions of their own learning (Bowles-Terry, 2012), use of embedded library resources and services (Washington-Hoagland et al., 2002), and the perceived impact of the librarian’s participation in the course and contributions to student learning (Edwards et al., 2010; Kean, 2013; Xiao, 2010).

Other methods used for assessment of embedded librarian programs include focus groups and pre-tests / post-tests. Most programs use a mixed methods approach utilizing a variety of methods to assess their embedded librarian services and instruction. In one study, the authors developed an online module for a first-year engineering class. The module contained online tutorials with in-person research assistance. To assess the effectiveness of the module, the authors utilized a voluntary pretest that was followed up with a survey and focus groups involving students in the course. Finally, all of the students completed a posttest, which was a graded part of the course (Zhang, Goodman, & Xie, 2015). Another institution utilized a combination of surveys with pretests and posttests. The surveys included questions to identify students’ perceptions about the usefulness of the orientation and any modifications that the students might recommend to the program. Pre- and posttests were utilized to determine what students learned from the embedded librarian program and to potentially discover where they might require additional assistance through additional tutorials or help from the embedded librarian (Xiao, 2010).

Librarians collected data regarding the impact of their embedded librarian program in online graduate courses in the area of educational technology using both summative and formative evaluation methods. Like other programs, the authors utilized a pre-module and post-module survey to assess the students’ performance using library resources. The survey also helped to determine the students’ perceived self-efficacy and confidence in using the library, its resources, and services. In addition, the researchers analyzed student responses to discussion questions, studied feedback at the end of the course in the course discussion forum, and
conducted interviews with the faculty members teaching the courses (Edwards et al., 2010; Kumar & Edwards, 2013). In another study, researchers analyzed bibliographies of students in the course to identify what resources they cited in their research projects. More specifically, they analyzed the type and appropriateness of sources used by the students, their currency, and noting how deeply the students delved into their topics. They also looked at the number of references cited. The authors believed that examining the bibliographies provided an incomplete picture because it provided data on the sources selected by the students but not information on how they retrieved those sources. So in addition to the bibliographies, the authors surveyed the students to help complete the picture asking questions about the process of finding, evaluating, and selecting information for their research projects (Webster & Rielly, 2003).

The research that has been conducted on assessing the impact of embedded librarianship may not be extensive, but several suggestions may be gleaned from what has been written. Assessment of programs is more than just utilizing surveys. Most programs use a variety of techniques and data points to form a more complete picture. Assessment also involves determining outcomes and goals for the program, collecting and analyzing the data, and using that information to make modifications in the embedded librarian program as a whole, and the various components that make up the program. The assessment of programs and services is an ongoing process that requires time, effort, resources, administrative support, and collaborative partnerships with faculty teaching the online courses (Bezet, 2013; Pan et al., 2014). As Tumbleson and Burke (2010) point out, assessing the embedded librarian program and using evidence to make decisions regarding that program is “crucial to the growth and development” of such programs (p. 986). At Emporia State University, like other institutions, we began intentionally embedding librarians into online and face-to-face courses without a defined set of goals and an assessment plan in place.

Assessment of Embedded Librarians at ESU

After several semesters of embedded librarianship, the authors had an overall sense that both faculty and students were pleased with the results. We noticed that requests for instruction sessions were increasing from faculty in the academic departments in which we were embedded. We also realized that we were conducting more individual research consultations with undergraduate and graduate students in those departments, and anecdotal evidence demonstrated that the students were being referred specifically by faculty to us as “their personal” librarians. However, we needed to take our qualitative and quantitative data a step further. What was actually changing in student learning outcomes as a result of embedded librarianship?

Appendix A shows the student library instruction evaluation form we have used beginning fall 2014 with several discipline-specific research courses in which embedded librarianship played a key role. The evaluation forms were completed by students deliberately toward the end of a given semester in order to ascertain any effects of our intentional work upon the students’ research process.

As noted earlier, the IDEA Student Ratings of Instruction is used in the ESU Libraries and Archives for our UL100 courses. IDEA, as a standardized assessment tool, offers “both summative and formative feedback about average student progress on relevant course objectives, instructor teaching methods, and overall impressions of the instructor and course” (IDEA Center,
The individual instructor has the opportunity when setting up a Faculty Information Form in IDEA to weigh the relevant course objectives as important or essential, therefore enabling students to provide feedback on their perceptions of their achievements of these outcomes. The two Essential outcomes for UL100 in the IDEA form are “learning how to find and use resources for answering questions or solving problems” and “learning how to analyze and critically evaluate ideas, arguments, and points of view” (IDEA Center, 2015a, p. 2).

In developing the student library instruction evaluation form for our embedded librarianship, we thought it would be useful to add the two Essential outcomes to the form in order to compare student perceptions from these results and from UL100 sections. Our next step is to start a longitudinal analysis of responses from students and compare the responses to the IDEA ratings of the Essential outcomes as noted by UL100 students.

We next began a pilot project in fall 2015 to expand our assessment of the embedded librarians’ experiences at ESU. Our initial step was to start with the departmental faculty with whom we had a variety of embedded librarian experiences in courses. We collaborated with Dr. Jolanna Kord, Assistant Provost for Institutional Research and Assessment, to help us refine a draft of survey questions to be sent electronically to those faculty.

The survey, reproduced in Appendix B, resides in a resource at ESU called CampusLabs Baseline. CampusLabs (2015) is a subscription-based service for colleges and universities that “offers integrated software and cloud-based assessment tools for higher education” to help with ongoing assessment activities for accreditation and also for the general continuous improvement of student-centered learning (“About Us” section, para. 4). Baseline is a module in CampusLabs that allows the creation of surveys, polls, and other assessment tools that may then be re-used for longitudinal analysis. At ESU, Baseline is intended to be targeted toward internal audiences; in this context, an internal audience is anyone affiliated with the university.

Because we wish to re-use our survey with future faculty in order to track trends and issues over a series of years, we used Baseline for our initial survey. We chose to focus specifically upon faculty with whom we had already established collaborations to find out more about possible student learning successes. We sent the survey electronically to 23 faculty in the disciplines of Biological Sciences, Counselor Education, Health/Physical Education/Recreation (HPER), Instructional Design and Technology (IDT), Psychology, and the School of Library and Information Management (SLIM). The survey was conducted from October 14 through 21, 2015, with three scheduled reminders sent to those faculty who had yet to complete the survey. Of the 23 faculty, 10 completed the survey for a response rate of 43.48%. A breakdown of responses revealed that three responses were from HPER faculty, three from Counselor Education, and one each from SLIM, IDT, Psychology, and Biological Sciences.

The results of the survey are encouraging in terms of overall student learning effectiveness of embedded librarianship as perceived by departmental faculty. 80% of the learning experiences used with the librarians were instruction sessions related to a specific assignment, while 70% were in-person research consultations with librarians. Most encouraging was the rating of 50% “very effective” and 0% ratings of “not effective”, “somewhat effective”, or “neutral” for the question of “How would you rate the effectiveness of the student learning experience with the librarian?” 80% of the respondents said “yes” to the question of “Did the
collaborative experience match the expectations you had prior to the actual experience?” And, 70% of the respondents rated as “excellent” the quality of the collaboration they experienced with a librarian.

At best, it can be challenging to ascertain the specific improvement of student learning outcomes with any type of library instruction. Students, for example, may rate their own learning highly in an evaluation form given directly after an individual library instruction session. The true mark of learning often comes long after the session, when faculty review assignments as assessments. However, in our survey we wanted to gain a sense from faculty of their perceptions regarding students’ skill levels for certain information literacy competencies. We identified five of the Association of College and Research Libraries Information Literacy Competency Standards for Higher Education (2000) and asked faculty on the survey to rate their students’ skill levels from “poor” to “excellent” as a result of working with an embedded librarian. The highest results were:

- Defining and articulating a need for information: 40% “very good”
- Accessing needed information effectively and efficiently: 50% “very good”
- Evaluating information and its sources critically: 70% “very good”
- Using information effectively to accomplish a specific purpose: 50% “very good”
- Using information ethically, including demonstrating an awareness of plagiarism and utilizing the appropriate citation style for the discipline: 40% “very good”

While we certainly would like to achieve a rating of “excellent” for all skill levels, the overall “very good” ratings demonstrate that our faculty/librarian collaborations are on the right track. Comments for the question “What was the most effective part of the student learning experience?” emphasize the perceived usefulness of hands-on practice with searching databases, locating the full text of articles, and having the librarian available for individual assistance. It should be noted here that availability can be in a variety of forms in addition to face-to-face instruction and research appointments. We are also expanding the use of Zoom for virtual office hours and individual research consultations. Zoom is freely available at http://zoom.us and ESU offers a Pro account option for a faculty member to “host” a permanent Zoom “room” via a persistent URL.

Conclusions and Next Steps

As mentioned earlier, assessment is a continual cycle that involves the collection, analysis, and utilization of data to improve a program or service. With our embedded librarian program, we intentionally began embedding librarians in courses and academic departments across campus. At this time, the embedded librarian program mainly involves two librarians as a pilot project. One of our next steps is to expand the program. In order to do that, we need to develop a more detailed plan for the program including specific outcomes and proposed measures to assess our embedded librarianship program.
The assessment measures that we are using at the moment are just a start. Research indicates that using a variety of methods in assessing a program will help to provide a more detailed and complete picture of the impact of the embedded librarian initiative at Emporia State University. Beyond developing outcomes, we will look at a variety of measures including the data that we are already collecting such as LibAnswers statistics which collect information on research consultations. Meeting with faculty members, and conducting interviews with them, will assist the library and librarians in determining what services and instructional modules will be beneficial to the students in their courses. We would like to gather data from the students involved in courses that have librarians embedded in them. Developing a survey to collect information from students and creating focus groups would help librarians to learn about student awareness of the embedded librarian program, gather their input on the impact of the program, gain information on the students’ user experience with embedded librarians, and identify ways to modify the program to better meet the needs of students.

In one of the courses, we developed a pretest and posttest that can be used with students in one of the academic departments. We can further examine this pretest and posttest to determine if it meets our needs and provides the information that we want to gather regarding student learning. One idea would be to take the SAILS test that is currently used in our information literacy courses and use it as a model to develop pretests and posttests for other academic disciplines.

As we further develop the embedded librarianship program at ESU, we need to consider implementing steps in the assessment cycle. This will assist us in developing a program that meets the needs of faculty members and students. Creating a culture of assessment in the ESU Library and Archives can facilitate evidence-based decision making that will guide the development of services and resources. “No longer gatekeepers to materials or tools, academic librarians must take a more active role in the learning process and contribute student learning outcomes for academic programs across the curriculum” (Pan et al., 2014, p. 333). In order to remain relevant on campuses in this age of Google, academic librarians must be involved in the teaching and research processes across campus. One way to do that is to move outside of the library, physically and virtually, and become an integral part of courses by becoming intentionally embedded in courses and academic departments. To do this successfully, we need to continue to cultivate collaborative relationships in the academic community and use assessment practices to develop the services and resources provided by the campus library.


Appendix A

Student Library Instruction Evaluation Form for Embedded Librarianship

Number and Name of Course: ___________________ Librarian: ____________

Your feedback is important! Please take a few minutes to answer the following questions about the library instruction session(s) for this course.

Please indicate if you are a:
____ Full time student  ____Part time student

Please indicate your current class status:
____Freshman  _____Sophomore  ____Junior  ____Senior  ____Graduate Student
____Other

Prior to this course, how many library instruction sessions have you attended at ESU?
____None  _____One  ______Two  ____Three or more

The librarian (please circle your answer):

Found ways to help students answer their own questions.
Strongly Disagree  Disagree  Neutral  Agree  Strongly Agree

Demonstrated the importance and significance of the subject matter.
Strongly Disagree  Disagree  Neutral  Agree  Strongly Agree

Explained session material clearly and concisely.
Strongly Disagree  Disagree  Neutral  Agree  Strongly Agree

Encouraged student-librarian interaction outside of class (library visits; phone calls; e-mail; etc.)
Strongly Disagree  Disagree  Neutral  Agree  Strongly Agree

The session enabled me to make progress on the following learning objectives (please circle your answer):

Learning how to find and use resources for answering questions or solving problems
Strongly Disagree  Disagree  Neutral  Agree  Strongly Agree

Learning to analyze and critically evaluate ideas, arguments, and points of view
Strongly Disagree  Disagree  Neutral  Agree  Strongly Agree

What was the most important item you learned in the session(s)?

What is still unclear to you about the library, or performing research, at the end of the semester?
Appendix B

Faculty/Librarian Collaboration: Assessment of Student Learning (administered October 2015)

Dear ESU faculty member,

Hello from the Libraries and Archives! You are receiving this survey because of your work in intentional collaborations with an ESU librarian in one or more courses to enhance student learning outcomes.

We are interested in knowing more about your perceptions of these collaborations. Please take a few minutes to complete this survey. It will be open until 11:59 p.m. Friday, October 23, 2015.

The results of the survey will be used to help us improve future collaborations for student learning outcomes.

If you have any questions or concerns, please do not hesitate to contact us at the information provided below. In advance, we thank you for your time and for your partnerships with us!

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Please share your thoughts on the collaborative learning experiences provided by the faculty of the ESU Libraries and Archives.

We appreciate your feedback! Your responses will help improve future collaborative learning experiences for your students.

Question 1
Which course or courses have you taught in which you have collaborated with a librarian to enhance student learning?

Question 2
Please select the type of learning experience you utilized with the librarian in the course(s). Check all that apply.

- Instruction session related to a specific assignment
- In-person research consultations for your students
- Virtual (online) research consultations for your students
- Librarian - in-person office hours
- Librarian - virtual (online) office hours
Question 3
How would you rate the effectiveness of the student learning experience with the librarian?
- Not effective
- Somewhat effective
- Neutral
- Effective
- Very effective

Comments:

Question 4
Rate the quality of the collaboration you as a faculty member experienced with the librarian.
- Poor
- Fair
- Good
- Very good
- Excellent

Comments:

Question 5
Did the collaborative experience match the expectations you had prior to the actual experience?
- Yes
- No

Comments:

Question 6
Did the learning experience enhance students' abilities to select quality resources for their assignments?

Question 7
Did student use of the information presented in the learning experience continue afterwards?

Questions 8-12
As a result of working with a librarian, what do you perceive is the overall skill level is on the following competencies?

Defining and articulating a need for information

Accessing needed information effectively and efficiently

Evaluating information and its sources critically
Using information effectively to accomplish a specific purpose

Using information ethically, including demonstrating an awareness of plagiarism and utilizing the appropriate citation style for the discipline

Question 13
What was the most effective part of the student learning experience?

Question 14
What could be done to improve the student learning experience?

Question 15
What additional role(s) do you see librarians serving in enhancing the student learning experience?

Question 16
How can librarians enhance learning for online students?

Question 17
What can be done to enhance this learning collaboration?

Question 18
In future collaborations with a librarian, what changes would you suggest?

Question 19
What is your faculty rank?
- Lecturer
- Instructor
- Assistant Professor
- Associate Professor
- Professor
- Other

Question 20
In which department or program are your primary responsibilities?
A Case of TMI (Too Much Information): Improving the Usability of the Library’s Website through the Implementation of LibAnswers and the A-Z Database List (LibGuides v2)

Christine Tobias
Michigan State University

Abstract
The Michigan State University (MSU) Libraries’ website has a case of TMI: too much information organized by librarians for librarians. Finding relevant information about various library services, including the 24/7 Distance Learning Support Line, and access points to scholarly resources is often cumbersome, and given the limited time and staffing available in Web Services, it was impractical to embark on a comprehensive website redesign. Instead, the implementation of two systems, LibAnswers and the A-Z Database List in LibGuides v2 CMS, served as a means for addressing the TMI issue and improving the usability of the MSU Libraries’ website. This case study will map the MSU Libraries’ experience of implementing the LibAnswers and the A-Z Database List from early vision to launching the end product, as a means for resolving the “too much information” issue and improving the usability of the library’s website.

The common practice of designing an academic library’s website based on discussion and input by librarians does not traditionally lend itself to the development of a user-friendly product. Librarians mentally model information differently than library users (McHale, 2008). The Michigan State University (MSU) Libraries’ website is no exception. Redesigned less than 10 years ago with input sought primarily from librarians about content and organization, the library’s website suffers a case of TMI, too much information. The navigation menu is complex. Relevant, pertinent information about services and resources is buried two or three levels into the navigation. This case study will share how the usability of the MSU Libraries’ virtual presence, including the website, has been improved through the implementation of LibAnswers and the A-Z Database List in LibGuides v2 CMS.

Being cognizant of the need to simplify the organization of information on the MSU Libraries’ website, but lacking the time and staff resources to undergo another redesign, the Web Services Unit at the MSU Libraries conducted several rounds of usability testing to develop user-centric design improvements. However, much of the feedback indicated that there was an overload of information presented on the website and the language and organization of the website led to confusion. To investigate this issue further, a card sort was conducted to evaluate the information architecture of the library’s website by observing how users mentally model its content. Specifically, a successful card sort will indicate how to develop information architecture that reflects how users organize the website’s content. Web Services used this type of usability test to seek insight about how users categorized information presented on the library’s website to
better understand users’ expectations for efficiently locating information about the library’s resources and services.

After researching best practices, the Web Services team developed a physical, open card sort to learn how users categorized the various links in the navigation menus. The design of the card sort was based on McHale’s example of an open card sort (2008). The focus of the card sort was the information architecture (i.e., the navigation menu) of the MSU Libraries’ website, specifically the homepage, and the electronic resources landing page. The primary goals of the card sort were: 1) to evaluate the layout and navigation of the website; 2) to test the degree of user comprehension of terms used on the website; and 3) to understand how users ranked various pieces of information. Each link from the library’s home page and the electronic resources’ landing page was presented on a notecard and in each session, participants were given a deck of index cards (composed of 126 cards) labeled with words, terms, or phrases from the MSU Libraries’ home page and electronic resources’ landing page. Participants were directed to organize the cards into piles, grouping cards with relationships or similarities together. Test facilitators encouraged users to talk and think aloud during the process, as their comments and questions added a qualitative element to the data. Participants were allowed to discard any card that they did not understand or that they deemed irrelevant or unimportant. Card piles could be rearranged up to three times. Participants created category names for each sorted pile and were given colored index cards on which they wrote the label. For the final task, facilitators gave participants three green stickers to identify the most important pieces of information on the libraries’ website by placing the stickers on the appropriate index cards.

While the purpose of a card sort is to provide an evidence-based method for improving the information architecture of a website, usability professionals do not recommend basing the design and navigation of a website solely on the numeric results of the card sort. It is important to give serious consideration to the qualitative data, or the participants’ comments and questions, obtained during test sessions as well. Taking the participants’ comments into account provides context to the mental modeling involved, helping us to understand the level of agreement, or lack of agreement, in card placement between participants (Lamantia, 2003). Comparing the current website navigation and homepage content of the library’s website to the placement of cards into user-created categories identifies problems requiring immediate attention or offering the greatest opportunity for improvement (Nielsen, 2004). Results of the MSU Libraries’ card sort implied that generally, either participants did not understand the terms and phrases used on the library’s website, or the website presents too much information, making it difficult for participants to categorize (Tobias & Sanford, 2014).

Since a full redesign of the library’s website was not a practical option and given the findings of the card sort, the User Experience team investigated other opportunities to improve the website’s usability. One of the dilemmas often faced by interaction designers is the need to balance power with simplicity when presenting information on a website. Users want features or options to handle their information needs, but also crave simplicity since the presentation of too many options on a website can cause confusion. Progressive disclosure, or the deferment of “…advanced or rarely used features to a secondary screen,” (Nielsen, 2006, para. 1) is one of the best methods for resolving this dilemma. By initially showing a few of the most important options and then offering a larger set of specialized information upon the user’s request, the
usability of a website is enhanced by simplifying the interface, reducing learnability, and improving efficiency (Nielsen, 2006).

The MSU Libraries realized an opportunity to utilize progressive disclosure principles through the implementation of LibAnswers as a FAQ. In a FAQ, pieces of information can be assembled around a user’s specific information need (West, 2015) and progressive disclosure is accomplished by offering an option for a query-based presentation of information on the library’s website. At the time of this realization, the MSU’s Gast Business Library was investigating the use of LibAnswers to replace the Business Library FAQ, a knowledge base of questions related to the use of library resources for business research. The MSU Main Library also had a FAQ page linked from the General menu of the library’s website. However, a Google Analytics report showed that the FAQ page had very few hits, so it was decided to incorporate LibAnswers as a replacement to this page. Additionally, LibAnswers was deemed to be an appropriate and valuable supplement to the library’s website by providing information based on a users’ search (i.e., type in your question and an answer pops up) rather than forcing users to find their way through the library’s website navigation in the hopes of finding an answer to their question. LibAnswers was purchased by the MSU Libraries in December 2014.

To start the implementation of LibAnswers for the MSU Libraries, two groups were created: Business Library, for the Business Library FAQ, and Main Library. To begin populating the Main Library group in LibAnswers, the content from the Main Library FAQ page was copied over. Each answer was simplified to 1-2 sentences with links to additional information available on the library’s website provided for each answer. To further populate the content of the FAQ, Distance Learning Services’ (DLS) daily reports were reviewed to identify true cases of frequently asked questions. DLS operates the MSU Libraries’ 24/7 Support Line and acts as the technical troubleshooting point for Desire2Learn, MSU’s learning management system, and access to the library’s electronic resources. DLS also performs triage for all phone calls received by the MSU Libraries. Daily transaction logs identify the questions asked and the answers provided by DLS staff. Thus, the review of the DLS reports was a practical method for assessing the most frequently asked questions in terms and language used by the library’s audience. Using this process to populate the content of the FAQ ensured progressive disclosure and user-centricity in design, versus applying librarians’ assumptions about what users really need to know.

Questions from the DLS reports were added to a template provided by Springshare in preparation for automatic import into LibAnswers. The frequency of each question was also recorded to identify true FAQs. Some of the most frequently asked questions evidenced in the DLS Reports included library hours and needing a particular book or journal. Ironically, both of these elements, library hours and the online library catalog, are displayed prominently on the home page of the library’s website. The frequency of these questions may indicate that there is a lack of awareness about the library’s website, or it is not clear how to use the tools available on the library’s website (i.e., online catalog search box) to locate library materials, or people prefer to make a phone call over using a complex website. Librarians should not assume that all library users have a predisposition to visit the library’s website to find information about services or resources. This builds the case in support of using progressive disclosure in design and implementing a FAQ as a usability enhancement.
Once LibAnswers was populated with questions from the Main Library FAQ page and the DLS reports, all questions were assigned Topics. Since one of the recommendations from the Card Sort Report was to standardize the language and labeling used on the library’s website and Topics serve to categorize the questions in LibAnswers, the Topics were created based on the information architecture of the library’s website, using the same language and labeling. Also, since the card sort suggested that library users have a difficult time categorizing the information on the library’s website, there was no limit on the number of Topics assigned to each question (Tobias & Sanford, 2014). Furthermore, keywords were created to make the answers to questions more easily findable by bridging the gap between the words used by librarians and those used by website visitors in describing a service or resource. After LibAnswers was populated with questions from the DLS reports and assigned Topic(s) and Keyword(s), each question was given an answer, usually 1-2 sentences, with links to the appropriate section of the library’s website for additional information.

An effective FAQ is a dynamic system, treated as a living organism (West, 2015). The FAQ entries must be reviewed consistently to maintain current information. Questions should be added and deleted based on the frequency and answers should be updated as necessary. LibAnswers also provides an opportunity for library users to contact the library if the question is new or if an answer does not appear in the results list and questions submitted can easily become FAQ entries. The LibAnswers system was launched to replace the Main Library FAQ page once all of the questions from the DLS reports were entered and answered. It is understood that the FAQ is still and will always be a work in progress; questions are still being added based on incoming DLS reports or transactions at various service points throughout the library. Usage statistics will be reviewed regularly to ensure the questions in the FAQ are relevant and necessary.

An additional, related usability problem with the MSU Libraries’ website was the use of a home-grown system, Erasmus, to provide a portal to the MSUL’s electronic resources from the library’s website. The existing system was quite old, developed when electronic resources were just emerging onto the landscape. Erasmus was never intended to handle a large and diverse number of entries and while it was painfully obvious that a newer and better system was needed, talks of an in-house redesign did not progress as the level of programming requirements was unrealistic. The Erasmus Redesign Task Force was charged with assessing the front-end interface and made recommendations for improvements, such as Best Bets pages. The Electronic Resources Team also developed functional requirements for a new platform. Simultaneously, LibGuides v2 was emerging onto the scene and the LibGuides Team at the MSU Libraries noticed that many of the new and enhanced features of LibGuides v2 CMS were very similar to the programmatic requirements recommended for an improved Erasmus. While preparing to migrate to LibGuides v2, it was realized that the A-Z Database List, a central repository for managing and organizing electronic resource information, specifically could serve as a replacement and upgrade for the outdated Erasmus system.

During the summer of 2014, the LibGuides Team worked with the Electronic Resources Team to study the A-Z Database List in LibGuides v2 and analyzed its capabilities against the functional requirements needed for Erasmus’ upgrade or replacement. It was found that the A-Z Database List could perform most of the current functions of Erasmus. The A-Z Database List
also offers functionalities recommended by the Erasmus Redesign Task Force, such as assigning Subject Associations, organizing databases by type, subject, or vendor, and creating Best Bets to highlight subject-specific databases. Another advantage to switching to the A-Z Database List was the level of familiarity held by MSU librarians for LibGuides. With minimal loss in functionality between the two systems, the implementation of the A-Z Database List was a practical solution to giving the front-end interface of the electronic resources portal an updated look. Usability would also be enhanced as the management of electronic resource records would become streamlined through the integration of multiple systems into LibGuides v2 CMS.

It was formally decided that the A-Z Database List would replace Erasmus and become the central repository for listing and managing the direct links to the MSU Libraries’ electronic resources. Erasmus was initially developed as a silo of data for all of the MSU Libraries’ electronic resources. Implemented prior to a time when the library catalog held records for single-title e-books and electronic journals and before library users understood how to navigate the Internet efficiently, records were made in Erasmus for proprietary databases, electronic books, electronic journals, and freely available websites. Since librarians had data entry access to Erasmus, workflows and maintenance policies and procedures also had to be considered and greatly revised in order to keep the A-Z Database List manageable and unwieldy. The LibGuides Team worked closely with the Electronic Resources Team to revise policies about the population of content and management of data in the A-Z Database List. It was decided that only Asset Managers (i.e., people who had Admin access to the A-Z Database List in LibGuides) would have the permissions to add, change, or delete entries in the A-Z Database List. Only a few of the databases were automatically populated into the A-Z Database List during the migration from LibGuides v1 to LibGuides v2 CMS because it was not yet completely decided how the transfer of data between Erasmus and the A-Z Database List would be handled.

The LibGuides Team was charged with handling both the setup of the back end (functionality) and the design of the front end (interface) of the A-Z Database List. The A-Z Database List was created to replace Erasmus in tracking and maintaining the MSU Libraries’ list of electronic resources. The entries are arranged alphabetically, are tagged by subject(s), and depending on database type, will appear on the appropriate landing page. Landing pages for electronic resources developed in LibGuides would provide access to resources by format in the categories of Databases, Newspapers, Primary Sources, Media and Data. Librarians would share links with library users via guides in LibGuides by mapping guide content to the A-Z Database List. Records listed in the A-Z Database List would represent proprietary online databases purchased by the MSU Libraries. In cases of a database containing multiple individual titles, such as ProQuest Historical Newspapers for example, links to items within the database would not be separate entries in the A-Z Database List.

Only Asset Managers (Electronic Resources team and LibGuides Team) would have permission to add, change, or delete entries in the A-Z Database List. This procedure varied from the management of Erasmus when all librarians had the permission to add electronic resources, particularly single-titles and freely available websites to Erasmus at will leading the unwieldy mess of 2,000 records. Although it was determined that not all of these free resources would be transferred to the A-Z Database List, it was deemed necessary to include a selection meeting the following criteria:
• Resources created by the U.S. federal government, access to which fulfills depository obligations;

• Resources created by the State of Michigan;

• Resources created by Michigan State University;

• Resources created by an intergovernmental organization that have compelling reason for inclusion in the A-Z Database list, such as multidisciplinarity and findability;

• Resources created by a major research institution that have compelling reason for inclusion in the A-Z Database List, such as multidisciplinarity and findability.

Upon completion of moving data from Erasmus to the A-Z Database List, the list of electronic resources records included 895 entries to be centrally maintained. The LibGuides Team performed quality control, ensuring that all entries had the correct proxy settings, correct LibGuides account owner (i.e., Electronic Resources), and providing any missing information such as Vendor, Database Type, Description, Resource Icon, or Subject Association. The exclusion of freely available websites that are easily found via a Google search helped to keep the volume of entries in the A-Z Database List to a much more manageable level. Librarians were reminded that free websites could be requested to be cataloged for the online library catalog. A process was also put into place for requesting the addition of a freely available website into the A-Z Database List. The LibGuides Team was charged with the future responsibility of conducting an annual review of freely available websites in the A-Z Database List including analysis of usage statistics as a means for maintaining the list appropriately.

Once the quality control process for the almost 900 entries was complete, the Asset Managers (Electronic Resources Team and LibGuides Team) had to be trained on the work flow for the management and maintenance of the A-Z Database List. Prior to the implementation of the A-Z Database List, the Electronic Resources Team had not used LibGuides and lacked familiarity with its interface. Training included review of the criteria for entries in the A-Z Database List and the procedures for adding, changing, or deleting entries as the collection of electronic resources changed or as errors were found. The Electronic Resources team was also introduced to the new landing pages created for electronic resources and learned the mapping functionality of the A-Z Database List in LibGuides.

It was necessary to maintain both Erasmus and the A-Z Database List simultaneously to allow librarians time to clean up and change the links to electronic resources in their individual guides, mapping content appropriately to the A-Z Database List to replace any direct links to Erasmus entries. An email message was sent to introduce librarians to the changes brought forth by the transition from Erasmus to the A-Z Database List. The message outlined a set of action steps and explained the how and why of the process to provide transparency. In-person, hands-on training was scheduled during Spring Break week in early 2015. In these sessions, librarians were trained to learn the functionality of the A-Z Database List, including an understanding in the difference in content from Erasmus, were introduced to new policies and procedures for
managing the new system, and were made aware of the action steps required on their part for the maintenance of two systems.

A timeline for switching systems was openly shared with the librarians and steps were outlined for each part of the process of transitioning from one system to another. Librarians were encouraged to begin using the A-Z Database List instead of Erasmus to present information about databases in their guides. It was advised to get into the habit of using the A-Z Database List immediately to prevent the pain of fixing broken links, changing URLs, or revising outdated content later. Furthermore, librarians were encouraged to review the content in all of their guides and change any database information originally created as either RichText/HTML or List of Links in LibGuides by mapping any and all database information to the appropriate entry in the A-Z Database List. The final deadline for switching systems and implementing the A-Z Database List provided ample time for librarians to perform the action steps and learn the new procedures. The A-Z Database List with corresponding electronic resources landing pages was launched in May 2015.

The implementation of LibAnswers as a supplemental FAQ to the MSU Libraries’ website and the use of the A-Z Database in LibGuides for managing and presenting information about electronic resources have enhanced the usability of the library’s website. LibAnswers serves to lend a progressive disclosure element to the library’s website. By organizing pieces of information around users’ specific needs, users are no longer required to spend time figuring out which part of the navigation menu may hold an answer to a question. The implementation of the A-Z Database List as a replacement to an outdated, local, overgrown database was a practical solution for enhancing the functionality and presentation of electronic resources on the library’s website. Both of these projects successfully addressed aspects of the TMI problem with the library’s website, and while much more work is needed in this regard, it is essential to understand that simple, user-centric improvements can be made to a library’s website without embarking on major redesign projects or developing complex programs in-house.
References


Evaluating Best Practices for Video Tutorials: A Case Study

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Abstract
This paper will explore one library’s experience creating best practices for the creation of video tutorials. First, a literature review establishes the best practices other creators have used. Then, the authors apply these best practices to the creation of their first video tutorial. Finally, they evaluate the usefulness of each practice in context. This study is helpful for all those starting to make video tutorials or reinvigorate their tutorial creation.

Introduction
Multimedia tutorials have been a source of instruction for many years and much has been written about the process of creating these tutorials, including the establishment of best practices for various aspects of the project. During the creation of the first multimedia tutorial for Reese Library, however, the authors realized that not all established best practices are pragmatic to every instructional situation. The online multimedia screencast tutorial entitled “How to place a GIL Express request” was a collaborative project between two staff members (the authors) of the Access Services and Reference and Education departments of Reese Library. The tutorial as created shows step-by-step instructions on how to locate and place a request for a book using GALILEO Interconnected Library (GIL) Express, the universal borrowing service for the University System of Georgia institutions.

The need for this tutorial became evident when statistics generated from Springshare’s RefAnalytics reflected that in the 2014 Fiscal Year, (July 2013-June 2014), 30% of the questions asked by users regarded GIL Express, despite the readily available paper handout located at the Reese Library Information Desk (a combined circulation and reference service point). This statistic suggested that perhaps the handout was not helpful, and prompted the authors to re-evaluate how users receive information about the service. They concluded that the handout included too much information and its availability was too limited because users had to physically be in the library in order to obtain it. As a solution, the authors created an online video tutorial in which the steps of using GIL Express are visually shown through video screen captures and are audibly explained through narration.

The creation of the GIL Express tutorial was a new project for the Reese Library, and the authors conducted extensive research on tutorial creation before beginning production. They identified best practices based on their literature review, and then created their tutorial following these practices. As expected, this project was arduous. Planning time around two department schedules proved most challenging. Learning how to use screen-capture software was also a
Demanding aspect of the project due to the limited knowledge of such software. Implementing some of the best practices into the project was not an expected issue prior to starting the project. The authors hoped that by following the best practices, the creation of the GIL Express tutorial would have been more straightforward. Instead, they found some practices to cause more obstacles, impeding production rather than expediting it.

**Identifying Best Practices: A Literature Review**

Interest in best practices for tutorial creation has considerably increased in the last decade due to significant advances in technology and the more frequent use of multimedia tutorials in academic libraries. One of the earliest researchers to identify best practices is Nancy Dewald (1999), who discusses transporting the library instruction of the classroom into the web environment. She proposes seven fundamentals for effective tutorials: the content should be course or assignment related; the content should include active learning; the content should also include collaborative learning; the content should be available in multiple media; objectives should be clarified early; concepts should be taught; and contact information for further assistance should be provided (Dewald, 1999).

Since this early article, scholars have evolved Dewald’s (1999) fundamentals to incorporate changes in academia. For example, Rachel Viggiano (2004) created best practices while assessing online tutorial support for distance learning. Paul Betty (2008) discusses a set of best practices while describing how to create tutorials using screen cast technology. More recently, Scales, Nicol, and Johnson (2014) recognize several best practices while creating tutorials based on established learning theories. During the literature review process, publications on best practices were not always easily identifiable. To remedy this, the authors consulted articles about the process of creating tutorials, as well as several case studies to determine what practices worked best for other creators. The authors identified a total of twelve best practices. They have segmented the best practices into different phases of tutorial creation for the purpose of this review. These include: planning, creating, publishing, promoting, and assessing.

**Planning**

Several scholars have suggested that learning objectives should be established early on when designing video tutorials (Blummer & Kritskaya, 2009; Dewald, 1999; Hess, 2013; Kern, 2013; Mestre, 2012; Oud, 2009; Reece, 2007; Slebodnik & Riehle, 2009). Slebodnik and Riehle (2009) found that this helps avoid wasting time and effort. Dewald (1999) and Oud (2009) say creators can develop, outline, and organize the instructional content more easily when objectives are established. This includes deciding what content is essential and what is not, which keeps the project focused (Blummer & Kritskaya, 2009). In turn, Hess (2013) believes tutorials that are focused demonstrate consideration for the learning objectives and the learners by limiting what is being taught.

Another suggestion is to identify the tutorial’s potential audience and their pre-existing knowledge of the tutorial content (Blummer & Kritskaya, 2009; Hess, 2013; Oud, 2009; Wyant, 2013). This may increase the likelihood that the tutorial will be viewed, and may determine the strategies used in presenting the instructional content (Oud, 2009). More advanced viewers, for
example, will require less direction than those learning the material for the first time. Sometimes identifying the audience is difficult, however. Blummer and Kritskaya (2009) suggest focus groups, faculty collaboration, and conducting needs assessments as ways to determine the tutorial’s audience.

Some scholars stress the importance of researching creation software prior to beginning a project (Blevins & Elton, 2009; Blummer & Kritskaya, 2009; Evans, 2014). Blummer and Kritskaya (2009) advise creators to select the program that best meets the needs of the tutorial. Evans (2014) explains how this choice depends on the type of content the tutorial will show. She offers a comparative chart listing advantages and disadvantages of several software programs. Blevins and Elton (2009) provide a set of criteria for evaluating different software programs. Usability, accessibility, cost, and time required to create the tutorial are all considered when making a decision.

Examining tutorials created by other institutions is also a possible step in planning, although this is discussed less in the literature. Only Blummer and Kritskaya (2009) suggest that creators search library websites to help generate ideas. Clossen (2014) mentions PRIMO, ALA’s database of peer-reviewed online learning objects, but does not discuss its value in creating tutorials. Moreover, of the many case studies consulted, only Thornton and Kaya (2013) discuss how they surveyed what kinds of tutorials have been produced by other libraries.

Creating

Most scholars advise to write a script (Bailin & Peña, 2007; Bowles-Terry, Hensley, & Hinchcliffe, 2010; Clossen, 2014; Dewald, 1999; Evans, 2014; Hess, 2013; Kern, 2013; Oud, 2009; Reece, 2007; Slebodnik & Riehle, 2009; Wyant, 2013). Kern (2013) suggests this adds professional quality to the tutorial; others say it provides structure and clarity (Bailin & Peña, 2007; Evans, 2014; Hess, 2013). Scripts can also easily be used to caption tutorials (Kern, 2013). It is good practice to state the established learning objectives in the script’s introduction so viewers are informed of what they will be watching (Dewald, 1999). This helps orient the viewers and enables them to determine the tutorial’s value for their learning needs (Evans, 2014; Hess, 2013). Either the tutorial will be helpful for the viewer, or the viewer will not waste time if it does not pertain to his/her needs. The remaining portions of the script should be organized so that the main points are emphasized, which minimizes cognitive overload (Oud, 2009) and keeps viewers’ attention (Bowles-Terry et al., 2010). Some scholars suggest eliminating points of confusion by cleaning up unclear terminology, including library jargon, as viewers will most likely be unfamiliar with this vocabulary (Clossen, 2014; Slebodnik & Riehle, 2009; Wyant, 2013). Reece (2007), however, disagrees with eliminating terminology that would help the viewer associate the instructional content with the scholarly product. Finally, Kern (2013) suggests reading the script aloud to determine whether what has been written is easy to say.

Many scholars suggest limiting tutorials to no more than two minutes in length (Betty, 2008; Bowles-Terry et al., 2010; Clossen, 2014; Evans, 2014; Hess, 2013; Kern, 2013; Mestre, 2012; Oud, 2009; Scales, Nicol, & Johnson, 2014; Wyant, 2013). This helps keep the viewers engaged (Bowles-Terry et al., 2010; Wyant, 2013). Shorter tutorials are also more likely to be viewed in their entirety (Betty, 2008), and are more manageable to update and maintain (Hess,
Some suggest that longer tutorials should be broken into smaller tutorials (Betty, 2008; Bowles-Terry et al., 2010; Mestre, 2012). This can reduce cognitive overload (Hess, 2013; Oud, 2009), the point at which the presented information is too excessive and prohibits learning, and keeps the tutorial focused on one learning objective at a time (Clossen, 2014). Scales et al. (2014) find that “chunking” information supports better retention.

Some scholars advise using video and audio cues (Clossen, 2014; Evans, 2014; Kern, 2013; Mestre, 2012; Oud, 2009; Plumb, 2010; Reece, 2007; Scales et al., 2014). This can help direct viewers’ attention to the most important parts on screen (Kern, 2013; Mestre, 2012; Scales et al., 2014). Visual cues can include using an arrow, circle or other shape, zooming features, and graphics. Audio cues can include sound effects, music clips, using tone for emphasis, and closed-captioning. Some suggest these cues, however, should not be over used so that they distract or overwhelm the viewer from the content (Evans, 2014; Oud, 2009; Scales et al., 2014). Busy screens should also be avoided to keep the tutorial focused (Clossen, 2014) and graphics should be consistent in style and format (Oud, 2009; Plumb, 2010; Reece, 2007). Scales et al. (2014) discuss in great detail how these cues decrease the possibility of cognitive overload. In contrast, Bowles-Terry et al. (2010) and Hess (2013) say that tutorials should focus on the task and not its entertainment value.

A few scholars suggest providing contact information for users to ask for help at any future time (Betty, 2008; Blummer & Kritskaya, 2009; Dewald, 1999; Reece, 2007). This can help engage viewers (Blummer & Kritskaya, 2009).

Most scholars advise that tutorial content should be available through multiple formats (Betty, 2008; Blummer & Kritskaya, 2009; Bowles-Terry et al., 2010; Mestre, 2012; Hess, 2013; Kern, 2013; Wyant, 2013; Scales et al., 2014). This makes tutorials accessible to all users (Wyant, 2013). Users should be given the option to watch, listen, or read the text of the tutorial, or in any combination of the three. Closed-captioning should be included to not only serve those users with hearing disabilities (Kern, 2013; Mestre, 2012; Wyant, 2013), but also those users whose native language is not English (Bowles-Terry et al., 2010; Mestre, 2012). Closed-captioning is also an option for students who do not have the equipment to hear audio, or who prefer to read the narrative text (Scales et al., 2014). Providing the tutorial in multiple formats also supports various learning styles (Blummer & Kritskaya, 2009; Bowles-Terry et al., 2010).

**Publishing**

Scholars also suggest tutorials should be linked at the point-of-need (Bowles-Terry et al., 2010; Hess, 2013; Thomes, 2012; Wyant, 2013). This ensures that users will become aware of the tutorial and increases the chance that they will watch it. Linking at point of need can also enhance the tutorial’s findability and ease the time spent searching for relevant tutorials (Hess, 2013). Bowles-Terry et al. (2010) found in their user study that students might not think to search for a page just for tutorials. Thomes (2012) and Wyant (2013) suggest tutorials should also be made available for further embedding, which permits librarians to incorporate the tutorial in their own instruction classes and subject guides. Most host sites, like YouTube, allow permissions to be made by the tutorial creators (Kern, 2013). Embedding tutorials into a course
management system is also an option that allows for subject faculty collaboration (Thornes, 2012; Wyant, 2013).

Promoting

Additionally, scholars point out that a tutorial will only be used if users are aware of its existence (Betty, 2008; Evans, 2014; Thornes, 2012). Announcements can be made via library publications such as blogs, newsletters, and social media sites. Betty (2008) found that announcements made on the news section of the library’s website were most effective in catching the attention of faculty and administration. Simple flyers and signs can also be placed around the library, as well as distributing bookmarks at the circulation desk (Betty, 2008; Evans, 2014). Evans (2014) further suggests using QR codes at places where users may need to access the tutorial. Librarians and staff should also be encouraged to show the tutorial whenever possible (Betty, 2008).

Assessment

Many also think a key component of tutorial creation is its assessment (Blummer & Kritskaya, 2009; Evans, 2014; Hess, 2013; Plumb, 2010; Slebodnik & Riehle, 2009; Thornes, 2012). Thornes (2012) argues evaluation and feedback are essential to accurately judge whether tutorials are meeting viewers’ needs. Evaluation techniques can include usability tests, pilot studies, surveys, usage statistics, student achievement, and anecdotal observations (Blummer & Kritskaya, 2009; Evans, 2014; Slebodnik & Riehle, 2009). Blummer & Kritskaya (2009) believe one of the easiest methods to collect user comments is by creating a survey after the end of the tutorial for users to provide feedback. However, some scholars have found it difficult to generate responses this way. Thornes (2012), for example, gained only one response from her survey. Other scholars argue that usability tests can be a better method of assessment, but require more time commitment (Blummer & Kritskaya, 2009; Mestre, 2010, 2012). Permission from the institution’s review board is often required and participants must be carefully selected based on what it is that is being evaluated. Blummer and Kritskaya (2009) believe pre- and post-tests are a good method to determine whether students are learning from the tutorial. Qualitative data such as observations from library staff and faculty can also help evaluate tutorials by determining whether students appear less confused over performing tasks. The frequency in which certain questions are being asked is also a good indicator of the tutorials’ usefulness (Blummer & Kritskaya, 2009). Plumb (2010) and Evans (2014) support obtaining feedback at continuous stages, with Evans (2014) further stating that this can help direct the project during the creation process. According to Hess (2013), co-workers and supervisors can also be a good source for feedback. However, Plumb (2010) considers this feedback limited.

Creating the GIL Express Tutorial: Following Best Practices

Once the authors decided to create a video tutorial, they first established learning objectives. The project’s learning objectives seemed straightforward at first, but the authors quickly learned that word choice is significant when writing learning objectives. Their first attempt at establishing a learning objective, to *effectively instruct users on how to use the GIL Express service*, was too vague. The authors then described exactly what the tutorial will instruct
the users to do in two objectives: the tutorial will effectively demonstrate how to locate a book using the universal catalog and the tutorial will effectively demonstrate how to place a GIL Express request on these needed items. Although more detailed, these objectives are clear enough for the authors to outline the specific directions required to show each step. It also provides points of reference to eventually evaluate the effectiveness of the tutorial. It can be evaluated whether viewers can successfully locate a book using the universal catalog, and also whether viewers can successfully place a GIL Express request.

The authors then identified the audience of the GIL Express tutorial as those users who are unaware of the GIL Express service or those who have never used it. Oftentimes these are freshman undergraduates, transfer students, or international students, all who are new to using Reese Library. Other viewers may also include those users who have only seldom used GIL Express and need reminders of key steps in the process. These users include upperclassmen, graduate students, and faculty. The viewers’ pre-existing knowledge of the GIL Express service, therefore, is very little to none, which means that the tutorial must be thorough, with all steps explicitly shown. Some explanation of GIL Express, such as its purpose, may need to be included, as well.

Next, the authors wrote their script. They began by stating the learning objectives of the tutorial in an attempt to orient the viewer to the learning experience. An explanatory sentence about what the GIL Express service is was then included for those unfamiliar with the service. Although this does not comply with what Bowles-Terry et al. (2010) suggest about limiting conceptual introductory information, the authors decided to include it because most of the target audience will have no pre-existing knowledge. The script then transitions into the procedural directions, but where to begin the demonstration became an immediate problem to solve. Rather than starting with a generic instruction on opening the web browser, the authors decided to begin the tutorial from the library’s website, because viewers will either already be on the site, or will be referring to a research guide.

Step-by-step instructions of where to find the universal catalog on the library’s homepage, how to find a book, how to log in to a personal GIL account, and finally, how to place the request for borrowing were detailed in common language so as not to confuse viewers who may not understand library terms. For example, “results” was used instead of “records,” and the phrase “bibliographic information” was carefully avoided. The authors chose a book that they knew Reese Library did not own for demonstrating how to search the universal catalog. They also created a fake user record for the demonstration of requesting the book, so as not to show any personal information from their own or others GIL accounts. They concluded the script with a sentence regarding how long it normally takes for requests to arrive and how the user will be notified of arrival, since these are frequent questions asked by users.

The script proved to be too long during the creation process when it resulted in a tutorial almost four minutes long. To shorten the tutorial’s length to less than two minutes, the authors eliminated the “need to know” information. After this, the introduction included just the learning objective statement, and the end of the tutorial concluded with the generic “contact the library for any additional information needed.” While the literature suggested researching tutorial creation
software as a possible step in the creation process, since Reese Library already had a license for Camtasia, a popular screen-capture software, they elected to use that application.

During the editing process, visual cues were added to parts of the tutorial to help direct the viewer’s attention to specific areas of the screen, particularly in places that include “click here” directions. This was achieved mostly with zoom and pan features. The use of the mouse arrow was also used in each screen capture so viewers can easily follow along and be able to model the steps being shown using their own screen and mouse. Slides were added at the beginning and end of the tutorial to serve as openers and closers. Text was used to title the tutorial on the opening slide and to list the library’s contact information on the concluding slide. No pictures or audio effects were added as the authors deemed them unnecessary. Lastly, captions were added in compliance with the Americans with Disabilities Act (ADA).

Although only some of the literature discusses gathering feedback before publishing and promoting tutorials, the authors decided to solicit several co-workers to view the tutorial and provide feedback, particularly because it was a new project for Reese Library. Overall, the feedback was positive, but two issues were repeatedly mentioned. The first regarded the audio portion of the tutorial. Several comments stated that the narration sounded “unnatural” or “robotic” and could distract the viewer. Upon review, the authors agreed that the narration was not fluid and sounded too much like reading a script. To rectify this, the authors asked a co-worker who spoke more softly and more naturally to record the narration. The second issue involved the visual components of the tutorial. Co-workers noted that when the video zoomed out, the video became blurry. This was a difficult problem to solve, as changing the resolution resulted in a large file that slowed downloading time, which could frustrate viewers. With help from a staff member of Reese Library’s Systems Department, the authors were able to slightly increase the resolutions of the zooming stages to help focus screen images without drastically affecting the file size.

Other notable comments included adding more content at points in the tutorial for better clarification. This information was previously omitted by the authors because it was not procedural, and the tutorial’s length was almost four minutes long. By intentionally re-writing the original script, the authors were able to reduce this information to one sentence. They also included this information in a text box at the relevant point in the tutorial to visually compliment the auditory explanation. Although this addition caused the tutorial to become longer than the suggested time limit, the authors agreed the addition also clarified the content and answered some potential follow-up questions about the service.

Additional content-related feedback included comments about frequently asked questions about the GIL Express service. Again, this information was eliminated by the authors to keep the tutorial’s length to a suitable time. Yet this information was important and the authors agreed it needed to be included somewhere. Rather than incorporate it into the tutorial itself, because it was not directly related to the procedural steps, the authors created a LibGuide in which the tutorial was embedded, and added an adjoining text box that presented the “need to know” information.
The tutorial was officially launched after six weeks of production time. The authors and the Systems Department debated on the link text because space was limited. It was agreed that the link had to be descriptive enough for viewers to know what it contained; otherwise, the tutorial might not be viewed. The author’s first proposal, “Click here for information on how to use GIL Express,” was too long to use, so they then proposed the title “How to Use GIL Express,” and the Systems Department finalized it as “Get Help with GIL Express.” A second link to the tutorial was placed under the “Get Help” dropdown menu located on the homepage. This was simply titled “GIL Express Video.” The link to the LibGuide was placed on the library’s website in two appropriate locations by the System’s Department. The first location is with the universal catalog and GIL Express links on the homepage. A PDF file of the tutorial’s transcript was created and attached in the LibGuide for viewers who would rather read the information. A simple assessment component of a two-part questionnaire was also included in the guide. The first question asks, “Did you find this tutorial helpful?” with “yes,” “no,” or “don’t know” response choices. The second question asks, “How helpful did you find this information?” on a Likert-scale of one to five, with one being not at all and five being very helpful. A place for comments was also included.

Once the tutorial was published and available online, the authors promoted it on the library’s website, the library blog and social media sites, and through e-mails. Librarians were also granted permission to access the tutorial so they could include it in their own research and subject guides.

**Evaluation of Best Practices Application**

The final product resulted in a two minute and thirty-seven second video. In the literature review, the authors identified the twelve best practices for tutorial creation. In the second section of this paper, the authors described how the GIL Express tutorial was made following those best practices. The authors will now assess the best practices they used based on their experience with creating the GIL Express tutorial.

**Establish Clear Learning Objectives and Identify the Audience**

Like previous scholars, the authors found that establishing clear learning objectives and identifying the audience and their pre-existing knowledge helped in guiding the direction of the GIL Express project (Blummer & Kritskaya, 2009; Hess, 2013; Kern, 2013; Oud, 2009; Wyant, 2013). This was to be expected, as the authors believe that these two practices are beneficial to any instructional project. Learning objectives must be clearly defined, but can be uninformative if written too simply. The authors found that using precise language to state what information the tutorial will teach, even breaking it down into multiple objectives if necessary, made outlining the project easier, even if it made the objectives themselves more detailed.

**Write a Clear and Simple Script**

Writing a clear and simple script is a balancing act, as it is time consuming and can require multiple edits. The authors agree with previous literature that keeping a script uncomplicated will help keep viewers’ attention (Betty, 2008; Bowles-Terry et al., 2010; Kern,
particularly Wyant’s (2013) and Clossen’s (2014) suggestion to eliminate library jargon. However, the authors disagree with Bowles-Terry et al.’s (2010) suggestion of including only procedural directions, as this script was received negatively by coworkers as being unclear. Scripts should be simple, but clear enough so as not to limit the information given so much that it creates more questions than answers. Because of this, the authors believe it is good practice to include some “need to know” information at appropriate places in tutorials, even those of a procedural nature.

**Limit Tutorials to 1-2 Minutes**

This best practice was impossible for the GIL Express tutorial. As stated above, limiting the content of the tutorial generated negative feedback, even though the length of the tutorial was just over two minutes long. The authors did consider dividing the material into two tutorials, as the literature suggested (Betty, 2008; Bowles-Terry et al., 2010; Clossen, 2014; Evans, 2014; Hess, 2013; Kern, 2013; Mestre, 2012; Oud, 2009; Scales et al., 2014; Wayant, 2013). One tutorial would instruct viewers how to access and use the universal catalog, and the other would demonstrate accessing GIL accounts and placing GIL Express requests. However, this was quickly dismissed, as it did not make procedural sense since both necessitate the other. Therefore, limiting tutorials from one to two minutes in length is sensible in theory, but is not always practical (Bowles-Terry et al., 2010; Hess, 2013; Kern, 2013).

**Review Creation Software and View Other Tutorials**

If you are just starting creating tutorials, or are branching out into different kinds of tutorials, it may be necessary to review the various software options available. However, like the authors, many institutions already have programs available that can be used for such projects, even if they are unaware. In addition, programs like Quicktime for OS X and freeware like Jing or TinyTake can be used at no cost, although they offer less functionality.

Although the authors did not view other tutorials before beginning due to the niche topic, this can be a useful practice to garner ideas for how others have approached a topic or for ideas on visual and audio cues. Seeing how others have built integrated tutorials into instructional situations, including how the tutorials are embedded into the website, can also be useful.

**Use Visual and Audio Cues**

The authors decided that only simple cues were needed for the GIL Express tutorial. The authors feel that using such cues is less important than the clarity of the actual tutorial content, and should only be sporadically used in order to enhance the instructional content. In other words, the authors view these cues, like Bowles-Terry et al. (2010), as secondary support to direct viewers through the tutorial, rather than as a primary contribution to learning, like Scales et al. (2014).
Provide Contact Information

It is anticipated that the majority of questions being asked about the GIL Express service will be answered by the tutorial. The authors agree, however, that it is a best practice to provide contact information on any project (Betty, 2008; Blummer & Kritskaya, 2009; Dewald, 1999). This allows users the opportunity to pursue additional questions without burdening them with the retrieval of the contact information.

Provide Multiple Formats

Providing multiple formats allows the tutorials to serve a larger audience of users. For example, those with special needs or limited access to internet connectivity may be better served by either closed captioning or a transcript. The more formats available for the tutorial, the wider an audience it can reach.

Link at all Points of Need

Above all other best practices, the authors believe this practice to be the most important. Creating tutorials takes a great effort, but where it is placed ensures that users will more likely view it. The authors argue that only linking the tutorial into a tutorial page is ineffective, because new users will most likely not think to search for a tutorial page. Moreover, users who need help will probably want immediate answers to their questions and will feel frustrated if they have to go searching for them.

Promote the Tutorial

The authors put less emphasis on promoting tutorials than the previous literature does, believing that the links at the points of need will promote the tutorial itself because users who have questions will see the available tutorial directly. However, the authors do agree that promoting the tutorial among library co-workers is beneficial. For example, when the Access Services staff is asked about GIL Express by users, they can direct them to watch the tutorial. Moreover, librarians can incorporate the tutorial during instruction sessions since these sessions typically include the tutorial’s target audience. Future usage statistics will allow the authors to determine how many users are watching the tutorial and whether different approaches to promoting the tutorial should be addressed.

Assess the Tutorial

More literature should address getting feedback from co-workers before publishing and promoting tutorial projects, as the authors found this part of their project most valuable. Gathering feedback helps perfect the presentation of the tutorial in many ways. It is particularly useful for the creators because viewers can comment on how effective the content is presented (Does it make sense?), and how the tutorial looks (Does it appear to be too busy?). Oftentimes, viewers will comment on aspects of the tutorial that have been overlooked by the creators. Overall, feedback allows for effective development and helps the tutorial creators establish their own best practices for future projects.
Assessing tutorials is an ongoing topic of research. The authors of this paper, however, agree with the literature on the importance of evaluation for tutorials, as well as any instructional project (Blummer & Kritskaya, 2009; Evans, 2014; Hess, 2013; Plumb, 2010; Slebodnik & Riehle, 2009; Thornes, 2012). In their opinion, user studies are the best method to gain how and why users view tutorials and what can be done to better serve their needs.

**Conclusion and Further Directions**

While best practices are useful for framing a project, they must be adapted to your needs and the needs of your users. The best way to know what works is to continually interact with the creation of tutorials and find what makes the most sense in your instructional context. Creation is always situational and the needs of the users must always be foremost. Best practices can act as a guide and a way to pinpoint areas of improvement.

In the future, the authors would like to explore more facets of how tutorials act as instructional objects. For the GIL Express project specifically, tracking the correlation between the number of views and the number of questions asked about the service could prove useful in seeing if users are accessing the tutorial. This may also give some insight into how users are applying the knowledge from the tutorial. Another possible project is a user study to test how various tutorial types (video, static, multimedia interactive, etc.) affect student learning.
References


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From Assessment to Implementation: Using Qualitative Interviews to Inform Distance Learning Library Services

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Abstract
While broad assessment projects are often used to steer library strategic planning initiatives, this article will present the benefits of qualitative interviews with distance learning constituents as a framework for developing a focused vision and targeted services. This paper will describe the planning and execution of an assessment project used to build a foundation for future library resources and services to target off-campus users. The benefits of this analysis will be detailed. Based on the data, implementation strategies were devised to strengthen and further develop the distance learning unit at Florida State University Libraries.

Introduction
During the spring semester of 2014, Florida State University Libraries hired an Extended Campus and Distance Services (Distance) Librarian charged with providing distance learning students and faculty equitable access to library resources and services. In collaboration with the Distance and Outreach Coordinator, the new position was allowed flexibility in planning and implementing projects in order to create a comprehensive strategic plan for the library’s distance learning unit. The ACRL Distance Learning Standards (2008) provide essential guidelines for any college or university librarian attempting to provide quality support for off-campus users but, at the time of this assessment project, the Standards were in the process of revision. These edits were representative of the changing nature of distance learning resources and services provided by academic libraries. There is no need for this paper to explore the larger effect of the digital revolution on academic libraries as this subject has been well discussed throughout prominent information science journals. Instead, this paper aims at providing a method of assessment for any academic library attempting to devise proactive and pertinent distance learning services while creating relationships with key stakeholders.

Though recent literature provides useful insight into the trends of distance education and academic librarianship, it is fundamental for any new librarian in a recently created position at a higher education institution to complete a needs assessment, as unique services are required in this highly specialized online environment. There is no better substitute for learning a particular population than engaging in personal interactions with constituents. In order to best serve the information needs of Florida State University’s diverse community, the Distance Librarian devised a strategic assessment project based on qualitative, open-ended interviews with a limited number of students and faculty who possessed experience in the distance learning environment.
with the goal of aligning feedback with initiatives established through the Florida State University Libraries’ Balanced Scorecard.

**Background**

With the main campus located in Tallahassee, FL, Florida State University is a public research university with a strong tradition in arts and humanities and a growing role in the sciences. The university’s sixteen colleges offer more than 275 undergraduate, graduate, doctoral, professional, and specialist degrees in a broad array of disciplines with over 32,000 FTE. Florida State University first implemented distance learning in 1999 and began providing centralized support for its distance education services in 2001 through the Office of Distance Learning (ODL), situated within the Office of the Provost and Vice-President for Academic Affairs and advised by the university’s Faculty Senate Distance Learning Committee.

**Literature Review**

As the trend of online learning continues to grow, institutions respond with evaluation and planning for future services. Two broad quantitative studies were examined as applicable case studies. White’s (2010) literature review surveyed assessment planning in library and information science with specific attention to distance learning services. Overall, White concluded that strategic assessment planning in academic libraries is minimal and largely ineffective as evaluation techniques for online learning must include “a more flexible and engaging” process (p. 1021) and “explorations of possible new assessment planning techniques, components, and focuses need to be explored to allow for the transitions, innovations, and improvements suggested” (p. 1023). In 2008, Arizona State University Libraries (ASUL) participated in a university-wide task force to address the unique needs of online students (Shell, et al., 2010). ASUL faced several of the same challenges experienced at academic libraries nationwide in regard to adequately surveying the distance population (issues identifying 100% online users vs. students who enrolled in part-time and online courses, identifying how many students lived in local area vs. geographically isolated locations). The results allowed ASUL to complete a long-term plan of services. Several other academic libraries have utilized surveys to evaluate services and practices for off-campus library users (Bancroft & Lowe, 2006; Nwezeh, 2010).

In contrast, qualitative inquiries are not a common methodology used within academic libraries to measure distance education outcomes. However, there are a small number of examples. One recent study includes an online assessment project by John Hopkins University utilizing virtual focus groups (Hill & Patterson, 2013). Hill and Patterson claimed “the first-hand student responses greatly enhanced librarians’ knowledge of how students use and view the online library” (Hill & Patterson, 2013, p. 411). Additionally, based on the literature, it was clear that a significant majority of library assessment projects were framed on the needs of student populations, largely overlooked the role of faculty input into strategic assessment projects (Kvenild & Bowles-Terry, 2011). Even with the prevalence of online library services, studies indicate that students continue to prefer face-to-face library interactions over chat or email services (Ismail, 2013; Magi & Mardeusz, 2013). Though primarily focused on reference
interaction preference, the data acquired in these studies informed the decision to utilize a qualitative methodology.

The assessment project conducted at FSU aimed to fill the literature gap by directly applying findings from qualitative interviews to immediate plans of action for distance services in academic libraries. As more positions are created in libraries based on such trends in higher education as data management, emerging technologies, and distance learning, it is imperative for academic librarians to conduct assessment projects to create short and long-term strategic plans. Cannady, Fagerheim, Williams, and Steiner’s (2013) article was influential in the formulation of this service as part of the enhanced Distance Learning unit especially in terms of building relationships and aligning unit goals with larger organizational initiatives. This strategic assessment aimed to create a foundation for future partnerships with instructors and students as well as departments and organizations on campus.

**Purpose and Methodology**

Two reports conducted by a team of Florida State University Librarians, a 2008 ethnographic study focused on the study habits of students, and a 2012 LibQual survey, were analyzed throughout the planning process to further inform the interview questions and evaluation practices. The Distance Librarian also used the library’s Balanced Scorecard to coordinate the objectives of the analysis with the larger goals of the institution. The assessment project purpose and questions was developed in late June 2014 and the IRB application was completed by mid-July. Interviews with participants began in late July with the last interaction completed in October 2014. The following questions were employed:

- What is your major/minor? (students); What is your academic department? (faculty)
- How many classes are you currently taking online vs. traditional or hybrid (face-to-face time with online component) classes? How about in past semesters? (students); How many classes are you currently teaching online vs. traditional or hybrid (face-to-face time with online component) classes? How about in past semesters? (faculty)
- How far do you live from the main FSU Campus in Tallahassee?
- How often do you use the library's online resources including the library's website)?
- Which library resources or services do you use?
- How often do you use the physical libraries?
- What aspects of the library are you most satisfied with as a distance learner?
- What aspects of the library are you least satisfied with as a distance learner? (students); What aspects of the library are you least satisfied with as a an online instructor? (faculty)
• What library services and/or resources are most important to you?

• What sort of improvements could the library make to support distance learning?

The interviews were conducted using a convenience sampling. A majority of the participants were selected through referrals provided by a contact at the ODL. While some respondents had never been on Florida State University’s main campus, 100% of the faculty and 57% of students had visited one or more of the main campus libraries. More than a simple needs assessment project, the interviews were aimed at determining overall perceptions of library resources and services including what the participants found most important and useful about the library as well as what improvements could be made. As the limited participation only totaled fourteen participants, different communication methods were made to suit the preference of the interviewee: seven of the interviews were in person; three on Skype; one on Google Hangout; and three by telephone.

The qualitative examination method was chosen for a number of reasons. As observed in the literature review, the predominant method of online education research has been conducted using quantitative measures, attempting to provide a comprehensive picture of distance learning needs. While these studies are important in the fields of higher education and information science, one-on-one, qualitative interviews are often a method overlooked, partially due to the considerable amount of time required to plan, conduct, and analyze data. In preparing the interviews and when contacting participants, the Distance Librarian chose to frame the interactions as conversations with the hopes that responses would be as open as possible. These in-depth, personal interactions provided a distinct perspective into the users’ needs.

The limited participant pool and one-on-one aspect of the qualitative method was also beneficial for the level of willingness to participate; seven out of the eight faculty first contacted agreed to be interviewed and seven out of the nine students contacted responded positively to the request, as well. One of the issues discussed within the literature was the low level of participation from a web form or survey disseminated to student populations as noted in Hill & Patterson (2013). By initiating these interviews on a case-to-case basis, the participation was high and individuals expressed enthusiasm to provide feedback. As a new librarian at a large, Research I institution attempting to provide broad services to a wide-ranging population, it was necessary for the Distance Librarian to establish connections throughout the university and create relationships with key stakeholders (Cannady, Fagerheim, Williams, & Steiner, 2013). The interviews were purposely framed to persuade participants to continue the conversations with the librarian at a later date by providing contact information as well as a summary of the support services offered by the new position and following up with personalized emails after the project was completed. This goal was certainly successful. Students involved in the survey invited the librarian to be part of their online course Facebook page, and faculty continued to provide useful feedback and invite the librarian to selected department meetings.

Findings and Discussion

In analyzing the qualitative data from the interviews using a modified systematic text condensation method (Malterud, 2012), six unique codes were identified as themes throughout
the project: databases (including discussion of electronic journals and article accessibility); outreach and orientation; the library website; the learning management system Blackboard; videos and tutorials; and the idea of the embedded librarian. A description of each code and associated responses from participants is detailed below.

Six students and two members of the faculty interviewed identified databases and access to scholarly journal articles as their most important interaction with the library. Many respondents indicated that they defined their relationship with the library solely through their interaction with library databases, and a limited number of databases, at that. Students were introduced to the library through undergraduate research projects that involved the use of scholarly sources, and they seemed overall pleased with off-campus experiences. When students were asked which library resources and services had the highest level of satisfaction, responses in regards to resources were most common. Students said they were “happy with the amount of articles and journals” and “found it easy to find scholarly articles”. When discussing their use of databases, it was clear that distance learning impressions were narrow. It took further questioning to get students to explain what specifically was meant by their use of library “resources”. Many began the interview explaining their overall satisfaction with resources and material but when asked to further clarify, they explained that this was almost solely in reference to database usage. Three out of the seven students interviewed received an introduction to the library databases through their instructors and their first research assignments.

The interviews illustrated one of the most noticeably frustrating aspects of patron library usage was the library website. The website was an issue of contention throughout the faculty and student interviews. Six out of the fourteen participants identified the website as an area in need of improvement to support distance learning. Students indicated the website was “hard to navigate,” “not user friendly,” and claimed that “logging in is still a hurdle.” One out-of-state student expressed that it had taken her “quite some time to feel comfortable” but, as she spends the time to continue to learn the interface, she uses the library resources more and more. Faculty were even more critical of the library website but ambiguous with their complaints. Even an experienced Chair of a department claimed the website was “too much” and felt overwhelmed by the front page. Another instructor suggested the Libraries consider a “participatory design” and the topic of engaging and guiding users was raised several times throughout the interviews. There was variance within the responses. Some thought the search process was easy, but others found it confusing. The chat service was complimented but overall interactivity was criticized.

The topic of videos and tutorials offered another major theme identified throughout the assessment. Three students brought up videos during the interviews and two faculty members mentioned tutorials, as well, though none of the interview questions specifically addressed library multimedia. The level of media instructors included within their current curriculum correlated with their suggestion of whether videos and tutorials should be a part of library interaction. One social science faculty member saw the library as having a major role in media collections and video assistance. Another in criminology had used video tutorials in an embedded librarian model and found this to be “very successful” in his course as the students received library instruction through videos in connection with the assigned research projects. Students had similar ideas about the role of library videos and tutorials. One student suggested that tutorials should be used to “anticipate questions that students don’t want to ask.” Participants
often linked the use of videos and tutorials to other topics throughout the interviews such as methods of outreach and instruction for using the website and learning the interface.

Along with videos and tutorials, the learning management system, Blackboard, was also a point of discussion, especially in the faculty responses. Three faculty participants saw the learning management system as the easiest way for librarians to interact with students and become involved in relevant coursework. Blackboard was connected to several suggestions for outreach and embedding, two subjects to be discussed below. One of the faculty members explained how she hoped to include information about the library in Blackboard but that she was hesitant to include anything that would “bulk up weekly content”, in regard to the communications and information needed in Blackboard for weekly coursework. One of the most notable interviews with a faculty member in computer science detailed that the library should partner with faculty to institute a learning community system, not just a learning management system, in order to engage in active relationships with distance learning students. A few of the students mentioned Blackboard in their interviews but only as a secondary thought.

One of the most referenced matters throughout the interviews was the idea of outreach, suggested by five out of the seven students and five out of the seven instructors participating in the evaluation. Students and faculty expressed the need for librarians to be proactive in establishing relationships, marketing services, and teaching resources. Participants suggested an “all-out outreach effort” in Blackboard, through the library liaison program and the ODL. Many faculty and students expressed a need for the library to work closely with this department as they are the main point of contact for distance learning constituents. Faculty participants expressed that instructors “don’t go looking for the library” and need improved communication, especially when resources change. Several students suggested a more engaging library orientation as opposed to the current model, trying to introduce the library as “fun and focused on distance students.” One student expressed a desire to attend on-campus library workshops and social events. He noted that these type of events could somehow happen online, as well as in person.

The last theme identified through the faculty interviews was the desire and importance of the ‘embedded librarian’ for the distance learning population in response to suggested improvements that the library could make for distance learners. It was clear that there were at least three different meanings expressed: embedded in pedagogy, embedded in research process, and embedded in a course site through Blackboard. The last version was the most frequently discussed embedded librarian model. Putting a link in Blackboard to the library’s research guides seemed to be the easiest transition for some participants. One faculty member had experience with the embedded librarian model and stressed the importance of faculty-librarian relationships throughout the interview. He envisioned a library wide initiative where liaisons would pedagogically embed in online courses. Students on the other hand described embedding more vaguely. One in particular noted the importance of “keeping people surrounded by library information” in an online environment.

It is important to note another point of contention discussed by participants throughout the interviews though this matter was not formally included within the data analysis and results discussion. Two faculty members and two students, one enrolled in a graduate certificate program and another who was close to completing his undergraduate courses, stated that the
library was not necessary for research in their courses. Information science professionals routinely discredit this type of feedback by claiming non-use is associated with lack of awareness of library resources or overall low satisfaction with services (Kisby 2011; Toner 2008). Due to the open-ended nature of the qualitative interviews, participants providing these types of comments were asked to expand on these beliefs and the discourse produced revelatory data. One faculty member discussed that in her own research she valued the ability to use Internet sources “and use the Internet well.” Another claimed that the research in his field was not rooted in using library material but gaining skills through experiences. In a large institution, librarians must focus their efforts in an efficient and effective manner. It could be argued that, instead of trying to focus outreach efforts on departments who have not characteristically utilized library services, attention should be appropriated to heavy library users as an initial and strategic tactic.

**Considerations**

In the data analysis process, multiple considerations were addressed in terms of the validity and reliability of the results. First, the sample size was too limited to use as a comprehensive and general basis for the entire student and faculty population, though this was acknowledged at the initial planning stages. Second, as the Distance Librarian served as the only interviewer and data analyst, there was a lack of the collaborative evaluation techniques commonly utilized in assessment programs. While these drawbacks are worth careful consideration, it is important to note that the goal of this assessment project was to construct a foundation for a distance learning strategic plan tied to the University Libraries Balanced Scorecard in a quick and efficient manner.

**Implementation**

The first plan of action was to establish a connection within the ODL and improve the library’s presence within the required student orientation modules. When these edits began, the library’s portion of the orientation consisted of screenshots and step-by-step instructions on a PDF document. The Distance Librarian was able to work with the ODL Instructional Technology and Media team to create a dynamic video that included a tour of the main campus library with a playlist of short and focused tutorials on utilizing off-campus resources. The librarian was also invited to present at a series of faculty workshops, targeting faculty who were new at teaching in an online environment. This allowed the librarian to work with several faculty members to create a customized orientation announcement that included the welcome video within Blackboard course sites and establish connections between the online instructors and their respective library liaison. The ODL is also the content and technical manager for the Blackboard learning management system. Collaboration with this team of staff was also fundamental for further embedding the library into online course environments. Instructors now could easily add a library page to their Blackboard site and this was marketed to new and veteran instructors using the ODL internal listserv.

Creating collaborative working relationships between members of the ODL and the Distance Learning Unit within the library has produced several unexpected benefits. Questions about library services and resources were added to the designated distance learning student and faculty surveys disseminated each semester via email, allowing for ongoing assessment and
evaluation in association with other distance learning evaluation strategies. Staff and faculty within the Office of Distance Learning have acted as ambassadors for University Libraries, providing numerous referrals for library services.

Certain points discussed throughout the interviews were divided into short-term and long-term plans of action due to the prevailing need of widespread collaboration throughout the library and the university for large-scale implementation purposes. For instance, the website was given more attention after the interviews were completed. A distance learning page for students and faculty existed, but this page was further enhanced by further development and the creation of designated LibGuides created for distance learning faculty and students. As the website is managed by many departments in the library, the Distance Librarian encountered certain impediments in instituting immediate changes regarding layout and usability. In addition to joining website related library committees, the librarian also chose to focus on enhancing and marketing virtual reference services with special attention given to quality assurance of the service.

While a small collection of videos and tutorials were produced with the intention of assisting distance learners in navigating the website, the Distance Librarian identified the need for a staff member devoted to media production projects. This staff member is expected to provide the necessary support needed to create a diverse collection of tutorials and videos that will be embedded within courses and available through the library’s social media. Establishing the necessary staff support is an important step in creating a robust distance learning unit and the data procured throughout the interviews provided reinforcement for creating this media focused position.

Several of the projects initiated from the assessment are in different stages of completion. This paper reflects the implementation strategies actualized within a year of the qualitative interviews. Moving forward, it is critical for the Distance Librarian to strengthen partnerships and continue to advocate for the distance education community. As Florida State University Libraries utilizes a liaison librarian model for outreach to different departments, relationships between key constituents within the library have been necessary during the planning stages. This is principally applicable to the embedding theme identified throughout the interviews. While the Distance Librarian has experimented with embedding in a small number of courses at extended campus study centers, it would be impossible for one librarian to attempt embedding within each online section based on the size of the distance learning population at Florida State University. Instead, the librarian works with interested liaison libraries to discuss strategies and future opportunities.

**Conclusion**

Recent library literature highlighted the continued importance of one-on-one contact even with students who choose an online path in higher education. Librarians are located in an ideal position to fulfill these needs by integrating themselves in pedagogy and research. In an online environment, it is increasingly easy for students to experience college in an impersonal manner. These qualitative interviews conducted at Florida State University were planned with this challenge in mind. This type of interview has multifaceted benefits for any academic library in
regard to assessing current services and planning for the future. With customer service as a
focus, academic librarians have always provided a unique environment for students and faculty
in higher education. In order for librarians to maintain an essential role of support, it is vital that
one-on-one attention and assessment continue to be offered, especially to distance learning
students.

While these interviews were influential in the initial phase of strategic planning for the
distance learning unit at Florida State University Libraries, this is only the first project conducted
in a long-term assessment program. Strategic plans require continual development as academic
libraries attempt to keep up with, and advance ahead of, the wide-ranging needs of students and
faculty. Aligning unit evaluation projects with Balanced Scorecard or similar strategy
performance measurements is crucial to ensuring department and library-wide support for
program initiatives. Strategic assessment projects can be an effective and pragmatic tool for
library planning, notably in terms of new and innovative organizational units.
References


Building a Path to College Success: Advocacy, Discovery and OER Adoption in Emerging Educational Models

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Abstract
In this case study we will examine the role of the library in Open Educational Resources through the lens of library value described in Megan Oakleaf’s 2010 ACRL report. While librarians in our organization have traditionally not played a role in textbook adoptions, the campus academic goal to increase online, blended and competency-based models is a strategic direction that intersects with the library’s strategic vision to increase its contribution to online learning. Further, we will describe the process of building a partnership around OER with the campus Center for Excellence in Teaching and Learning and articulate the impact of our combined services on faculty adoption of OER and student success.

Background
The University of Wisconsin-Milwaukee (UWM) is an urban research university with a commitment to access and a history of innovation in distance education. The University serves both traditional and nontraditional students primarily from the surrounding metropolitan area and the state of Wisconsin. Blended, Online and Competency-Based Degree Programs extend the campus reach as well as the University’s access mission. The library is housed in a single location on the main campus and serves on-campus as well as distance students. The library does not include textbooks in its collection development policy, but makes some textbooks available via Course Reserve. Course Reserve for print materials are not universally available to distance students. The library does not maintain a copy of the textbook for each course as is often the student perception. Some students seek copies of books and other required readings from our campus library as well as the state consortium.

The University strives to make higher education accessible to working adults by offering online, blended and competency based education as more flexible alternatives to face to face classes. Educational technology and pedagogy used to support online classes is also used to enhance face-to-face classes and facilitates blended learning on campus. The University’s strategic plan points to novel and emerging teaching methods as key to student engagement for both traditional and nontraditional students (University of Wisconsin Milwaukee, 2014).

At UWM and other institutions, new paths to a college degree are emerging making higher education accessible to a wider demographic of students. In both traditional and emerging models retention, degree completion, and overall readiness for the job market are key concerns.
Online, blended and competency based education are all built on a model in which course content is front-loaded to students and assigned strategically to build understanding of required concepts, to provide a basis for online and classroom discussions and to facilitate active learning.

Meanwhile, the Florida State Textbook Survey and others have shown that the high cost of traditional textbooks is prohibitive for many students. College students increasingly forego textbook purchases and this lack of access to the text has been linked to course withdrawal and poor performance (Florida Virtual Campus, 2012). Lack of access to foundational course readings puts students in blended, online and competency based programs at a particular disadvantage because of the emphasis on self-paced learning through the textbook. This case study examines the library’s role in addressing textbook access through the lens of library value. Further it examines the process of building strategic campus partnerships to promote OER adoption as a first step to articulating the impact of Open Educational Resources on student success in emerging academic models. Typical measurements used to evaluate OER impact such as course grade, course completion and course enrollment are measurable outcomes that also serve as library value markers.

**Library Value**

While the need for solutions to textbook costs has been established and advocacy around Open Education has grown in recent years, the 2014 report *Opening the Curriculum: OER in Higher Education* identifies several perceived barriers to broader faculty adoption of OER. These include lack of overall awareness of OER, lack of an organized discovery tool or repository for OER, lack of time to find and evaluate OER and lack of confidence in interpreting the Creative Commons license assigned to the content (Allen & Seaman, 2014) These perceived barriers point to opportunities for librarians to contribute their expertise to OER adoption. Librarians are uniquely positioned to share their expertise in organizing and selecting materials within an academic discipline and often have established relationships with faculty around collection development. Librarians can also add their knowledge of open publishing, copyright and fair use, to the conversation around open textbooks. Many librarians also have an established assessment relationship with faculty around information literacy instruction that can be leveraged to identify student learning outcomes connected to OER.

These examples of library support for OER adoption align with Megan Oakleaf’s assertion that in academic libraries especially it is necessary to align library value with institutional mission (Oakleaf, 2010). In our case study we will also discuss librarian contributions to a campus open textbook project as an opportunity to build library value in faculty teaching. Adoption of OER to ensure student access to course materials can be seen as a starting point on the path to student success.

Combining the strengths of key campus units to build OER into the campus culture is a main focus of our project and another avenue for building library value. Our current project goal is to raise awareness of OER and facilitate open textbook adoptions. The Library and the Center for Excellence in Teaching and Learning (CETL) are leading the initiative together. This collaborative approach was developed from a past OER project led by CETL for which the library assisted faculty in locating OER. Additional campus partners in this initiative will include
the Accessibility Resource Center, the newly installed eCampus bookstore, and the Student Association. The project is funded by a campus Educational Technology Fund grant and supports UWM’s participation in the Open Textbook Network founded by the University of Minnesota. Open Textbook Network activities at UWM are scheduled to take place on December 4, 2015.

The project goals identified in our grant are tied to open textbook adoption in at least one large format enrollment course and at least two additional mid-size courses. We have identified three main areas for investigation in our current project to better understand the needs of students on our campus as well as the needs of faculty who wish to adopt an OER model in their course. These include direct dialogue with students; outreach to faculty, academic staff and librarians; and studying freshmen performance indicators.

**Student Centered Initiative**

The library’s understanding of student needs is based on high demand for textbooks at the Research Help and Course Reserve service points. Students request assistance locating textbooks in local libraries as an alternative to purchasing them. These requests mirror the data collected in the Florida College Textbook Study, which found that 43 percent of students forego purchasing the textbook (Florida Virtual Campus, 2012). Our anecdotal knowledge of student behaviors combined with national textbook trends led us to pursue student participation in our open textbook initiative.

Our initial outreach to students began with whiteboard prompts. The library has been using white board prompts to gather student input on a variety of issues since 2008. Prompts are designed to engage students as the primary users of the Learning Commons. Over the course of Open Education Week 2015 we asked students to share the cost of their textbooks for a semester, the cost of their textbooks for a single course, and their most expensive textbook. Student responses were predictable – they easily identified the high cost of textbooks, especially the courses that are most expensive. Students also shared the alternatives they use to avoid purchasing books. The whiteboard exercise not only collects data which already exists in national studies on a local level, but it gives students the opportunity to be part of our local campus conversation on the cost of textbooks, illustrates student perceptions of how textbooks are actually used in their courses and allows us to respond with a conversation on openly licensed alternatives.

This was especially apparent when we brought sample copies of bound OpenStax textbooks to our fall welcome table. Students stopped between classes to visit the table, looked at the books and talked candidly about the cost of their books. A popular meme had recently circulated on Facebook stating that Bill Gates had given money to make textbooks free, legally. While the meme oversimplifies the Gates, Hewlett and other foundation support for OpenStax and open textbook initiatives generally, it certainly struck a chord with the student audience who were drawn to the familiar bold color and font design of the OpenStax books pictured in the meme. Many students reviewed the books and asked questions about the open textbook model. They asked how the model works as well as how we planned to bring open textbooks to UWM. During Open Access Week 2015 we repeated the Open Textbook sample table inside the Learning Commons in conjunction with a general textbook cost whiteboard prompt. Once again,
the level of student interest in this topic was impressive. To capture this momentum we invited these enthusiastic students, along with representatives from student government and departmental student associations to participate in a student advocacy meeting facilitated by the Open Textbook Network.

**Supporting Faculty**

Our collaborative outreach to faculty, academic staff and librarians also began in spring 2015 with a set of workshops designed to build awareness of OER. We hosted a workshop led by David Ernst of the Open Textbook Network. This workshop mostly reached our academic staff and library audiences with a low level of participation from faculty. In addition to building awareness of OER among attendees and reinforcing the value of the Library/CETL collaboration, another outcome of this meeting was a deeper understanding of the Open Textbook Network. We learned that by working with the Open Textbook Network, our campus could participate in the established open textbook review process David Ernst had established at the University of Minnesota and disseminated to other participating campuses. By connecting faculty with an open textbook and engaging them in the process of writing a review, Ernst has had success with subsequent course adoptions. We chose to work with the OTN so that we could follow their model of targeting faculty interest and building a base of open textbook adopters on our campus.

Our early outreach to faculty also included a Library/CETL presentation to the campus Online Program Council. In this presentation we outlined the goals of our grant proposal and sought to build awareness and interest among our online faculty. Our faculty who teach in online courses have varied experiences with OER. A handful of them have participated in past OER projects and some developed courses for the Flex Option—the University of Wisconsin System’s competency based degree program, which emphasized OER in the degree program design. The success of past OER efforts was mixed. Similar to the array of faculty concerns about OER identified in *Opening the Curriculum* (Allen & Seaman, 2014), our Flex faculty found it difficult to identify all the content they wished to curate for their students in open textbooks and open educational resources. Several found it necessary to assign textbooks to ensure that students would have access to specialized content. By revisiting this specialty audience of faculty and academic staff involved with online learning, we hoped to revisit their early efforts but add the specialized discovery and course design support available from librarians and instructional designers.

Beyond building a general awareness of our partnership to support OER, we are also engaged in a one-to-one recruitment effort. As librarians and instruction designers, we seek out opportunities to participate in curriculum, assessment and retention meetings. In these contexts, where faculty are already thinking reflectively about their courses, we have been successful at recommending open textbook options. At this time we are in the early stages of recruiting faculty to participate in the Open Textbook Network review workshop. Of those who have already registered, more than half were recruited as part of an Information literacy consultation. It follows that faculty visiting the library for an Information literacy consultation are receptive to the idea of a new textbook because they are already in a course design mode. At this point, our goal is to connect faculty with the Open Textbook Network review workshop. However, our
partnership with the Center for Excellence in Teaching and Learning will allow us to recommend instructional design support for those faculty who have questions about how to remix open content, organize OER in the learning management system and design course activities that maximize the potential of OER by engaging students in remix or other active learning modes facilitated by openly licensed content.

As our recruitment develops, we are focused on identifying faculty who are interested in OER for their courses overall, regardless of the course delivery mode. Since our face-to-face, online, and competency-based programs are designed and taught by our local faculty, it is more important to identify courses for which an open textbook adoption is available first and then build adoptions that apply to multiple delivery modes. For example, our Health Sciences faculty have adopted a textbook that will be used in the face-to-face and online sections of the course and plan to adopt it for the competency-based course in conjunction with the next course refresh.

Student Success

A final strategy we are using to identify courses where textbooks could positively impact student cost, course performance and course completion is reviewing freshmen data. Our registrar's office provided a report on first year student performance. The data set includes the total number of freshmen enrolled in each course, the number of freshmen who performed below the C-grade level and the number who withdrew in the fall of 2014. The number of students earning a C- or below and increased withdrawals often correlate with large enrollment courses. Where we can see the convergence of high enrollment and low performance, we are investigating the cost of textbooks, and the availability of relevant open textbooks in order to extend an invitation to those faculty to participate in the Open Textbook Network workshop. By using this freshman performance report as our recruiting tool, we hope to remove a controllable barrier to early college success by replacing traditional textbooks with open textbooks. Ultimately we will compare freshmen performance data from 2014 with freshman performance data from 2016 in those courses that adopt an open textbook.

Our focus on student performance is inspired by David Wiley's argument on the real costs of traditional textbooks. He identifies several problems that arise when students do not have access to the textbook for a course. He shows that students who do not have textbooks are more likely to earn a C- or lower in the course and are more likely to withdraw from the course. Poor performance and withdrawals ultimately increase the time to degree completion for the student (Wiley, 2015). This is a confounding factor for both the access institutions and the students attending them because the risk of not completing a degree at such an institution is already very high with an average completion rate of 33% over six years (Florida Virtual Campus, 2012). We anticipate that we will be able to measure cost savings per student enrolled as well as the percentage of students who perform above the C-level.

As part of the Open Textbook Network, we will also be expected to share information on the number textbooks that are adopted and contribute to the national discussion on open textbooks. Our local investigation of these areas provides not only talking points for recruiting faculty to review and potentially adopt open textbooks, but also focuses our assessment on student performance. This positive impact on student learning will be an opportunity to build
library value through support for OER. The library’s contribution to faculty curriculum development supports the institutional goal to leverage emerging educational models for student success. This contribution is strengthened by our partnership with CETL who support faculty in curriculum design with OER.

Next Steps

The cornerstone of our grant project is participation in the Open Textbook Network to facilitate faculty review of open textbooks and encourage adoption in current courses. Our campus workshop day is scheduled to take place in December 2015 and will include a session on advocacy for OER among library and CETL staff, a discussion of OER in campus strategic directions for associate deans, and a student advocacy session. Our workshop will be coming late in the textbook adoption cycle to impact spring 2016 courses so we anticipate that our first semester of adoption will take place in fall 2016.

Over the past year of preparing the project and recruiting faculty, we have learned that while our campus has some OER adopters already, raising awareness and developing understanding of OER is essential. Much like Allen and Seaman’s *Opening the Curriculum* survey indicates, faculty are at the beginning stages of understanding how OER can be used to save costs and build student engagement (2014). Once we have established a core of OER adopters among our faculty, we are eager to build learning engagement with OER into the faculty toolkit for course design.

To support faculty in their curriculum design, CETL will develop a series of workshops for faculty that include organizing content in the learning management system, but also model ways faculty can design assignments that allow students to curate and remix open content. Ultimately, we will move from a mode of building awareness and facilitating adoption to full participation in the potential for OER to connect students with the course content they need and engaging them in critical thinking.
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Closing the Distance: Bringing a Personal Librarian Program to Online Learners

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Abstract
In an effort to bridge the gap between the one-on-one attention that students receive when they come into the library and the attention given to online learners, the University of West Florida Libraries added an online learner component to its Personal Librarian Program. Personal librarian programs provide an opportunity for individualized outreach to students and can be particularly beneficial to online learners who may not receive it otherwise. While much of the literature on outreach to online students focuses on embedded librarianship, a personal librarian program emphasizes a direct connection and fosters an independent and strong relationship between the librarian and the student. The implementation of a personal librarian program for online learners by the University of West Florida has had successes and challenges that illuminate lessons for other institutions considering implementations of similar programs.

Online/distance education within higher education has expanded rapidly over the past few decades. Approximately 4.6 million (or 25%) of American college and university students were enrolled in at least one fully online course in 2008 (Picciano, Seaman, & Allen, 2010). These numbers indicate an evolving educational landscape that presents unique opportunities and challenges. A growing number of researchers have attempted to judge the effectiveness of various methods of building community, increasing engagement, and decreasing the isolation that is often reported by online learners. There is clear evidence that the rate of attrition for online learners is higher than for traditional face-to-face learners, and that institutional support for those learners can contribute to their persistence (Lee & Choi, 2011). A growing body of knowledge examines how instructors can facilitate increased student satisfaction through the creation of a learning community (Yuan & Kim, 2014) but much of that research focuses solely on the online class environment. Academic libraries are an integral part of an academic support environment and often provide support that sustains learners throughout their academic career, beyond one particular course. Librarians must explore new methods in order to connect with online learners and increase student retention. A personal librarian program, which emphasizes personal connection and outreach to learners, is an ideal fit for establishing relationships between online learners and the library. The University of West Florida Libraries have successfully implemented a personal librarian program targeted to online learners; this implementation has generated a variety of lessons regarding best practices, potential challenges and future directions for improving the efficacy of the program.
Literature Review

This literature review focuses on providing a background and contextual center for the personal librarian service developed at the University of West Florida for online learners. There is a wealth of literature on the benefits and challenges of implementing a traditional personal librarian program, but very little information on or examples of personal librarian services directed specifically at online learners outside of specific courses. The articles analyzed in this paper were utilized by the UWF Libraries in developing the personal librarian program, which includes outreach to both traditional/face-to-face first year undergraduate students and online learners of all types. This literature review also examines embedded librarianship, the most typical form of outreach to online learners in which library resources and librarian assistance are embedded directly into the online course environment.

Personal Librarian Program Literature

The duties that librarians undertake in a personal librarian program are often very similar (if not identical) to those that academic librarians have long engaged in as department liaisons and subject specialists. Much of the literature clearly shows that “while the concept and implementation of personal librarian programs are relatively new, the program and idea itself represent an exciting historical evolution in relation to library services in higher education” (Moniz & Moats, 2014, p. 2). While the development is fairly recent, personal librarian programs are rapidly being adopted by academic libraries, and as a result, there is a proliferation of literature about both how to design and implement the programs, as well as evaluations and critiques of the concept.

Richard Moniz and Jean Moats edited The Personal librarian: Enhancing the Student Experience (2014), a collection of chapters that explores everything from the origin of the concept and how it relates to the wider fabric of academic librarianship, practical advice on designing and implementing a program, and best practices and future considerations for personal librarian programs. By centering personal librarian programs within the information literacy missions of academic librarians and the institutional drives for student retention within higher education, the book provides an important context for understanding the value of personal librarians to all learners, but especially to online learners. One chapter in the book, written by Valerie Freeman (2014), specifically discusses the intersection of personal librarian programs and embedded librarianship and will be addressed in the next section.

The personal librarian program instituted at Yale University’s Medical Library in 1996 is widely considered the hallmark and genesis of the concept and is often cited by other librarians as the inspiration for later programs. Spak and Glover (2007) studied student and participant librarian perceptions of the Yale program, finding that “95% of respondents said that they knew who their librarian was. This confirmed that efforts to market this program, while relatively modest, yielded very positive results; the overwhelming majority of students who responded knew whom to contact if they needed assistance” (p. 19). The article also discusses how the program originated in response to “declining contact with medical students, their loss of face time, and perhaps, relevancy” (p. 16). This emphasis on using technological tools (email, in the
case of this program) to increase connection with student meshes well with the needs of online learners.

Henry, Vardeman and Syma (2012) explore the inclusion of a personal librarian as part of a variety of new reference initiatives, including videos, QR code signs and roving reference. Their research demonstrates the effectiveness of using personal librarian programs to market existing library services to learners. The authors also emphasize the importance of making “librarians more personable, authentic and ‘real’ to students” (p. 399) by producing videos segments where the librarians talk about their hobbies outside of the library. In addition to usage statistics for the videos, they also discuss the interactions that librarians consequently had with students “striking up a conversation in regard to the videos” (p. 400). This emphasis on lighthearted, personal interaction was incorporated into UWF’s personal librarian program.

The final article that greatly informed UWF’s approach to implementing a personal librarian program was Nann’s 2010 article, which explored the question “why is the number of [reference] questions declining if a need still exists?” (p. 21). He posits that “a personal librarian program directly addresses factors that we identified as affecting the number of questions, namely students lack of experience in libraries and being afraid to ask for help” (p. 22). These factors are particularly important for online learners, who may lack current knowledge of the resources available from the library, struggle with the technological challenges of distance learning, and who may be older or professional students returning for graduate work who feel that they should “know all the answers”. By engaging students on a personal level, librarians can make that connection first, without an information need being present, so that when there is an information need, the student will feel more comfortable approaching. Nann also highlights one of the key reasons for implementing a personal librarian program: it is an effective form of outreach that doesn’t result in an overwhelming increase in contact: “university librarians report that they see between 10-15 percent of their students…one librarian has more than 700 students assigned to her, yet she doesn’t feel that it is overwhelming” (p. 22). This workload expectation was particularly important at UWF, with a limited number of librarians available to participate in the program. This feature of a personal librarian program contrasts with embedded librarianship, which is often seen as a more time-intensive investment for librarians.

What about Embedded Librarianship?

Embedded librarianship is often depicted in the literature as the main form of outreach to online students. It is so prevalent that, despite marked differences from the typical implementation of a personal librarian program (which is usually based on student characteristics – first year status, medical student, living in a certain dorm, etc), it is discussed in Moniz & Moats (2014) The Personal Librarian. The chapter, “Embedded Librarianship and the Personal Librarian”, written by Valerie Freeman (2014), defines embedded librarianship as librarians “enter[ing] the ‘user environment’ in order to best provide services to their clients at the point of need and maintain a user-centric approach to library resources and services” (p. 42). In the case of online learners, embedded librarianship frequently means the inclusion of the librarian in the online learning management system. This inclusion can range from the insertion of research guides and librarian contact information to direct librarian participation in class discussions and assignments. Freeman encourages librarians to “go beyond simply having a library tab or link in
the online course management system” (p. 49) and states that beyond following best practices for embedded librarianship, personal librarians must also provide “individual, personalized communication and follow up” (p. 49). Freeman (2014) is up front that “funding and staffing are just two of the many hurdles” (p. 50) to implementing this type of program. While there are certainly strong similarities among the motivations for launching a personal librarian program and pursuing embedded librarianship, and while the two types of programs can certainly be combined, a personal librarian program for online learners specifically addresses some inherent limitations of the embedded librarian model.

**Limitations of the Embedded Librarianship Model**

If the literature assumes that embedded librarianship is the touchstone of outreach to online learners, what are the advantages of discarding that model in favor of a personal librarian style program for online learners? For universities that already have a robust and flourishing embedded librarian model, it may make more sense to dovetail personal librarian services to online learners within their current model in the method described by Freeman (2014). However, in circumstances similar to the University of West Florida where librarians are only embedded in a handful of online classes, challenges and limitations to embedding librarians on a broad scale are difficult to overcome.

The necessity of establishing relationships with faculty, coordination with campus IT services, and training on the course management system and other technical skills are just a few examples of the potential challenges a librarian may encounter. Likewise, lack of direct connection with students, no visualization of the librarian as a person, and failure to establish the library as a course-independent entity from which to seek help may also be obstacles. Some of these problems, particularly that of students not being able to visualize the librarian as a person, can be easily addressed by embracing a model of embedded librarianship that includes an introductory video or message by the librarian into the course, or requires one-on-one or synchronous interaction with the librarian. However, depending on the method, this level of personalization might significantly increase the workload of the librarian.

Three of the issues—necessity of faculty relationship, lack of direct connection with students, and failure to establish library as a course independent entity from which to seek help—are compounded by librarians participating in the course through the online course management system. While including library resources at the point of need is an excellent and amazing service, it presents many obstacles. The faculty member must first be aware of and utilize the service, which requires the librarian to initiate a connection with the faculty member in order to reach the students. As a result, the librarian-student contact is—at least at first—necessarily mediated by the instructor. While embedded librarians may end up having significant direct contact with students, that contact is entirely dependent upon their inclusion in the course and the level of participation the instructor permits. Additionally, students may encounter library resources within a particular course but not be able to navigate to them outside of the links in the course management system, which can pose problems for them once they are out of the course and no longer have access to the links curated by the embedded librarian. While these resources are still available to students outside of the course, the students may be unable to replicate their access or transfer their skills. Finally, embedded librarianship often necessitates a close
collaboration with the campus entity responsible for maintenance of the course management system. Use of the CMS may also entail significant technical training for librarians.

These limitations are not present in an online personal librarian program. Learners are contacted directly by the librarians via email; there is little to no additional training required for librarians, and students receive library assistance and resources completely independently of a particular course or faculty member. Rather than depending upon relationships with faculty, librarians in a personal librarian model build their relationships directly with the students. The program requires very little start up effort on the part of individual librarians.

**Bringing a Personal Touch to Online Learners**

Online education is a growth area. At the University of West Florida, 20% of all learners are in entirely online programs. There has been a 65% increase in the number of students in completely online programs at the University over the past 3 years. In response to this dramatic increase, the University of West Florida Libraries began to evaluate ways of reaching out to this population and building relationships with students who might never visit campus. A regional comprehensive university, UWF prides itself on providing an experience to its students that is rich in personal connection. Following the lead of Drexel University and others who had successfully implemented personal librarian programs for incoming first year students and other learning communities, the UWF Libraries began investigating implementation of a program in spring of 2013. During this same time period, there had been a series of meetings between the Libraries and the Academic Technology Center, the university department responsible for support of the faculty in design, development, implementation, and continuous improvement of quality online courses. These meetings focused on ways that the Libraries could more effectively support online learners and faculty. These two separate discussions combined synergistically into the idea of offering a personal librarian program that not only addressed incoming first year students, but online learners as well.

The program was formally launched in the fall of 2013. All online learners were assigned to a librarian. For the purposes of the program, an online learner was defined as an individual who was enrolled in an entirely online program. Some librarians were assigned to the “traditional” PL program, contacting incoming first years. The traditional program students were divided in alphabetical order by last name and assigned to librarians. By contrast, the online learners, who were already affiliated with a major or program, could be assigned to the relevant subject specialist. Since many of the online learners were in masters or doctoral programs and might have questions or requests for assistance that required a greater degree of subject knowledge, their ability to be connected to a subject specialist proved particularly advantageous. In the first year of the program, four librarians were assigned students from 20 different online programs—over 2400 online learners. The first year of the program, emails were sent to online learners twice per semester, an introductory email during week 2 of the semester providing information on the program and contact information for their personal librarian and during week 6, when early warning notices were sent by academic advisors. Significantly more emails (six per semester) were sent to the first year personal librarian program participants. Transactions with personal librarian students were recorded separately from regular reference interactions.
Guidelines for what the personal librarians would and would not do were developed based on a review of program guidelines at a variety of institutions, including: Yale University, Eckerd College, Drexel University, Barnard College, Sewanee College, Wake Forest University, Case Western Reserve University, Elon University and Midwestern Baptist Theological Seminary & College. The guidelines given to students were as follows:

“Your Personal Librarian will:

- Help you find your way around the library
- Assist with finding information for your research assignments by helping you identify relevant resources and databases, demonstrating how to use them, and helping you understand citations
- Help you locate materials held in other libraries
- Help you when you have trouble accessing the Library’s website or an electronic resource
- Answer questions about library policies, procedures, and services
- Keep you informed of new resources, services, and programs
- Put you in contact with other UWF academic support units that can help you with information technology questions, writing assistance, or tutoring services

Your Personal Librarian will NOT (but will help point you in the right direction):

- Do your research, write your paper, or edit your paper
- Replace advisement roles of any other department on campus
- Proctor your exam
- Make photocopies”.

These guidelines were communicated to students in the initial email and were also incorporated into the LibGuide explaining the program (See Appendix B).

In crafting the emails to students, librarians were provided with template text by the Instruction Coordinator. Librarians were encouraged to personalize sections of the template, but the overall uniformity ensured that all students were exposed to similar resources and updates. Because the online students were contacted less frequently than the first year students, additional customization was necessary. In the fall of 2015, responsibility for the drafting of text for online students was transferred to the Online Outreach librarian. At that time, in consultation with the online personal librarians, the number of emails per semester was increased from two to three,
with the intention of highlighting more discipline-specific resources since a new student system at UWF allowed librarians to easily divide and contact students by program and discipline. For examples of email templates, see Appendix A.

In 2013-2014, the first year of the program, over 2,400 online students were contacted directly by their personal librarians. That number rose to 2,696 online students in 2014-2015 and approximately 2,780 students 2015-2016. In 2013-2014, there were 200 interactions between librarians and their assigned personal librarian students (from both the first-year and online segments of the program). In 2014-2015, this number decreased significantly likely due to technical difficulties that delayed the librarians receiving email lists for their assigned students. It is expected that the number of interactions in the personal librarian program will increase again in 2015-2016.

**Addressing Challenges**

The program faced a variety of challenges. Chief among these were technological challenges in determining which students were part of the program. Determining which students were in which program and getting contact information for those students involved a number of other campus organizations, including the Registrar and Information Technology Services. Justifications had to be made for the necessity of obtaining students personal information, and later for gaining access to various campus software systems. In the second year of the program, delays caused by campus-wide software upgrades made it impossible to get a list of students and email them until well into the fall semester. There was a significant decline in replies the second year, likely at least partially due to the delayed start to the year.

During the 2015-2016 academic year, the program moved from email to GradesFirst, a software solution that allows for advising and tutoring management. Despite a learning curve for the librarians in using the new software, this change came with several advantages: students who were late to register could be added easily to later messages, students could be tracked through the system, and librarians were able to view students GPAs, class schedules and other advising and tutoring notes. This ability provided more in-depth knowledge to the librarian about challenges or concerns facing the student. Additionally, because the personal librarians were assigned within the GradesFirst system, students, advisors, and faculty members alike were able to view which librarian a student was assigned to. Most importantly however, students could easily be contacted according to program, which allowed the online librarians to include more discipline-specific information in their messages.

Because the online program was implemented at the same time as the traditional personal librarian program, statistics for both programs were kept together under the same umbrella, making it difficult to differentiate the interactions that were with purely online students. The same problem applied to the surveys assessing user satisfaction; because both online and face to face learners were given the same survey, it was not possible to differentiate the responses of online learners.

One challenge that was not fully anticipated was the question of content for the personal librarian emails. While the content for the first year student emails could be updated and reused each year, since it was going to a new group of students, the emails for online students had to be
crafted to address not only new students but returning students as well. In addition, since students were separated by discipline, there was the option for further customization and inclusion of discipline specific resources.

Lessons for Implementation

Between the successes and the challenges that the University of West Florida has encountered in implementing the personal librarian program for online learners, there are several lessons for other institutions looking to implement a similar program. Chief among these is to build strong collaborative ties with other departments and to involve key stakeholders throughout campus in the design and implementation of the program, ensuring smooth inter-departmental cooperation. It is important to be sure that all of the librarians participating in the program have a clear view of what the program is intended to accomplish, and that they are comfortable with the level of personalization and inclusion of humanizing details that is necessary to make messages from the personal librarian stand out from the crowd of other emails in students inboxes. There should be a plan from the outset as to how the program will be tracked and assessed so that statistics are easy to find. If the program is part of a larger personal librarian program that includes other communities of students beyond online learners, there needs to be a discussion of whether statistics will be kept for each part of the program separately. How will librarians know that a student who is contacting them is one of their personal librarian students? This knowledge be particularly important when a librarian has 1,500 or more students assigned to them!

It is important to identify the correct volume of communication with online learners and to carefully plan the tone and content of the messages that will be sent. A more informal tone has been more successful in garnering responses, particularly from undergraduate students. These can be tailored to the students and culture of each particular institution, and indeed, each particular program, if the librarians wish to do so. For instance, a chatty message filled with information on the discovery service that is sent to undergraduates in an online English program may be sent out at the same time as a more formal, discipline specific email is sent out to students in an online MBA program.

Future Program Plans

With two years completed, significant changes have been made in the third year of the project and will continue to be made in the future. One of the biggest plans for the future is to explore ways of collecting statistics that will allow for easy differentiation of personal librarian statistics from online students and those in the traditional personal librarian program. This is part of an overall effort to consolidate statistics related to online outreach and instruction.

In addition to changing the ways statistics are collected, there is customization planned for the survey sent to online learners so that their feedback can be collected and evaluated separately from the traditional personal librarian program. By focusing more intently on feedback specifically from online learners, librarians will be able to tailor the program more closely to the needs of online students, ensuring that the volume and frequency of messages is appropriate to their needs and better gauging how useful different types of content are to those learners.
As a part of an effort to further the personal connection that the program hopes to bring to online learners, there are various methods of adding an audio and visual presence to the messages sent to online learners; the inclusion of pictures of the librarians, the development of baseball card style photo infographics about each of the librarians, and introductory videos are all avenues that are being explored. In developing these types of introductory messages, close attention is being paid to best practices in online education. Other avenues for outreach are being explored, including a direct print mailing to online students’ homes, which may elicit more of a personal connection than contact that occurs only through email. The goal, as always, will be to continue to build a bridge between the library and the individual online learner that leaves them feeling less isolated and alone in the sea of online learning.
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Appendix A
Examples of emails sent by Personal Librarians

Sample Email #1 for Fall 2015

Hello,

Greetings from the University of West Florida Libraries! You have been identified as an online learner at UWF and there are some helpful library resources that I hope will make your research assignments easier. First, let me introduce myself. My name is Amanda Ziegler and I am the Professional Studies and Online Outreach Librarian at the University of West Florida. I have a background as a Children’s and Teen Librarian, and particularly focused on early literacy, encouraging reading for enjoyment and outreach to English language learners at the schools in my community while working in public libraries. Now as an academic librarian, I enjoy connecting with students of all ages. I am here to answer any questions you may have, help you locate library resources and take advantage of library services- some especially for online and distance learners. I look forward to getting to know you and helping you locate the resources you need!

If you need research assistance, don't hesitate to email (aziegler@uwf.edu), call me (850-474-2439), or contact me to set up an appointment via Skype (screen name: azieglerUWF). I am happy to:

- Assist with finding information for your research assignments by helping you identify relevant resources and databases, demonstrating how to use them, and helping you understand citations.
- Help you locate materials held in other libraries
- Help you when you have trouble accessing the Library's website or an electronic resource
- Answer questions about library policies, procedures, and services
- Keep you informed of new resources, services, and programs
- Put you in contact with other UWF academic support units that can help you with information technology questions, writing assistance, or tutoring services

As online learners, there are library services specifically designed for you (check out this research guide: http://libguides.uwf.edu/online). Some of these services are:

- Online tutorials (http://library.uwf.edu/tutorials/) and research guides (http://libguides.uwf.edu/) to help along the way- everything from finding scholarly articles to properly citing your sources and avoiding plagiarism!
- Home delivery of UWF books if you live over 50 miles from a UWF campus.
- The ability to access online resources from off campus using our authentication link: (http://library.uwf.edu/about/technology/off-campus_access.cfm)
- Over 300 online databases to search for articles and other resources. OneSearch, the first tab on the library homepage, a discovery service that searches multiple databases and has many full text articles. There is even a handy tutorial on using it (http://video.lib.uwf.edu/Research_Tutorials/OneSearch/!

- Thousands of full text articles (or, if we don’t own the articles, we can obtain them from interlibrary loan)

- A listing of library research guides specifically related to education- chock full of information on databases and how to locate great resources- can be found at http://libguides.uwf.edu/sb.php?subject_id=44439

I will be in touch throughout the semester to let you know about new library services that might help you, and to highlight some resources that will be especially helpful to you as an online student.

Good luck with the start of classes, and please feel free to contact me with any questions!

Sincerely,
Amanda

Sample Email #2 for Fall 2015

Hello again!

You are almost halfway through the semester!

Hopefully, you have had a chance to get the semester off on the right foot. As you settle in to your projects and research this semester, please do not hesitate to reach out to me for assistance!

If you haven’t already checked out the resources that are available to you as an online student, just a reminder that we have a research guide especially for online students (http://libguides.uwf.edu/online).

I also want to highlight a couple of library resources that might be helpful to you:

- OneSearch is our library discovery tool- it searches many of our databases, as well as our books and e-books. (You can find out more about it here: http://libguides.uwf.edu/Introduction_One_Search)

- If you want to dig deeper, I would recommend checking out some of our Education specific databases, listed here http://libguides.uwf.edu/subjectdatabase/education Not all of our databases are included in OneSearch, so it is always a good idea to check out these other databases!
- Want to effortlessly create your works cited page? And have the bonus of keeping your research organized and easy to access? Check out the new citation manager, Flow. [http://libguides.uwf.edu/education/flow](http://libguides.uwf.edu/education/flow) There will be an online workshop on Wednesday, October 22nd at 4pm Central time. You can access the workshop by clicking this link [https://us.bbcollab.com/collab/ui/session/guest/45F7D62A7DAEF52C5FADA27FF28BFED5](https://us.bbcollab.com/collab/ui/session/guest/45F7D62A7DAEF52C5FADA27FF28BFED5) when the time comes! If you are not able to make the session but would like to receive a recording of it later, please email me: aziegler@uwf.edu

If you need research assistance, don't hesitate to email (aziegler@uwf.edu), call me (850-474-2439), or contact me to set up an appointment via Skype (screen name: azieglerUWF).

Sincerely,

Amanda

PS- In case the first email got lost in email-land, here is a little more about the Personal Librarian Program: [http://libguides.uwf.edu/online/personallibrarian](http://libguides.uwf.edu/online/personallibrarian)
Appendix B

Libguides for UWF Personal Librarian Program

The LibGuide that was created particularly for the Personal Librarian program can be found at http://libguides.uwf.edu/pl

The information specific to the personal librarian program for online learners is contained in a page on the LibGuide for online learners, and can be found at: http://libguides.uwf.edu/online/personallibrarian
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