16th annual

Brick & Click

An academic library conference

November 4

2016

Northwest Missouri State University

Maryville, Missouri

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November 4
2016

Northwest Missouri State University

Maryville, Missouri

TABLE OF CONTENTS

Making Effective, Usable Research Guides ……..……..…1

Joshua S. Welker, Information Technology Librarian
University of Central Missouri

The Beulah Williams Library Creation Lab:
Creating a Technology Sandbox in an Academic Library…….……..9

Lynn Klundt, Electronic Resources Librarian
Northern State University, Aberdeen, SD

Establishing an Electronic Theses Repository using Digital Commons …….……..…17

Yumi Ohira, Assistant Professor, Digital Initiatives Librarian
University of Nebraska, Omaha, NE
Deborah L. White, Digital Resources & Initiatives Manager
Pittsburg State University

Becoming the Center:
Creating and Implementing a Unified Service Point …….……...….31

Michael Berry, Curator of Published Materials
University of South Carolina

Developing a Research Proposal: Serendipity and Planning ……...…….……...40

Susan Sykes Berry, Instruction and Reference Librarian
University of Missouri-Kansas City
Marilyn Degeus, Library Director
Kansas City University of Medicine and Biosciences
Sarah Kartsonis, User Services Manager
University of Kansas Medical Center

Mentoring on Mars:
Peering at the Landscape through a Variety of Lenses ……...…..48

Susan M. Frey, Associate Librarian, Library Coordinator of Strategic Initiatives
Indiana State University
Valentine Muyumba, Associate Librarian, Chairperson of Technical Services
Indiana State University

Taking the ILS for a Walk on the Quad:
Cross-Campus Collaborations for Tech Services …….…...…..58

Kirsten Davis, Application Administrator
University of Central Oklahoma

Mary Ann Mercante, Assistant Dean & Head, Technical Services
Maryville University

How to Maintain Reserves through the Departmental Cooperation ……..……..…59

Hong Li, Technical Services Librarian
Kayla Reed, Circulation and Resource Sharing Specialist
Missouri Southern State University, Joplin, MO

Becoming the DH Team…Digital Humanities, Public History, and the Library…...….65

Amanda Langendoerfer, Head of Special Collections and Archives
Janet Romine, Head of Public Services
Truman State University

Celebrating International Students in the Library …….....66

Ayyoub Ajmi, Digital Communications and Learning Initiatives Librarian
University of Missouri School of Law – Kansas City
Fu Zhuo, Learning and Research Librarian
Gloria Tibbs, Organizational Developmental Coordinator
University of Missouri – Kansas City

Keeping in Step with the College's Mission ……....67

Joyce Meldrem, Library Director
Loras College

Catch Online Students by Design …….....68

Elise A. Blas, Instructional Design Librarian
Gwen Wilson, Health Sciences Librarian
Jean V. Marshall, Instructional Librarian
Washburn University

2015 Summer of Changes: Reducing Print Collection, Migrating to New ILS and Redesigning Space at Dibner Library of Science and Technology …….…75

Ana Torres, Assistant Library Director
Gavin Paul, Instructional Librarian
Tandon School of Engineering

Using Data to Drive Public Services Decisions ……..…….....…82

Cindy Thompson, Director of Public Services
Jen Salvo-Eaton, Head of Resource Sharing and Graduate Student Services
University of Missouri-Kansas City

A Practical Solution for Managing and Assessing Library Electronic Collections.....96
Xiaocan (Lucy) Wang, Associate Professor, Emerging Technologies Librarian

Robert Black, Associate Professor, Serials and Reference Librarian
Missouri Southern State University

Library Space and Usage Studies Can Inform, Influence & Impact Our Buildings and Services …….…….….111

Dr. Susan Breakenridge Fink, Director of Technical Services, Facilities and Business Administration
Rowan University

Pop-up Usability Testing – More Data, Less Time (and Money) ……...128

Kelley Martin, Outcomes and Assessment Librarian
University of Missouri – Kansas City

Renovating Foundations: ArchivesSpace and Collections Management ……..…129

Mary Ellen Ducey, University Archivist
Peterson Brink, Assistant Archivist
Stacy Rickel, Programmer/Analyst
University of Nebraska-Lincoln

The Big Reveal: LibGuides Analytics and Why They Matter ……..….130

Sarah E. Fancher, Research & Instruction Librarian
Jamie L. Emery, Research & Instruction Librarian
Saint Louis University

Snap, Click, Chat: Investigating the International Student Experience ……..….131

Melissa Burel, Assistant Professor, Catalog Librarian
Sarah Park, Assistant Professor, Technology & Engineering Librarian
Southern Illinois University Edwardsville

"But We've Always Done it This Way!": Managing Expectations of Blended Workforces …….……..…150

Nicholas Wyant, Head Social Sciences
Indiana University
Melissa Mallon, Director of Peabody Library/Director of Liaison & Instruction Services
Vanderbilt University

"I Got My Customer Service Badge!" Using Online Modules for Library Student Worker Training ……..……..151

Ashley Creek, Access & Learning Services Librarian
University of Saint Mary, Leavenworth, KS

Singing a Different Tune:
Moving the Traditional Cataloging Skill Set into non-MARC ……..….156
Amanda Harlan, Assistant Professor, Metadata Librarian
Kansas State University

Employing Students in Digitization:
Leveraging Digital Projects as Valuable Learning Experiences ……..……..…167
Christopher Jones, Special Collections Librarian and Archivist of the College
Grinnell College

Extreme Makeover:
Information Literacy Edition …….……175
Abigail Broadbent, Learning and Research Graduate Assistant
University of Missouri, Kansas City, Miller Nichols Library
Rebecca Hamlett, Interim Library Director, Instruction and Archival Librarian
William Jewell College, Liberty MO

Make it Beautiful, Make it Usable: DIY Design for Librarians ...…….……..176
Dani Wellemeyer, Information Literacy Librarian
Jess Williams, Information Literacy Librarian
University of Missouri-Kansas City

Winning the Steelcase Education Active Learning Center Grant:
Strategies for Successful Grant Writing ……..…….…….……...177
Danielle Dion, Director
Ashley Creek, Access and Learning Services Librarian
Lindsay Schettler, Special Collections and Content Management Librarian
University of Saint Mary

Confident Shifting for Complex Moves ...……..178
Joshua Lambert, Associate Professor, Head of Access Services
Missouri State University

Lost in the Stacks:
Helping Undergraduate Students Navigate the Library Labyrinth ..…….....187
Andi Back, Fine Arts & Humanities Librarian
University of Kansas

Picking Favorites: Setting Up a Study Room Reservation System …….193
Alissa V. Fial, Education & Research Services; Supervisor Circulation Services
University of Nebraska Medical Center - Omaha

Building Instructional Labs for Tomorrow: Do Trees and Tablets Work ……..…..….194

Stephen Ambra, Library Director
NHTI, Concords Community College

Implementing a Smartphone Scavenger Hunt at Mizzou Libraries ……..…197

Goodie Bhullar, Head Instructional Services Department
Rachel Brekhus, Humanities and Social Sciences Librarian
Rebecca Graves, Health Sciences Information Services Librarian
Navadeep Khanal, E-Learning Librarian
Noël Kopriva, Agriculture, Food & Natural Resources Librarian
Kimberly Moeller, Social Sciences Librarian
Paula Roper, Social Sciences Librarian
MU Libraries, University of Missouri-Columbia

Keeping the Baby AND the Bathwater:
Supplementing Traditional ILL with an On-Demand
Document Delivery Service ……....203

Rob Withers, Head of Access Services
Jennifer Bazeley, Coordinator of Collection Access and Acquisitions
Susan Hurst, Business Librarian
Kevin Messner, Head of Branch Libraries
Miami University

Innovating and Building New Things with Our Student Workers …….211

Ayyoub Ajmi, Digital Communications and Learning Initiatives Librarian
UMKC School of Law

Creating Without Crunching: Library Interactive Map …….212

Adedoyin Adenuga, Digital Services Librarian
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Making Effective, Usable Research Guides

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Abstract

Designing research guides has recently become an expectation of a large number of librarians. For many of these librarians, creating a guide is their first experience developing content on the Internet. LibGuides, the most popular research guide platform, has many options for changing the navigation and structure of a guide--pages, columns, boxes, tabs, sidebars, and more. These are some of first aspects of LibGuides that librarians encounter. As such, they tend to dominate much of librarians' thinking about research guides. Indeed, the majority of literature on research guides focuses on navigation and the naming and arrangement of various types of content within a guide. What is often forgotten is a thoughtful consideration of the way content is structured within various pages and boxes within a guide. Navigation is important, but it is only one part of the equation.

Jakob Nielsen measured that the average web user spends about three seconds on a web page before deciding if it is relevant. If an average web user can't tell the page is relevant within that window, she leaves (Nielsen "Is Navigation Useful?"). Guides must make their purpose and contents clear very quickly and allow for easy, rapid scanning through the page body. These principles impact every aspect of the page, from top to bottom: navigation, headings, paragraphs, lists, page layout, and page length.

Introduction

Developing research guides has recently become an expectation of a large number of librarians. For many of these librarians, creating a guide is their first experience developing content on the Internet. LibGuides, the most popular research guide platform, has many options for changing the navigation and structure of a guide--pages, columns, boxes, tabs, sidebars, and more. These are some of first aspects of LibGuides that librarians encounter. As such, they tend to dominate much of librarians' thinking about research guides. Indeed, the majority of literature on research guides focuses on navigation and the naming and arrangement of various types of content within a guide. What is often forgotten is a thoughtful consideration of the way content is structured within various pages and boxes within a guide. Navigation is important, but it is only one part of the equation. Jakob Nielsen measured that the average web user spends about three seconds on a web page before deciding if it is relevant. If average web user can't tell the page is relevant within that window, she leaves (Nielsen "Is Navigation Useful?"). A good research guide needs to drop

clues to the user to let her know that there is helpful information within the guide. These clues are known as *information scent*. Users will put up with many inconveniences--scrolling, drilling through links, skimming vast chunks of text--as long as information scent remains strong and they find more clues indicating that this is the information they want. But as soon as the information scent is lost, the user will give up and go elsewhere.

The upshot of all this is that guides should make their purpose and contents clear very quickly and allow for easy, rapid scanning through the page body. These principles impact every aspect of the page, from top to bottom: navigation, headings, paragraphs, lists, page layout, and page length.

Review of Literature

In recent years, librarians have conducted several studies on the usability and effectiveness of research guides, usually in the context of LibGuides. By and large, these studies focus on the way guides are organized conceptually and the language used in the guides. Most of the studies share similar findings. Beaton, et al., found that students had a hard time understanding the way guides were organized (3). Ouellelte found that guides were too cluttered and off point (442-449). Sinkinson, et al., found that students are more successful with guides organized by the student research process rather than by resource type (80).

Several studies found problems with the default navigation layout used in most guides: tabs. Corbin and Karasmanis (9), Hungerford, et al. (6), and Pittsley and Memmott (52-53) all found that tabbed navigation in research guides are seldom used. They found that some students do not even notice the tabs as a navigation tool.

Outside these issues, there is a gap in the literature regarding the usability of research guides. The intent of this paper is to present additional concrete, rather than conceptual, usability issues related to page structure and formatting within the context of subject guides.

Navigation

The first thing a user sees in a well-designed guide is navigation. A brief glance at the navigation categories gives the user an idea of the scope of the guide and the page she is currently viewing. This is the first place where the user can detect information scent.

Several common pitfalls can prevent the user from catching the information scent in guide navigation. The first is that the navigation menu is too large and cluttered. When there are too many navigation categories, the user cannot scan them quickly to get an idea of the guide's scope. The problem is compounded by the default tab-based navigation in LibGuides. When a guide has more than four or five pages, depending on the user's screen

size, the tabs begin to overflow into a second row. It looks overwhelming and becomes even more difficult to scan. Ouellelte found that students completely ignore navigation tabs when they overflow into multiple rows (444). When a guide is so big that it has dozens of pages, it should probably be broken up into smaller guides that students can scan and digest more rapidly.

Another recurring problem with navigation in LibGuides is that users do not notice the tabs at all. Part of the problem is overwhelming, cluttered-looking tabs being skipped by users. But equally common is that users do not notice the tabs are there or that they are a navigation interface. Tabs that are too small vertically tend to be ignored more frequently, with taller tabs being used more (Pittsley and Memmott 56-61). The color of navigation tabs should also be distinct from the page header and the page body (Chen 3). In order for users to recognize tabs as a navigation interface, they have to mimic the appearance of physical folder tabs in a file cabinet. This means that the open, active tab needs to look like it is part of the page beneath it--same color and no interrupting borders. The inactive tabs should appear separated and in the background using a different color and borders (Krug 81; Nielsen "Tabs").

Headings

The second thing a user sees in a well-designed guide is the page title. A good page has a hierarchical structure, and the page title is at the very top of that hierarchy. The page should be further divided and subdivided into organized chunks of content so that the user can quickly scan through a page and find the content she wants. At the top of each of these chunks should be a heading. The level of a heading in the hierarchy of the page should be immediately clear to the user.

There are an endless number of ways to format headings on a page: typeface, font size, text color, bold, italics, underlining, and centering, combined in limitless configurations. It is difficult to figure out which type of formatting to use for the various levels of headings.

Fortunately, HTML has a built-in tool called Headings that allows designers to skip the guesswork. They are the heading tags: h1, h2, h3, h4, h5, and h6. H1 is the top-level and largest heading, usually the page title. H2 is a subheading, one level below and slightly smaller than h1. H3 is one level below and smaller than h2, and so on. Using HTML headings allows websites to create headings that are consistent and usable across all pages (Little 56).

To use HTML headings in LibGuides, open the Rich Text Editor. Highlight the text that should be a heading. Click the Paragraph Format menu button at the top of the editor (it says "Normal" by default), and select Heading 1 - 6. Keep in mind that the page title is an h1

element by default, so the Heading 1 format should not be used. Also, box titles in LibGuides are h2 elements by default, so the first level of heading used within a box should actually be h3. Alternatively, the box title h2 can be hidden using site-wide CSS or by enabling the Floating Box option in the box edit menu.

Paragraphs and Lists

At the very bottom of the page content hierarchy are lowly paragraphs and lists. These should form the bulk of the actual information within a guide. The main rule to keep in mind to allow users to scan them briefly is to keep them short.

No one likes to read a wall of text, especially on an LCD screen (Krug 40). Paragraphs on the web should be as short as possible. The spacing between paragraphs indicates to the user where a new idea starts and facilitates rapid scanning behavior. Two or three sentences are perfectly reasonable lengths. Even one-sentence paragraphs have their place at times. Paragraphs more than five sentences should be broken apart (Nielsen and Loranger).

Lists naturally lend themselves to brevity. It is awkward and uncommon to see a six-sentence-long wall of text on a bullet point. The bullets or numbering on a list create very obvious cues where one idea stops and another starts, so they are great tools to promote scanning (Krug 40).

Text should always be left-aligned. Paragraphs of centered or right-aligned text are difficult to read and should be avoided.

A Note on Colors, Fonts, and Emphasis

When something is important on a web page, a designer's first instinct is often to make it bold or red (or both). This approach is problematic. Counter to intuition, when colors and fonts are used to emphasize content on the web, users are more likely to ignore it. This phenomenon is known as "banner blindness" (Nielsen "Fancy"). Large, flashy text is so common in ads that users assume legitimate page content is an annoying advertisement. Rather than leaning on simple crutches like bold and colored text to highlight content, a better approach is to locate it in a coherent, scannable layout identified by clear headings. Bold, italicized, and underlined text is okay if used sparingly. Whole sentences and paragraphs should not be emphasized.

Page Layout

LibGuides make multiple-column layouts a breeze. In fact, the default guide layout uses three columns. Guide makers are free to put any kind of content in any column. It is very common for information within a guide to be spread across two or three columns.

Multiple-column layouts are not inherently problematic. But each column needs to have a clearly defined purpose that makes sense to the user. Most importantly, the information on a page should all be in one column, and the other columns should be reserved for things like contact information and supplementary links.

When the information on a page is spread across multiple columns, it becomes very difficult to scan. By default, users read from top to bottom. If the information is in two columns, then the user has to add a new dimension and read from left to right. Imagine a grid of four boxes, A, B, C, and D (fig. 1).

A	B
C	D

Fig. 1. Two-column layout with four boxes on a desktop monitor.

The user has just read box A. Where should her attention go next: box B or box C? Perhaps the guide author intended an order of A→B→C→D, but the user reads A→C→B→D. Suddenly, the page is out of order, and the organization of the page is broken. The problem is further exacerbated in a three-column layout.

To make things worse, on mobile devices, columns cease to exist. Instead, entire columns display one at a time, from left to right. On a mobile device, the layout illustrated above would display like fig. 2:

A
C
B
D

Fig. 2. Two-column layout with four boxes on a mobile device.

In summary, the only way to make sure users can read content quickly and in the appropriate order is to have all the content in a single column.

Page Length and Scrolling

There is a great misconception about the importance of page length on a web page. In 2006, Jakob Nielsen published that only 23% of users scroll on a given web page (Nielsen and Loranger). At first glance, this is damning evidence against scrolling. In context, however, Nielsen stated that only 23% of users scroll on *home* pages. A research guide is not the same as a library home page, so this statistic is not relevant. In the same publication, Nielsen wrote that 42% of users scroll on *content* pages, which is more analogous to a research guide. The figure 42% is still quite low, but it is hardly a condemnation of scrolling.

As stated earlier, users spend about three seconds on a web page determining whether it is relevant before either leaving or plunging into the content. In that initial three seconds, users look at things like navigation, page title, an introductory paragraph, and maybe a subheading. They will make this determination before they bother scrolling. The fact that Nielsen found just 42% of users to scroll might just as easily mean that only 42% of users found the page to be relevant in a three-second window.

The answer to the 42% problem is not to lay out the page so that it is all crammed at the very top without a need to scroll. The real solution is to design a page so that it gives off the right information sent to the user right away, using tools like navigation, headings, and scannable paragraphs.

On a well-designed page, scrolling and scanning headings can be much faster and more convenient than clicking links to many short pages, especially on mobile devices where bandwidth and loading speed are at a premium. The advent of small-screen devices has completely eliminated any hesitation users may have about scrolling.

Just to clarify, this discussion only applies to vertical scrolling. Horizontal scrolling is problematic and should be avoided at all costs.

Conclusion

Creating useful guide content is important, but it is only the first step to making an effective research guide. If students cannot quickly see the relevance and usefulness of a guide, they will abandon it. As librarians invest an increasing amount of time into creating and curating research guides, it only makes sense to spend some time and institutional energy to make sure the guides are designed well. The steps presented in this paper provide easy, practical ways to make sure students get the most out of research guides.

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The Beulah Williams Library Creation Lab: Creating a Technology Sandbox in an Academic Library

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Abstract

In 2014 the Beulah Williams Library on the Northern State University (NSU) campus in Aberdeen, South Dakota, began planning for a space that would be set aside for students, specifically education majors, to increase their skills with educational technology. The main goal of this space is to provide a service to students by allowing them access to the emerging technologies that future employers expect them to have competence using. The library purchased a MakerBot Replicator, 3Doodler pen, SMARTboard, two Acer Chromebooks, an Apple TV, and supportive monographs and serials. This paper discusses why a space like this is beneficial in an academic library, how it will support NSU students, a discussion about the technology currently in the space, the challenges and successes encountered, and finally the library's plans for the future.

Introduction

Northern State University (NSU) in Aberdeen, South Dakota is a liberal arts college that serves approximately 3,500 undergraduate and graduate students. The university offers 43 bachelor, 8 associate, and 9 master degrees both on campus and online ("About"). The Beulah Williams Library supports the university's vision of being a "student-centered institution committed to academic and extracurricular excellence, providing high-quality programs, cutting-edge technology, and global learning opportunities" by providing supportive materials, technology, information literacy instruction and programming, as well as study and collaborative work spaces ("Mission").

According to a 2014 study done by the Hart Research Associates for the Association of American Colleges and Universities, employers are looking for individuals who have strong "written and oral communication skills, teamwork skills, ethical decision-making, critical thinking, and the ability to apply knowledge in real world settings" (2014). The study goes on to show that many employers believe "that today's college graduates are not particularly well prepared to achieve the learning outcomes that they view as important" (2014). The Beulah Williams Library is developing an open innovative space for students with a focus on education majors that will provide hands-on access to new and emerging technologies. The goal of this space is to give NSU students an edge in the job market by gaining practical, real-world applications with valuable technologies that can translate to their profession once they leave campus.

Developing the Beulah Williams Library Creation Lab was done through the collaboration with supportive partners like the NSU School of Education and through researching new and emerging educational technologies. The library has been able to purchase a MakerBot Replicator (3D printer), 3Doodler pen, two Acer Chromebooks, an Apple TV, and supportive monographs and serials to help address the needs of the students and faculty who will be using this space. This paper will discuss why the space is beneficial in an academic library, how it will support NSU students, the types of technology included in the space, the challenges and successes encountered, as well as the library's plans for future of the Creation Lab.

What is a Creation Lab?

The Williams Library Creation Lab is an interdisciplinary space where students and faculty members can access new and emerging technologies that may otherwise be too expensive or specialized to obtain within their departments. The idea of the space comes from the Makerspace movement which "consists of a growing culture of hands-on making, creating, designing and innovation." (Peppler and Bender 23). Creating a collaborative, interdisciplinary space is important because it "allows experimentation by all students, regardless of affiliation, and allows them to develop a level of experience that will serve them well when introduced to more specialized equipment" (Gonzalez and Bennett 3).

Why a Space for Education Majors?

The education department is a source of great pride for NSU and has been considered a leader in creating quality teachers since the campus' opening in 1901. According to the NSU School of Education webpage, more South Dakota teachers graduate from NSU than any other institution in the state. In 2013, the library conducted a focus group of education majors to help the library staff gain a better understanding of what drew students to the library and what could be done to better address the their needs. Many of the students expressed that they did not have convenient access to sophisticated educational technologies. The students stated that they wanted a space with hours conducive to their needs that is set aside for them to work collaboratively or independently on skills and technologies that would make them better teachers.

The Creation Lab was developed with the purpose of helping preservice teachers become comfortable using new and emerging technologies in real-world applications. Blankson, Keengwe, and Kyei-Blankson state that all education majors are required take a course on new and emerging technologies in order to meet national standards (45). Weisner and Salkeld go on to explain that many preservice educators feel unprepared to use technology in the professional classroom and employer's expectations of newly hired teachers are not always being met (12). A study done by the Hart Research Associates for the Association of American Colleges and Universities report that recent graduates from liberal arts universities are falling short of employer expectations as only 23% of the employers surveyed believed recent college graduates were competent in applying their knowledge and skills in the real world (6). 80% of those employers surveyed agreed that applied learning in

real life settings is overwhelmingly important when it comes to hiring decisions (4). The Creation Lab will give students more hands on, collaborative access to educational technology that can translate well into the workplace after they leave the university.

What Technology is Included and Why?

During the 2016 spring semester the library added a Makerbot Replicator Desktop 3D Printer 5th edition, a series 800 SMARTboard, two Acer Chromebooks, a 3Doodler Pen, and an Apple TV to the Creation Lab. Funding for these purchases came from the library's budget and selection for the technology reflected research on emerging educational technology as well as requests from the education faculty. The furniture selected for the spaces was chosen for mobility so that the Creation Lab could move throughout the library as needed.

Makerbot Replicator Desktop 3D Printer 5th Edition

The library purchased the MakerBot Replicator Desktop 3D Printer 5th Edition with a variety of polylactic acid (PLA) plastic spools in various colors for around $3,000.00. The MakerBot Replicator was selected because of its unique user community, strong online support, and the vibrant online repository of freely available 3D rendered files. 3D printing "is a technology by which a machine builds a physical object from a digital model" (Pryor 1). These printers open a world of hands-on learning to faculty and students alike. Educators in particular are expected to have an ability to integrate technology like 3D printers into the curriculum to develop hands-on learning experiences that cultivate interests in science, technology, engineering, mathematics and the arts (Poremba 72). While some view the device as a toy, it is argued that 3D printers are valuable development tools for artists, entrepreneurs, scientists, and future teachers.

3Doodler Pen

The 3Doodler pen was also added as a tool to assist with a completed 3D print. This object was a very popular request from education and art faculty. The 3Doodler costs around $100.00 and is a "handheld version of the extruder element" found in most 3D printers. Flaherty describes the pen as being like a "hot glue gun, but shaped like a very thin marker with the ability to print a fine line of plastics" (5). This resource allows users to create a small object by hand or enhance or tweak larger projects printed from the 3D printer.

SMARTboard

The Williams Library added an 800 series SMARTboard to the Creation Lab for around $2,700. This SMARTboard was requested specifically by the Education Technology instructor because of its large screen size and its ability to promote student collaboration (SMART). Brigham describes SMARTboards as a "large, interactive touch-sensitive display that works in conjunction with a computer or tablet and sometimes with a projector, with

key distinction in that the user can control the computer or tablet directly from the board" (194). Interactive whiteboards are a technology that has been around since the early 1990s and are typically used to replace traditional blackboards. An Education Communications Technology Agency (BECTA) report has shown that these boards are very beneficial to student learning and engagement as well as teacher time and interaction with students. The report goes on to state that teachers need regular access to these technologies to develop their skills and to remain consistent with current teaching trends (3). By providing the SMARTboard in a space like the Creation Lab, students have more open accessibility to the technology on a schedule more conducive to their needs (3).

Chromebooks

In 2013 the Sioux Falls, South Dakota school district purchased around 17,500 Chromebooks and assigned them to all 9-12 grade students (Verges, 2013). To support the sudden influx of Chromebooks in the classroom and the increased expectations of preservice teachers, the library purchased two Acer Chromebooks. Chromebooks are an inexpensive web-based computer, costing around $300.00 per computer that operate using Google software and cloud storage (Herold 10). Herold explains that Chromebooks are often chosen in school districts because they are inexpensive enough to put a powerful learning tool in the hands of students, but also help to make classrooms run more efficiently by giving students and teachers the ability to work collaboratively (12). By providing Chromebooks in the Creation Lab, students can check out, practice with, and develop real skills with the devices that will translate to their professional career.

Apple TV

Apple TVs are a popular classroom technology that allow teachers and students to share information onto a large screen. This device operates like the SMARTboard, but works specifically with Apple Technology. In 2012 a 15 million dollar donation was given to the School of Education by an alum to support early childhood and elementary education programming (Natalie-Lees). The money was given with the intention of supporting students with scholarships, professional job development, and providing innovative training. The School of Education developed an iPad initiative to support student teachers as they prepared for their teaching careers. This initiative began in the fall semester of 2015 by providing each junior elementary and special education major an iPads that they can use for classroom instruction and developing their own teaching styles (Nelson). To directly support the NSU School of Education iPad initiative, the library purchased one Apple TV for $149.00.

The Journey to the Creation Lab

It was difficult to convey the importance of hosting the Creation Lab in the library. Some campus members believed that the technology center was the most logical location for the space, but their hours were not conducive to the students' needs. The Beulah Williams Library stressed that their building was the best place for the Creation Lab because it is an

open, multidisciplinary space that mirrors students' preferred study hours. Pryor supported this belief by stating "by locating the service in the library, the tools are provided for all disciplines, and the potential is created for cross discipline collaboration and learning" (2).

The library went into the development of the Creation Lab knowing that much of the funding would come out of the library budget. The library did attempt to obtain grants for the space, but found that task difficult and unfruitful. In the end, the library used some funds left over from an electronic resource that was discontinued the year before to purchase the 3D printer and SMARTboard. Funds for the general upkeep and maintenance of the 3D printer will come out of a small fee for usage and materials at the cost of $.20/gram for a print. The library has set aside a small budget to account for the need to upgrade and purchase new materials for the remaining equipment.

Finding a space for the Creation Lab within the library took some discussion and consideration. Much of the research on collaborative learning centers suggest that these spaces be located in places with high visibility to encourage active participation. The space chosen to house the Creation Lab is near the circulation and reference desk and is highly visible to both library patrons and library staff. This lends itself to being open to student collaboration but also for easy supervision to those working with the equipment. The furniture purchased to hold the technology is on wheels which makes the space have a mobile component. This space is at times used for exhibits and events, so the novelty of having the furniture and equipment on mobile carts is a benefit.

One success the library has experienced is the partnership with the School of Education. This department has provided their expertise in the area of educational technology and given the library an enormous amount of support for the Creation Lab. Outside community members have also been very receptive to the idea of having the space on campus. The Aberdeen School District has agreed to bring their students on campus for educational opportunities and access to new and exciting technologies. This will allow preservice teachers the chance to practice newly learned skills in a real classroom setting. There has been a good amount of support and excitement from students and faculty in regards to the technology. Many education and art majors are already asking when they can start accessing the equipment.

Plans for the Future

The Beulah Williams Library plans to open the Creation Lab in the fall semester, 2016. Currently the Electronic Resources Librarian is completing the library's policies and procedures for use of the various technologies. A Libguide has also been created and will help students understand the various equipment as well as direct them to outside supportive resources and websites. Included in the Libguide are links to materials held by the library that instruct student in how to use 3D printers, and how to create 3D models using software like Tinkercad, Autodesk, 123D etc. The guide also walks students through the process of checking out various equipment and submitting a 3D print request to the library. The web address for this guide is http://research.northern.edu/CreationLab.

The library plans on working with the School of Education to develop curriculum that will support current education majors and area teachers. NSU education majors will be required to come to the Creation Lab and utilize the technology in order to develop their teaching skills. The library plans to host technology camps for area middle school students; these camps will be taught by education majors who wish to increase their education technology skills in a more real-world sense. These camps will also work to introduce STEM-related skills to students who wish to gain more hands on experience with technology like 3D printers, robots, Raspberry Pi, etc.

Conclusion

The journey to the Beulah Williams Library Creation Lab has not been without its difficulties. The process has been tedious and the library has met hurdles that required convincing research and strong communication skills. Through research of emerging technologies, makerspaces, learning commons as well as cultivating relations within campus departments and community members; the library has been able to gain a strong start to the Creation Lab. It is the library's main goal to provide NSU students with a spaces they can use to cultivate their skills in a way that makes them ready for the expectations of the workforce once they graduate. While the space has been created with education majors in mind, it is open to all students and faculty alike.

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Establishing an Electronic Theses Repository Using Digital Commons

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Abstract

Has your institution mandated an Institutional Repository for electronic theses? Do you feel intimidated with setting up an institutional repository? The authors will share our success and experience of working with the graduate school at two small universities in rural Kansas to establish an electronic theses program.

The repository serves as an Open Access solution for global dissemination. Both Pittsburg State University (PSU) and Fort Hays State University (FHSU) currently use CONTENTdm (CDM) as their primary digital repository. In 2015 both FHSU and PSU purchased and launched bepress Digital Commons (DC), a more robust repository. If you seek global discoverability, unlimited storage, efficient technical support, and the ability to share a wide range of file formats in one interface, then bepress Digital Commons (DC) is the most reliable platform.

The authors will share their experiences and challenges of adapting and implementing an IR at PSU and FHSU. Then the authors will compare and contrast the advantages and disadvantages of the Digital Commons and CONTENTdm. Finally, they will share the challenges associated with developing IR initiatives at their institutions which includes marketing, workflows, and collection development of ETD materials.

Introduction

Open Access institutional repositories (IRs) have dramatically changed the way that academic institutions around the world disseminate the intellectual research produced at their institutions. Ryan Crow describes the role of an IR as: "a digital archive of the intellectual product created by faculty, research staff, and students of an institution and accessible to end users both within and outside of the institution, with few if any barriers to access" (3). Both PSU and FHSU desired to share their intellectual product with a wider audience which is what led them to purchase bepress Digital Commons.

Institutional Repositories actively provide open access to a wide variety of scholarly materials that benefits the institution. Also, an IR functions as a vehicle to drive research communication across disciplines and around the world. While implementing IR initiatives,

academic institutions have faced many challenges or barriers. Debora Madsen and Jenny Oleen discuss the challenges which an IR faces as it matures in their 2013 article.

As an institutional repository (IR) matures it will face the challenge of how to scale up its operations to increase the amount and types of content archives. These challenges involve staffing, systems, workflows, and promotion. The desire to scale up the operation, expanding the number of faculty participants and content, was addressed as part of a library-wide reorganization that provided more staff working as a cross-departmental team. This staff expansion, in turn, created the need to redefine staff responsibilities, develop resources to manage workflows, and provide greater efficiencies. (Madsen & Oleen 1)

The authors identified several challenges at their institutions encouraging them to create new workflows and efficiencies in order to manage working in a small department, a cross-departmental team, or with redefined staff responsibilities.

Background Information

Located in the southeast corner of Kansas, Pittsburg State University (PSU) has a student population of more than 7,400. The PSU campus has only one library, Leonard H. Axe Library. Fort Hays State University (FHSU) is located in western Kansas, between Denver, CO, and Kansas City, KS. FHSU's enrollment hit 14,000 in 2015, including more than 6,000 online students in over 20 countries. Like the PSU campus, Forsyth Library is the only library at the FHSU campus. Both PSU and FHSU are a small universities in rural Kansas, but have had continual growth as one of the Kansas Board of Regents' universities.

PSU and FHSU currently use CONTENTdm (CDM) as their primary digital repository. In 2015, both institutions purchased and launched an open access digital repository from Berkeley Electronic Press (bepress) called Digital Commons (DC), which showcases a variety of scholarship produced by the university, such as theses and dissertations (ETDs), reports, conferences, journals, and peer-reviewed publications. Both institutions purchased DC to have a more robust repository for scholarship published by faculty and students. At the same time creating efficient ways to enhance the value and capture the global impact of the scholarship by making it globally discoverable. DC offers global discoverability, unlimited storage, efficient technical support, and the ability to share a wide range of file formats in one interface. PSU and FHSU have populated their IRs with digital content that includes theses while implementing the digital and scholarly communication initiatives across campus.

Literature Review

Making theses and dissertations available to the scholarly community is an integral part of the research process at the university. As the university aims to achieve access to theses and dissertations, an open access digital repository represents a key resource to realize that purpose. Theses and dissertations gain their visibility and discoverability through a digital repository. More than half of the institutions implementing an IR are making theses and dissertations available in their repositories where they can contribute to the impact of their institutions (Schöpfel). Accessing these electronic theses and dissertations (ETDs),

researchers are able to easily retrieve valuable knowledge that may not be in journal articles and other publications to expand their research activities.

The development of ETD implementation through an IR requires collaborative work from the university administration or the graduate school, academic departments, and the library, as well as participation from students. The strong support network in the university community is important to a successful implementation of an ETD project with a digital repository. Communication between the graduate school and the library is a crucial step to create an ETD workflow. Establishing a workflow for the ETD project is challenging due to the changing organizational culture at institutions (Reeves).

The case study at University of North Carolina Greensboro shows "How do these institutions handle the interdepartmental communication and collaboration needs of ETD programs?" They conclude that the strong communication and collaborative relationships between the university campus units and the library create the rich environment for providing opportunities to build and implement ETD programs efficiently through workflow evaluations and discussions of others' ideas and thoughts (Early and Taber 13).

This paper examines the process of selecting IRs for ETD programs, including the advantages and disadvantages of the two platforms, CONTENTdm and Digital Commons which are used at PSU and FHSU. This paper will also consider the construction of an electronic theses collection and address in a fair amount of detail the workflows which were established to support integrating thesis materials into a new digital repository and the collaborative relationship with the graduate school in a small institutional setting.

Assessing Advantages and Disadvantages of bepress DC and CDM

Several institutional repository tools are available as an open source software (OSS) tool or proprietary software tool. Examples of OSS in use at academic institutions are DSpace, Eprints, and Fedora/Fez. These OSS tools are freely available and users can run and distribute the software, but systems and database administration, server maintenance and application support are required. On the contrary, the implementation of a proprietary type of institutional repository comes with a consultant and maintenance services. The most widely used proprietary IR software tools are CONTENd*m* and Digital Commons (Amaral 1-3).

The process of selecting an IR employs a needs assessment to ensure the existing demand, content characteristics, technical and organizational capacity, and manpower needs and development. PSU and FHSU use CONTENTdm as a primary IR and they selected DC to implement a new IR. This selection is due to the manpower and technical issues that need to be ironed out in order for it to be successful.

Both CONTENTdm and DC are widely implemented in academic libraries to host an institutional repository and provide positive features, including presentation of the various types of digital materials. CONTENTdm is hosted on OCLC and is a stand-alone digital asset management system. CONTENTdm is best for image-based materials with a large

metadata structure which allows for granular metadata for those sorts of visual materials. Digital Commons is widely implemented as a flexible, robust and open-access institutional repository solution. Because of this both institutions thought Digital Commons was the best for showcasing scholarship produced by faculty and students.

To better evaluate the two platforms the authors looked to a document published in-house at FHSU in 2011 when the university first began investigating the establishment an IR, and also a report published by UNESCO comparing the current systems used for IRs (Bankier and Gleason 5 – 14; Weiss 44-49). The following table derives content from both documents by FHSU and UNESCO.

Table 1
Comparison of basic and major functionalities between CONTENTdm and bepress DC

CRITERIA	**CONTENTdm** (http://www.contentdm.org/)	**bepress DC** (http://www.bepress.com/ir/)
Open Source/Proprietary	Proprietary	Proprietary
Software or Hosted Service	Hosted Service	Hosted Service
Support Available	YES – via CDM	YES – via bepress (email, phone, resources, and community support)
Content File Formats	Some	All
Metadata Standard	Simple and Qualified Dublin Core and customizable metadata	Simple and Qualified Dublin Core and customizable metadata
Syndication (RSS, etc.)	NO	YES
Statistical Reporting	YES	YES
Design Rationale for IR Flexibility	NO	YES
Design Rationale for IR Accessibility	YES	YES
Design Rationale for IR Interoperability (OAI-PMH)	YES	YES
Implementation Technologies (Scripting language, Database, Operating System)	N/A: hosted (System requirements: Linux/Windows)	N/A: hosted
Storage	YES, but costs $ over 196,000 items	NO (unlimited storage)
Batch processing	YES	YES
Journal Publishing	NO	YES

(Bankier, Bankier and Gleason; Weiss)

The table shows a comparison between CONTENTdm and bepress DC. Bepress DC clearly has the capability to bring scholarly materials, such as theses and dissertations, together in one searchable location, while CONTENTdm has the advantage when handling visual materials with flexible metadata.

ETD Workflow

Designing an effective workflow is one of the essential requirements for an ETD project to be successful. The development of an ETD program required the collaborative work of the graduate school and the library, as well as participation from the faculty and students.

PSU's Leonard H. Axe Library began the process of branding their DC platform in August 2015 which went live December 1, 2015. A working group between the PSU IT and Library Services was established to set-up the branding for our user interface for PSU Digital Commons (http://digitalcommons.pittstate.edu). Immediately after going live the Digital Resources and Initiatives Manager migrated only forty-five of the 119 theses from CONTENTdm (http://axedigital.pittstate.edu) to Digital Commons via the batch method using DropBox. DropBox requires an extra step of changing the URL for DC to acquire the file. PSU currently backs-up all of our digital materials on a QNAP which requires a login to access the files. However, working closely with DC support the process of using DropBox went rather smoothly. Library Services and the graduate school are currently developing workflows (presented below) for students to submit their theses and go through the review process in DC beginning in fall 2016. All retro scanning of theses is uploaded by the Digital Resources and Initiatives department.

Most of the collections in CONTENTdm will remain there for the simple fact that the Library likes the interface for our visual and audio collections. PSU is using DC primarily for keeping track of graduate and undergraduate scholarship and faculty scholarship when faculty wish to participate. Our first major collection consisted of photographs and video from the Student Research Colloquium in spring 2015. This is an annual event and statistics already show it to be one of the most accessed collections. Other collections recently added are Finding Aids, Annual Faculty Author Reception, material from the Gene DeGruson Memorial Lecture series, papers from two History classes, the Kanza yearbooks, and Open Pitt, the new home for OER (Open Educational Resource) produced at PSU.

Comparatively, FHSU's Forsyth Library launched the DC platform, branding their implementation, FHSU Scholars Repository (http://scholars.fhsu.edu/), in December 2015, and officially made an announcement to the campus departments in January 2016. FHSU Scholars Repository has currently a few collections built: faculty papers, OERs (Open Educational Resources), e-Journals, and Archives & Special Collections materials. With FHSU IT support, the Library has set-up the campus proxy server as a publicly accessible server for a batch upload processes. The DC system allows FHSU to upload multiple items at a time by implementing this batch feature. The FHSU Forsyth Library uses FileZilla (https://filezilla-project.org/) as a FTP client to connect the server. Some digital collections, such as e-journal publications, have been migrated from CONTENTdm to the DC platform

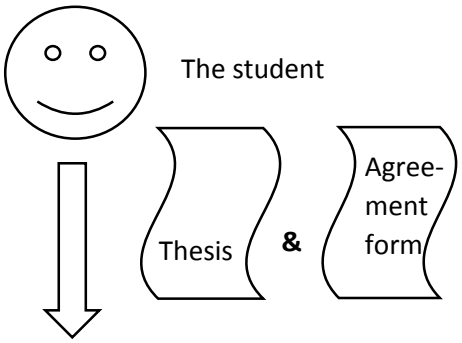
by implementing the batch process. The theses collection on the CONTENTdm platform (http://contentcat.fhsu.edu/cdm/) are targeted as a next migration.

The students are required to submit their theses to the graduate school office and those theses would be presented on the CONTENTdm platform. The theses collection on this platform contains nearly 3000 items from 1930 through the present. Comparatively, many institutions use *ProQuest* to disseminate and archive their theses and dissertations via *ProQuest*, however, both PSU and FSHU do not participate in *ProQuest* theses program.

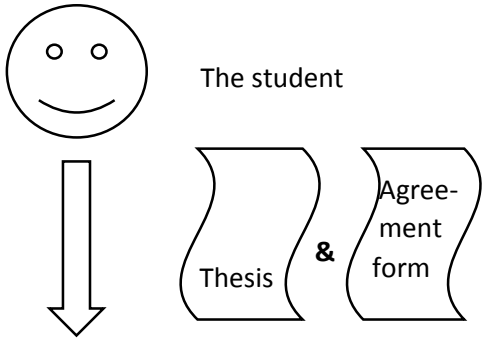
Because PSU is in transition, their students are just beginning to set up their accounts in Digital Commons and submitting their own thesis work through the system. The "Past ETD Workflow at PSU" in fig. 1 is very similar to FHSU's and applied to submissions through spring 2016. PSU has approximately ten to twelve submissions for spring term and two to five for fall term. In contrast, PSU has approximately twenty to twenty-five for spring and five to eight in the fall.

The current ETD workflow at FHSU is simple because the total number of theses submitted per semester is small and the submission to *ProQuest* is not required (see fig. 1). The average number of theses submitted by per semester is less than ten papers. The library receives thesis materials with signed repository publishing agreement forms electronically via the Graduate School Office, then presents those materials on the CONTENTdm platform.

Current ETD Workflow at FHSU



Past ETD Workflow at PSU



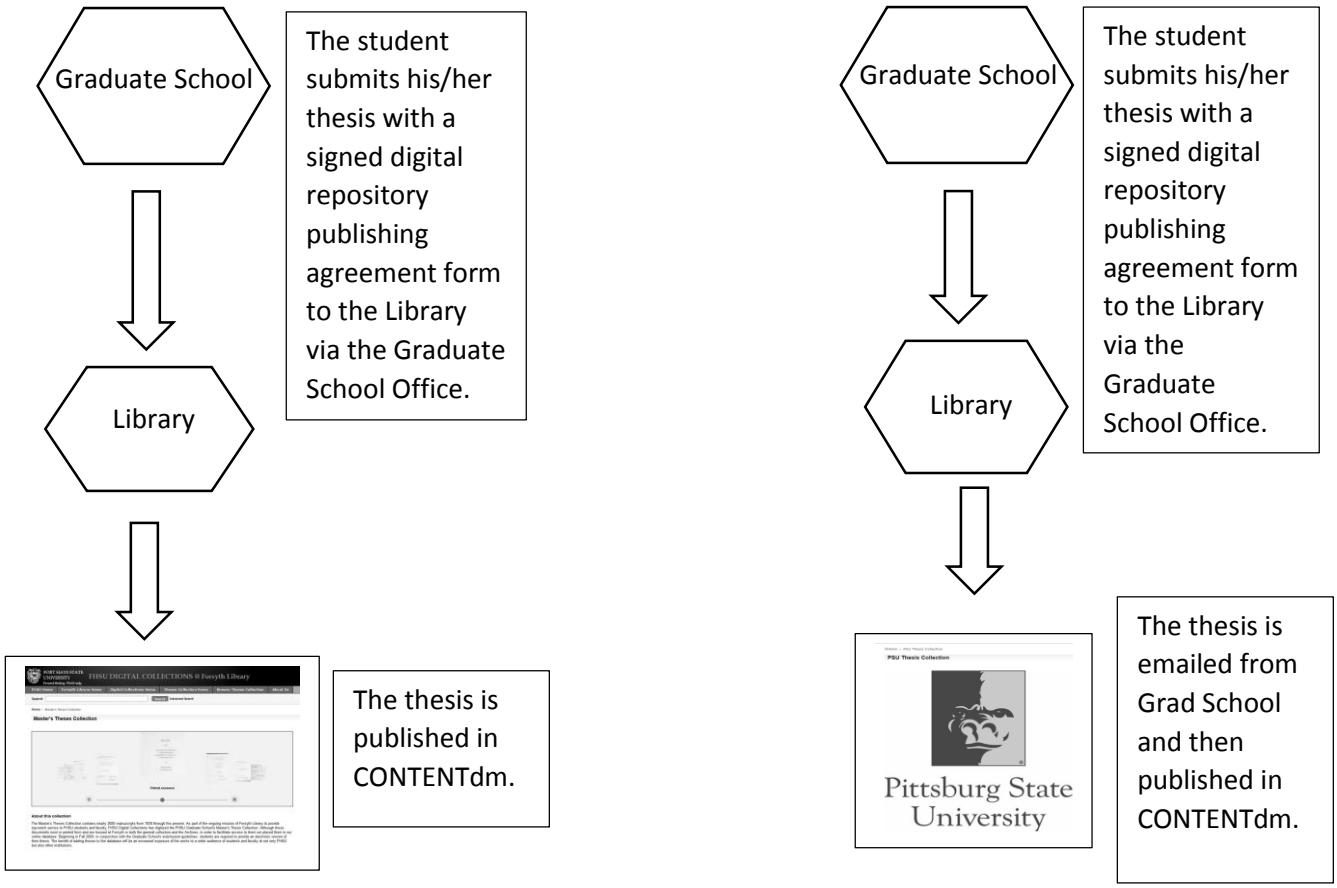


Fig. 1. Past at PSU and current workflow at FHSU.

As the FHSU Forsyth Library has not implemented the theses migration from CONTENTdm to DC, the following Figures 2and 3 are outlining potential future plans for their theses program development.

Before implementing the theses migration from CONTENTdm to Digital Commons, an institutional repository publishing agreement form would need to be updated. The agreement form would state that theses will be deposited into the FHSU's institutional repository, FHSU Scholars Repository. With the Graduate School Office's agreement, the migration process would be implemented.

The first step of the migration process would be a batch creation which allows uploading a number of thesis materials, which are currently presented on the CONTENTdm. At the time. CONTENTdm provided a metadata export function. FHSU staff can export metadata describing the Thesis materials on CONTENTdm (STEP 1). Then, they can download the spreadsheet through the bepress DC batch tools (STEP 2). The spreadsheet consists of metadata fields, such as a title, abstract, author name (s), and full text URL. The "full text URL" field indicates the URL of the item which is on a publicly accessible server which the bepress system will access to and copy the file at the URL provided and store it (STEP 3). Targeted thesis materials to the batch process are uploaded from the FHSU-NAS (Network-attached Storage), which functions for preserving CONTENTdm materials, to the campus

proxy server or publicly accessible server by using a FTP client (STEP4). After the batch creation, the spreadsheet is uploaded to the bepress DC system (STEP 5). The bepress DC system loads to publish the thesis materials from the server to the system (STEP 6). Those thesis materials will be presented on the repository site (STEP 7) (See fig. 2).

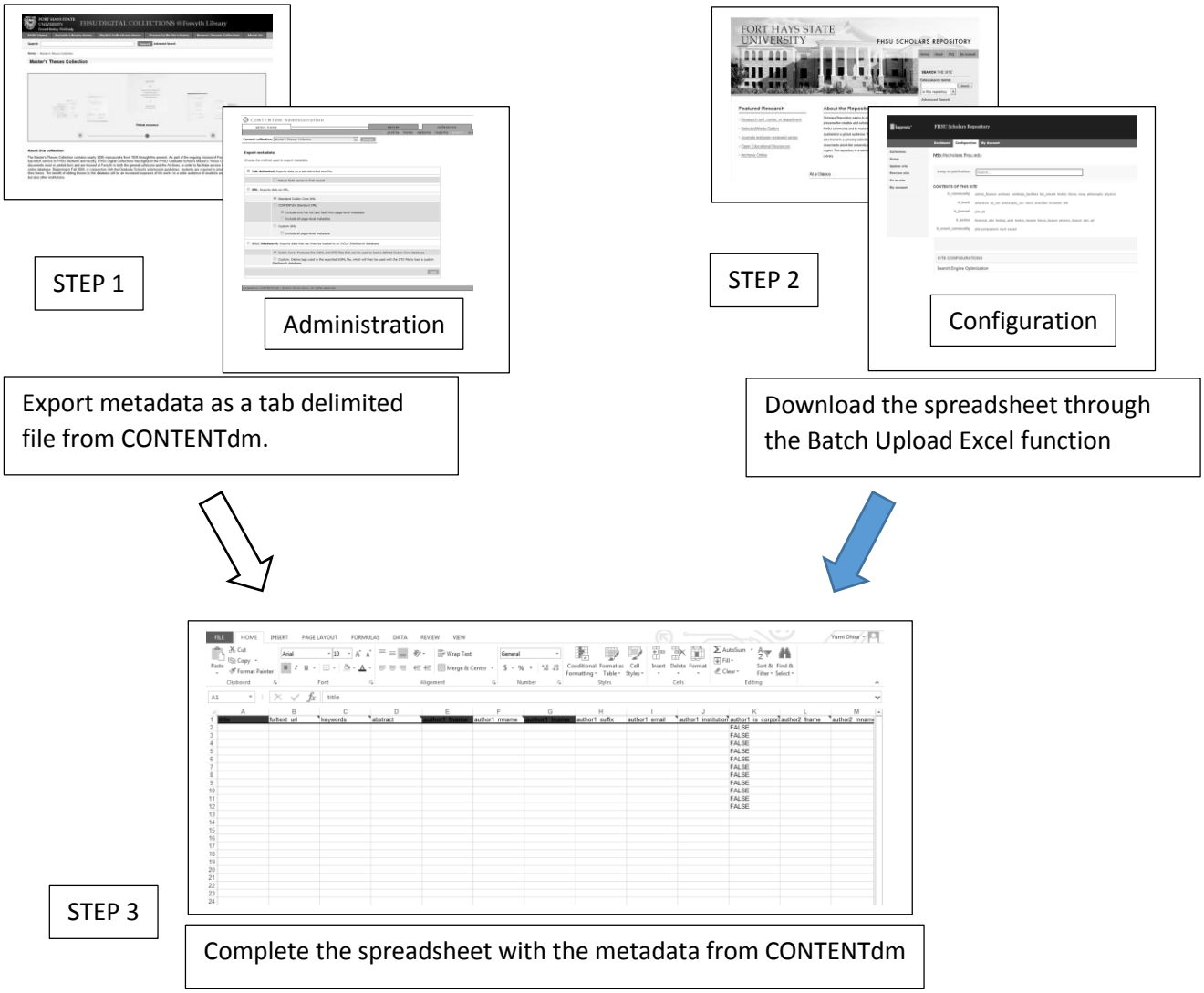


Fig. 2.1 Theses migration: CONTENTdm – bepress DC at FHSU.

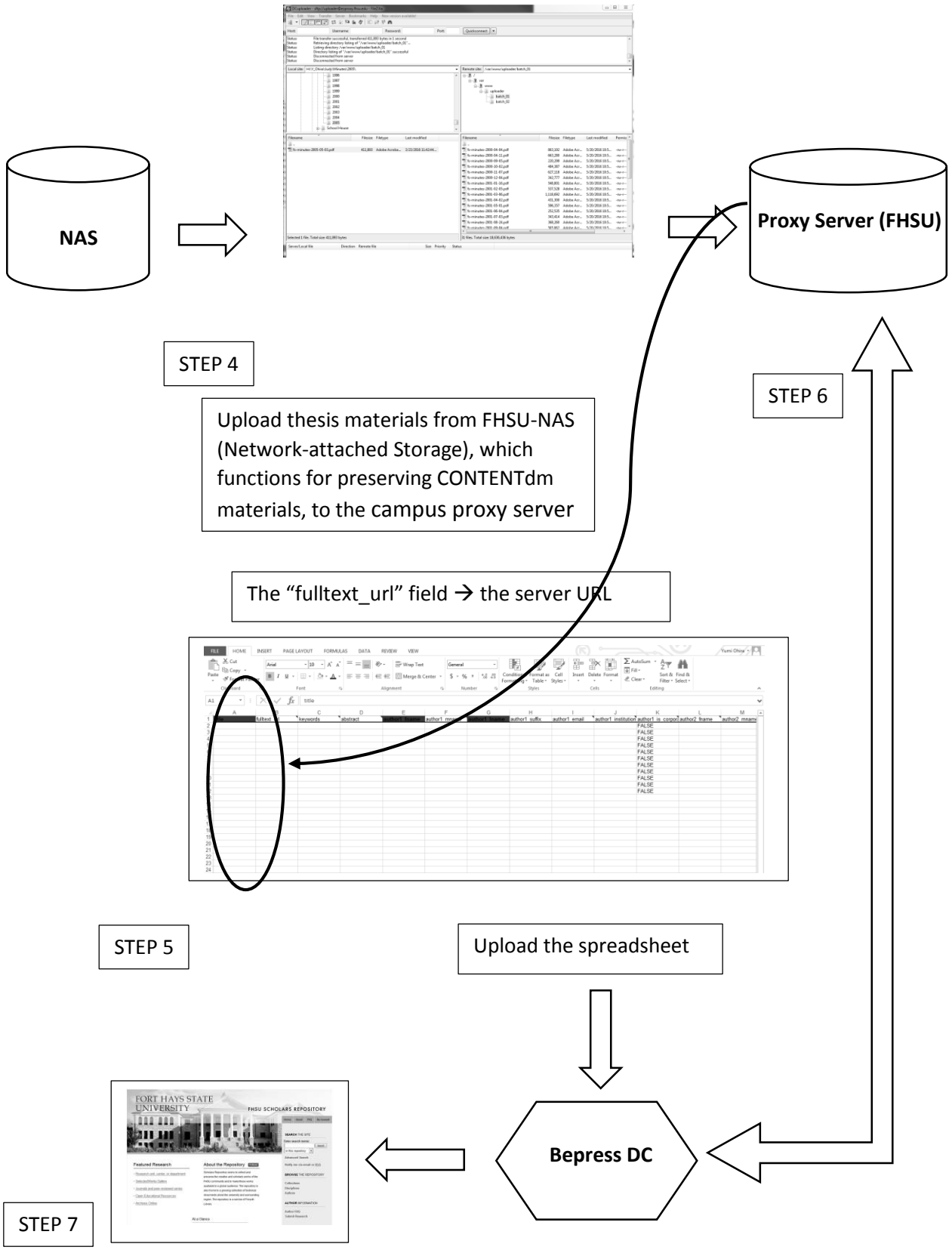


Fig. 2.2 Theses migration: CONTENTdm – bepress DC at FHSU.

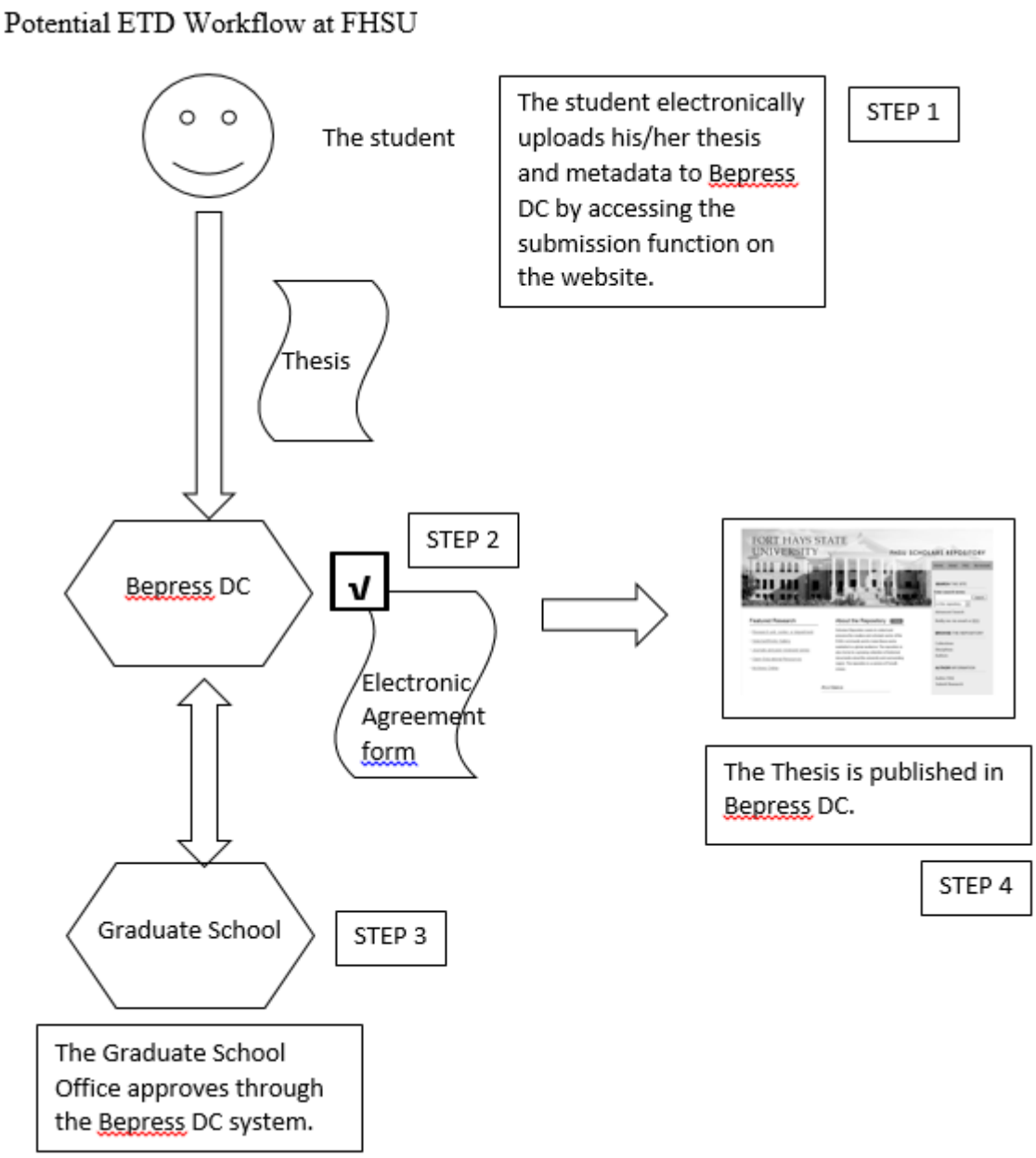


Fig. 3. Potential ETD workflow at FSHU

With the student submission tool of Digital Commons, FHSU can potentially improve their Theses workflow and save time for the theses publishing process at the Graduate School Office and the Library (Busher 6).

First, the student needs to create an account in FHSU Scholars Repository – bepress DC. This account is free. Through the account, the student submits his/her thesis paper in PDF or Word format with the information about the thesis, such as its abstract and advisor or mentor(s) (STEP 1). After this process, the student will see the submission agreement (STEP 2). Once the student clicks the box to indicate his/her agreement with the terms, the thesis material will be submitted. When the Graduate School Office receives notification

through the system that the student has submitted his/her thesis, they review the student's thesis, they approve the thesis submission if the submission is complete (STEP 3). With this approval, the thesis material will appear on the repository site (STEP4).

Considering the role of responsibility taken by the Graduate School Office, the ETS workflow presented here would be designed for a small institution or a small number of thesis materials which the Graduate School Office expects to receive from their students. If the number of thesis materials is large, using the batch process would be an effective way to deposit a number of materials at one time into the repository after the Graduate School Office receives those materials from their students.

PSU has solidified a workflow between Library Services and the Graduate School, and are in process of creating tutorials to guide faculty and students to submit and go through the review process within DC. The steps are similar to those described in fig. 3. However, PSU has decided to incorporate a workflow by Georgia Southern University and add in a few steps currently required by the Graduate School utilizing PSU's GUS system. Fig. 4 will show the workflow to be implemented in fall 2016 (See fig. 4).

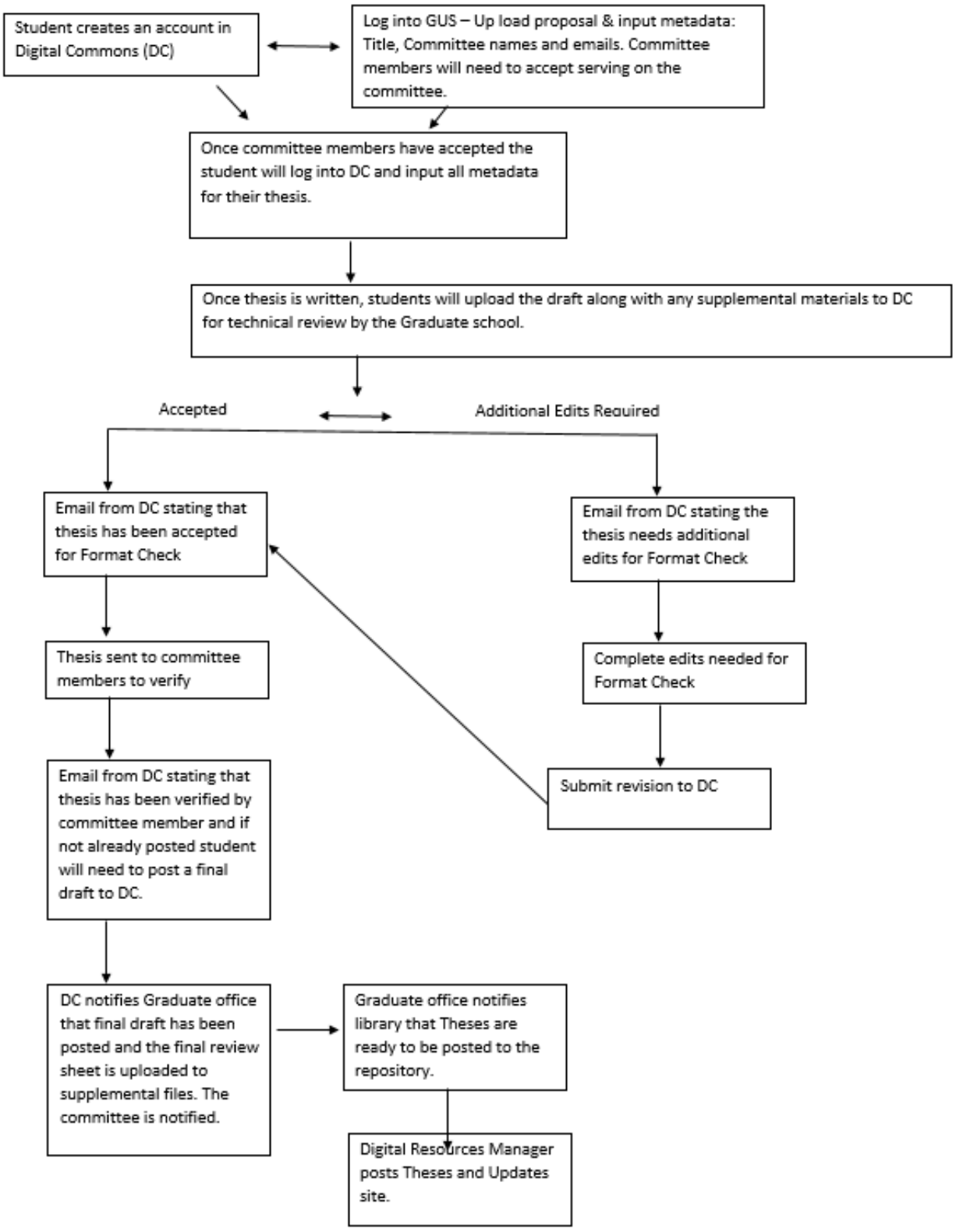


Fig. 4. PSU fall 2016 electronic thesis submission using DC

PSU has a few extra checks and balances in their workflow to incorporate GUS. As all persons involved actually work through the process some of these steps may change or disappear. PSU is no longer requiring students to submit a physical copy to Special Collections unless the student refuses to allow their thesis to be available through the repository, and the decision has been approved by the department and Graduate School.

Conclusion

A growing number of scholarly works are deposited into institutional repositories and openly available. Students are benefitting from the institutional repository by depositing their theses and dissertations. The efforts to develop and establish strategies guiding deposition of theses and dissertations into IRs will promote greater appreciation of the impact of scholarly output. The aim of developing workflows to promote the ETD programs and collaboration across campus will enhance the distribution of digital content. Across-campus collaboration and inter-library collaboration are essential to build a robust ETD program and encourage further dialog about the need of academic institutions in the future. The aim of ETD programs include providing greater recognition and exposure to the wealth of information and scholarship that theses and dissertations represent.

Repository selection and implementation of ETD workflow are tied to the ETD programs success which depending upon size and type of academic institution. It is important to evaluate prospective new digital repositories and consider advantages and disadvantages, while recognizing the institution's size and type, system hosting environment, and manpower. Without this recognition, there can be no good resolution and ETD success. Collaborative efforts and efficient communication between the library and the graduate school office are imperative to ETD success. The ETD processes involves multiple administrative units on campus and the library. If the communication and collaboration between campus units and the library remain successful, these key relationships can maintain and improve an ETD program.

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Becoming the Center: Creating and Implementing a Unified Service Point

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Abstract

In 2015, The University of South Carolina's South Caroliniana Library experienced two momentous changes. First, South Caroliniana Library implemented a unified service point designed to handle all in-person reference and reproduction requests. Second, during this implementation, the university and library administrations decided to begin a multi-year renovation project that removed all material from the library but required services to continue operating in the library. This paper discusses the steps taken by the library's user services team to address these challenges and opportunities that arose when doing so.

South Caroliniana Library traditionally offered services by division prior to 2015. Published Materials division occupied its own space in the library and provided reference, reproduction service, and interlibrary loan service only for patrons using Published Materials. Manuscripts, Visual Materials, University Archives, and Oral History divisions each operated accordingly. As the library's collection grew and patronage increased, this model became outdated and inefficient. Patrons would visit one division and then another for the same services, depending on the material they worked with. Library administration determined that creating a unified service model would free up the curators responsible for each division and provide a streamlined model for patrons. As the literature shows, stakeholders often raise practical and emotional concerns during these changes; and the literature also demonstrates that appropriate planning allows for a balanced and effective transition. In this presentation, the author reviews relevant academic literature related to changes in user services models for special collections and other academic libraries, as well as challenges stemming from renovations in special collections and academic libraries.

The author also details why and how he assumed responsibility for designing and implementing the single-point reference service for the library. These responsibilities included staffing the desk, creating new procedures and policies for reference, and evaluating the effectiveness of public services in general. Additionally, as the university and library administrations decided to begin a multi-phase renovation initiative that removed all material from the library in 2015, the author provided administrative support to a team that designed and implemented a retrieval system to bring offsite material into the library for patron use. Consequently, the author discusses and elaborates on the processes involved in leading and working with a team of staff, curators, and systems librarians to develop policies and procedures to track material as it worked through the delivery system.

Background and Literature Review

Historically, special collection libraries and special collection professional staff have experienced a great deal of autonomy, even down to the level of material type. Manuscripts,

rare books, archives, and other printed material divisions could operate distinctly from one another while existing under one library roof "but also in the larger sphere of the parent institution" (Jones 441). With this independence, special collection libraries could enjoy the financial support of the parent institution but remain "insulated . . . from the scrutiny that is common in all other programs in a library" (Joyce 444). These divisions functioned separately and with unique attitudes for acquisitions, preservation, processing, and access, since "traditions, conventions, and patterns of training and experience among archivists, manuscripts curators, and librarians argue for separation and distinct professional identities" (Jones 443). As differing skill sets and practices hardened, special collection libraries became fertile ground for respective areas to turn into silos. Clifton Jones wrote, "By accepting differing management methods for rare books, archives, and manuscripts, libraries may have insured that the integrity of each format is respected, but the approach also encouraged the independent administration of each collection" (438). With concentrated expertise came professional investment in maintaining fiefdoms, even in the face of financial and administrative pressure for efficiency. In fact, Jones predicted in 1983 that "the chief obstacle to integration [of separate collections] will probably . . . be the desire of many to protect the often very personal bailiwicks that so many collections within special collections have become" (441).

In 2014, South Caroliniana Library initiated the process of reorganizing and integrating its services and collections. This paper outlines the process for integrating services, describes some of the philosophy behind integration, and provides a literature review on special collection library integration. Partially because staff in special collection libraries often publish research on their material or subject specialties, the research on integration as well as special collection reorganization remains scarce. In her article, "Integration or Coordination? Reorganization for Special Collections", Susan Grigg explains, "In the large and growing literature about the design of libraries as organizations, there is virtually nothing about variety of programs that come under a broad definition of *special collections*" [Grigg's italics] (133). Hired to reorganize the special collections unit at the University of Alaska Fairbanks, Grigg outlines in her article a philosophy and process for integrating smaller divisions within the special collections library and how the process differs from general academic libraries. She explains that "Special Collections may have been overlooked" because special collections "do not share the typical structural problems of the general library" (133). For larger university libraries, reorganization generally occurs to address "barriers" between "core functions". For special collection libraries, however, divisions are "typically active in every function" (133). Integrating these divisions, instead, centers on streamlining these functions, particularly services for patrons. In her article, Grigg argues the case that integration improves user experience and that integration should be embraced by special collection professionals (134). Responding to opponents and proponents of integration, she writes, "The more important question [is] whether integration would enable special collections to serve prospective users better" (134).

Integration as a topic within special collection libraries existed before the early 1980s, but new challenges caused it to resurface for special collections and their parent institutions. In 1983, the Rare Books and Manuscripts division of ALA sponsored a panel at its annual conference titled, "Integration or Separation". Both Clifton Jones and William Joyce spoke

on the panel, introduced by Donald Farren. In his preface to the panelists' proceedings, Farren explained that the panel "dealt with . . . whether manuscripts and archival materials are better separated from or integrated with rare books and printed material in Special Collections"(435). Farren further noted that the Society of American Archivists held a similar panel discussion in 1984 titled, "The Challenge of Integration: Promoting Special Collections in the Parent Institution" (436). Both organizations felt the need to address integration at their annual conventions due to changes in bibliographic description and what Joyce referred to as the new "administrative reality" of addressing smaller budgets and breaking down redundancies (444). Budget management overseen by technocratic administrators led Jones to state, "The issue of integration concerns not only the administration of separate collections . . . but also the role of special collections within the general repository" (441). For Jones, library and university administration often perceived the operating costs of special collections as prohibitive, particularly costs associated with acquisitions and processing (441). He went on to explain that "with shrinking budgets in libraries, it is becoming increasingly difficult to justify traditional approaches in the administration of special collections," (437) and "it will become increasingly costly for special collections to compete effectively for budget dollars if its own voice is divided into several competing collections" (438). Joyce supported this by stating, "In an age of scarcity, effective use of existing resources becomes more important, and duplication of services must be reduced if not eliminated" (445). The realities of scarcity and funding predicted by those in the 1980s only became more amplified by the beginning of the twenty first century, as Grigg notes in 2000 that "financial pressures have only intensified [the need to integrate fully], and technology has increasingly commingled methods and materials" (133).

Aside from addressing budgetary issues, integrating with the parent institution also placed special collection libraries within closer organizational proximity to a professional class of librarians with expertise in "the forces of automation" and "bibliographic standardization" (Joyce 438). Electronic bibliographic description and standardization became especially significant in special collection libraries in the early 1980s, as electronic cataloging with a shared database enhanced how quickly patrons could ascertain how many libraries within a system housed relevant material. As early as 1983, librarians envisioned how effective this trend would be for special collection libraries interested in offering users a discovery platform. Jones argued:

If a library's special collections' prime value to an institution is its prestige, as is often the case, integration loses its importance. On the other hand, in a research-oriented collection, integration offers the prospect of insuring, for example, that a scholar examining manuscripts will also be directed to material of value in the program's subject collections, its archives, rare books, and, for that matter, to holdings in other libraries once the holdings of special collections are entered into the common database of a bibliographic utility. (440)

Jones' vision of electronic integration prioritized user service and access over gatekeeping and prestige, but it also privileged one philosophy over another in special collections libraries. Eric Luft restates this binary as he describes his experience working as Curator of Historical Collections at Upstate Medical University in 1987. Hired "to bring [his library] quickly up to current technological standards," Luft details the process in which electronic

automation allowed more users to have a better understanding of the material, and it gave the library a stronger arm for outreach (95). He explains the challenges of integrating services and collection while finding a path between automation and efficient retrieval with the in-depth assistance provided by an expert, such as a curator. He writes, "In special collections we try to achieve a happy medium between two kinds of service: (1) traditional, slow, painstaking, sometimes elitist, but scholarly and accommodating; and (2) technological, efficient, automated, more democratic, but unscholarly and impersonal" (95).

Reaching this balance remains optimal but difficult at times for special collection libraries. If traditions, standards and practices codified professional philosophies within special collection libraries, then a concern that integration adulterates them serves as a rational objection. Jones warned that "the essential, basic conventions of each field must be respected . . . . [and] if rare book librarians, manuscript curators, and archivists are to accept integration, they must be assured that those principles they feel to be essential to the management of their particular collections are not being challenged heedlessly" (440). Some challenges center around gatekeeping while others address discovery. Curators who have devoted an entire career to preserving a collection can reasonably prioritize security over access and user-centered service. For manuscripts and archives professionals, the finding aid remains the standard for description. For librarians, the online catalog, containing bibliographic records with cross-referenced subject headings, continues to be irreplaceable and second nature.

Integration, Service, and South Caroliniana Library

South Caroliniana Library remains deliberately conservative in integrating services and collections to reframe from disrupting practices solidified over seventy six years. Since 1940, South Caroliniana Library has been charged with collecting, housing, preserving, and providing access to manuscripts, books, maps, newspapers, music, pamphlets, oral histories, and visual materials that reflect South Carolina's history and literature. Initially, the library's support came from the South Caroliniana Society, established in 1937 to support South Caroliniana holdings in the university's library. The South Caroliniana Society, along with its endowment, continues to support the library, even though, administratively, the library remains in the organizational and financial system of University Libraries at the University of South Carolina, with the larger portion of South Caroliniana Library's financial support coming from University Libraries. Originally, the library consisted of two divisions, Manuscripts and Published Materials, with each operating separately. By remaining separate, both divisions functioned according to their unique professional practices and standards, down to maintaining different hours and user policies. In doing so, the library guaranteed that a researcher visiting the South Caroliniana Library would be assisted by a staff member possessing strong knowledge of the unit's collection of material. This philosophy led to the development of three more curator-level staff positons and divisions in the library in the 2000s: Visual Materials, University Archives, and Oral History. At that time, a new Dean of Libraries assumed responsibility for the entire library system, and a new library director took over leadership of South Caroliniana Library. A consultant was hired to analyze South Caroliniana Library and propose solutions to address twenty-first century challenges, one of which was the need for a single-point reference

station. The consultant's report suggested that streamlining reference service would free up curatorial staff to work on processing as well as increase user satisfaction.

The issue of user expectations connects with integrating services in special collection libraries at the foundation. As Luft explains, "The most important aspect of any kind of librarianship is the relation between librarians and the users of the collection. Librarianship is a service profession whose ultimate goal ought to be the prompt, efficient, enlightened, and complete satisfaction of each user's legitimate needs" (94). For those in special collections who share Luft's view, integration enhances the user experience because it focuses on the user expectations and streamlines services. However, as noted previously, this library-centric view should be augmented by the shared beliefs of the professionals curating material in the library. User Services staff must possess a solid understanding of each curator's expectations for handling and providing access to their material. They also must work toward gaining intellectual control of the library's collection. These challenges can be difficult since each curator may practice a different philosophy with regard to security and access, and it takes time to learn a collection and all the tools used for discovering the collection's material. As noted, reference librarians rely on the online public access catalog for discovery more than any other tool. Yet, since the catalog may not always be the best means of discovery in a special collections library, librarians and their reference staff must build on their knowledge of the collection and be mindful of the collection's finding aids. Further, services staff, particularly those working a front reference desk, may not possess as much knowledge of a subject or a specific collection as someone with experience working solely with one collection. And curators may find it frustrating or challenging to abdicate some of their responsibilities to services staff. However, as Jones argued, "In my own view, the possibility of providing better access to holdings provides the one good reason for integration" (440). There exists also an opportunity for the librarian supervising the single point reference desk to work with curators, archivists, and catalogers to ensure that practices and policies at the desk align with their traditions and philosophies. Also, this librarian can clarify with catalogers, curators, and archivists users' expectations as well as how users and staff members typically search for material and interpret catalog records and finding aids.

The above paragraph describes the philosophy and working model for the newly developed single-point reference service at South Caroliniana Library. Originally, curators maintained regular shifts on the desk, as well as staff members, catalogers and graduate students. The initial challenges were what one would expect. First, the desk in the library's reading room, previously used by the Published Materials division, became the library's reference desk. As each division descended upon the desk with their ready reference materials, manuals and finding aids, the Published Materials staff believed they had been invaded. They moved their desks to another room in the library, leaving the space that had been Published Materials home for decades. They did not embrace this change positively. Another point of contention centered around who would be responsible for the administration of desk's policies, procedures, scheduling, supplies, etc. The desk quickly became a "kitchen with too many chefs", which also did not generate positive sentiments amongst staff. Eventually, the Curator of Published Materials, acting as Head of User Services, would take on these responsibilities. At the time of the merger, however, this position was vacant. Initially

another curator was given tentative responsibility in tandem with a long-time staff member of Published Materials.

When the newly hired Curator of Published Materials took over Public Services in 2015, his first priority involved identifying the strongest desk workers, staff members with a public service inclinations and a strong knowledge of the collection. Initial changes involved low hanging fruit, such as changing the scheduling to semester to semester instead of week to week, removing some of the clutter around the service desk, and pairing strong desk workers with those less comfortable on the desk. Due to the number of personalities working the desk and entrenched practices and philosophies, larger challenges remained and required more work and suitable pacing. Gatekeeping, for instance, dominated service up to this point, which is understandable considering the different traditions and philosophies on access and preservation. New procedures and guidelines set by the Curator of Published materials placed a premium on courtesy and access, creating some challenges and many discussions about handling material and patron access. The Curator of Published Materials set up a task force consisting of staff workers from the desk and curators to establish guidelines for patrons handling material. This step eased some concerns and helped facilitate dialogue between curators and staff that considered the challenges of providing practical and user-centered access while maintaining high standards of security.

Another step involved the Curator of Published Materials working with the University Library Assessment Librarian to track data and generate reports that reflected the reference desk's work and user experience at SCL. Staff distributed a paper survey and collected patron emails to send the survey randomly via email as well. The Curator of Published Materials also implemented Desk Tracker, a module that tracks circulation and reference transactions; and he worked with graduate student assistants to design excel spreadsheets in Google Drive to log and collate patron information and circulation statistics. This data aided crucial decision making for User Services during this time. For instance, the library experienced many changes, including a multi-year renovation and fundraising project. Measuring user attitudes and expectations became increasing important since the first phase of renovating required all material to be removed from the library and stored at three offsite locations. The Curator of Published Materials worked with staff and the library stacks manager to set up a delivery system that reference staff and curators use to request material to be sent to the library. Another excel spreadsheet shared via Google Drive lists requested material, and staff use Millennium, USC's circulation and cataloging module, to request and track material in transit. Pamphlets and notices on the library's website explained the new system's procedures, delivery times and why it was being implemented.

The data also reflected that South Caroliniana Library and its reference desk offer a high volume of reference service. From September 2015 (when data began being collected electronically) to July 1, 2016, South Caroliniana performed 1556 reference transactions. For the 2014-2015 fiscal year, the library served 1146 researchers and circulated 279,839 items. While staff could input data into the Desk Tracker from their desks, most of the transactions were done at the reference desk. The data also reflected that the majority of the transactions were either basic reference questions, requests for reproduction orders, or requests for material to be retrieved. Twelve to fifteen percent of the questions were

classified as "advanced reference" or "research consultations." With this data in mind and after a lengthy and reasonably smooth transition to a working unified desk model, the Curator of Published Materials began the next transition by narrowing down the number of staff members working the reference desk to a smaller user services staff.

During this phase, a User Services division emerged under the direction of the Published Materials Curator. This change elevated the Curator of Published Materials to a new title, Head of User Service, and more user services fell under the new division's umbrella, including reference service, reproduction orders, instruction coordination, supervision of the library's web presence, and the retrieval system. Staffing for the desk transitioned to a tiered system in which the Curator of Published Materials/Head of User Services and a staff of two para-professionals, one part-time staff member and three library graduate students staff the majority of the shifts at the reference desk. Realigning services with a smaller but core reference staff ensures that best practices and policies are followed correctly with consistent user-centered attitudes. This group consults with the second tier reference staff as needed. The second tier staff consists of curators, archivists, Oral Historian, and manuscripts staff members with deep knowledge of the collection. Due to their training and education, curators and other subject specialists possess a deep knowledge of their subjects and collections. This model optimizes their expertise by only utilizing them for reference as needed, freeing them up to work with their collections and donors. The challenge is for the librarian (Head of User Services) and user services staff to build upon their knowledge of South Carolina history and the collection to supplement their librarianship and ease some of this burden off the curators. Also, the Head of User Services must work as a bridge between services and curatorial staff and archivists. This librarian should consult with this group to ensure protocols and procedures are in line with their professional attitudes and practices. And lastly, the librarian responsible for User Services must convey to curators and archivists the realities of providing user-centered services with a staff partially comprised of graduate students. Graduate students will learn at different paces, but it is important for them to feel comfortable asking a curator for help even if "they should already know it."

Conclusion

With differences in training and practices, special collections professionals often operated individually, many existing as mini-administrative units. Economic pressures and technological changes led many to consider integration as a modern approach that moved away from maintaining divisions by material type. Doing so often removed a level of professional expertise from services and other practices as they became more generic and library-centric. The tradeoff appeared in a reduction in redundancies and administrative costs, as well as, most often, an increase in user satisfaction, with the best practices finding a balance between streamlining service and expertise. This balance has been one goal for South Caroliniana Library since it began operating a unified service desk and addressing the issue of integration in general.

As a service point arches over collections that individual curators rightfully protect and built, curators desire a strong stake in how their material will be handled and how reference questions will be answered at a unified service desk, especially if they have always provided

reference for their material. The overlying model can blur the lines of their territories as more staff begin providing access to their collections since it will have its own guidelines and procedures that fit all collections. One larger challenge falls on the manager of the service. The manager must keep lines of communication open with his or her colleagues and be willing to make changes when possible to accommodate the curator's concerns. However, the manager also has to be mindful of keeping staff trained and consistent, so that the patrons do not experience incoherent procedures and rules. And all of this should be accomplished in concert with efficiently providing excellent personalized user service.

In its second phase, the unified service desk at South Caroliniana now operates with the philosophy outlined above. Only user services staff work the desk. Curators' input is sought but they are free to spend more time working with their collections. User services staff training includes issues such as discovery tools, security, protocols for patrons handling material, using our circulation module to track material, and requesting material through our retrieval system. The Head of User Services routinely meets with staff and curators to ensure practices and procedures are consistent, practical, and appropriate. Also, the Head of User Services investigates opportunities for staff to learn about South Carolina history as much as possible. With a successful transition, User Services at South Caroliniana has now also integrated all user services for the library under the User Services division. This last step centralizes reproduction orders, retrieval requests, and email correspondence. With the Head of User Services serving as the point person for all services, surveys will also be utilized to track the South Caroliniana Library service beyond the reference desk. Also, with the addition of a part-time graduate student working 25 hours a week, graduate student worker hours total fifty five hours a week. Lastly, now that the User Services division has developed, the next step for South Caroliniana Library includes creating a Head of Collections Division. With these two steps in place, South Caroliniana Library will have integrated both services and collections and experienced an organizational design that elevates two curators to senior level positions within the library, providing two solid building blocks for the library's future.

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Developing a Research Proposal: Serendipity and Planning

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Abstract

The Health Sciences Library Network of Kansas City, Inc. (HSLNKC) is an active organization. Two years ago three of the academic health sciences libraries within HSLNKC (University of Missouri-Kansas City Health Sciences and Dental Libraries, Kansas City University of Medicine and Biosciences, and University of Kansas Medical Center-Dykes Library) collaborated to find a student focused topic all could universally participate in. After discussing several ideas, the one that rose to the top was space utilization.

All three libraries struggle with what type of study spaces to offer and how much of each kind, so a survey instrument was developed to study how our students were using the spaces presently in each of the libraries. The authors communicated with each other concerning the details of the survey, where to record the data, and the information that needed to be gathered from the Institutional Review Board for human subject research from each of the three institutions.

This paper will discuss the gritty details of setting up a survey, deciding where to record data, dealing with multiple Institutional Review Boards for human subject research, and more.

Our Beginnings

Health Sciences librarians in Kansas City have a wonderful and unique group that facilitates collaborations and friendships. It is the Health Sciences Library Network of Kansas City (HSLNKC). HSLNKC offers new and established health sciences librarians a place to meet colleagues and get to know people with picnics, parties and events, in addition to the quarterly business meetings and networking. This group began in the seventies, with the original purposes of providing courier services (for a fee), creating a union list, and offering free, reciprocal Interlibrary Loan between the member libraries. The consortium has gradually added services that most small hospital libraries wouldn't be able to afford on their own. The group makes consortia purchasing at a deep discount

available to member libraries; currently you can select from products by Ovid, EBSCO, Rittenhouse, EOS, and others. As hospital libraries began closing in the early nineties, the group tried to ensure that the purchase of electronic resources would not be a reason to get rid of the librarian. To this end, an institution could only become a member of the group, and thus eligible to purchase, if you had a full time librarian with an ALA approved MLS staffing your library.

The academic health sciences libraries of the University of Missouri-Kansas City (UMKC), which has separate Health Sciences and Dental Libraries, University of Kansas Medical Center Dykes Library (KUMC), and Kansas City University of Medicine and Biosciences D'Angelo Library (KCU) were members from the beginning of the organization. Presence at the HSLNKC meetings, therefore, fostered a conversation between these librarians which became the foundation for creating our collaborative project. Academic librarians have a challenge to publish that most hospital librarians don't face. So over two years ago the academic librarians started meeting separately with a goal to publish.

Group Dynamics

It has worked well in our collaboration to let folks decide what tasks they want to take on. But the key is communication. From the outset one author was the organizer. She would arrange the meeting dates and times, take notes, create action items, and generally keep everyone on track. This is a big task, so it was understood that the author who took on this role would not have to contribute as much in other ways. Another author volunteered to become the investigator of how to go about getting research approval, and third took on reviewing the literature. In our group, it generally worked that someone would volunteer, but if no one did, the organizer would send out an email listing the tasks everyone had and what task still needed a volunteer. Someone always stepped up.

Another key element of our group dynamic was input from all participating authors. Recognizing that each librarian is comfortable and competent in their own unique skills, and utilizing these skills to improve the success of the group was key in completing tasks successfully. The authors used a variety of communication methods to make this input possible including email, face to face meetings and phone calls. As the various libraries are geographically diverse, it was essential to provide multiple communication options and rigorous follow up to ensure that everyone had the ability to contribute. The authors were fortunate to have a group who felt very comfortable supplying feedback for assigned tasks and questions. Without such participation, completing a multi-site project such as this would arguably be difficult.

This is a key area where hard feelings can occur. Our guiding principal is to be honest; don't take on a task if you know that you are having a busy time and won't be able to meet the deadline. Conversely, if you take on a task, and suddenly things at work speed up, make sure the group knows the situation and that you won't be able to meet your deadline. During the almost two years' time frame individuals in the group have dealt with

hospitalization, surgery, various illnesses of the group and/or the families, and assorted other life events, including the birth of several grandchildren. The project just keeps humming along as authors jump in and out of tasks as required.

Deciding on the Research Proposal

The group set up monthly meetings in local restaurants around town to work out our research proposal. In order to encourage participation, the group chose central locations or various sites near each of the individual institutions. Over several meetings, with food and drink, lively conversations would occur on different ideas for the project. What about something on Interlibrary Loan? Or how about what services the libraries offer? What about database instruction? Nothing seemed to fit each library until the group started talking about spaces. Each library has different challenges concerning their spaces, but all have spaces, and so the group decided that a study of space utilization by students would be the proposal.

Literature Review

Traditionally, librarians across institutions have excelled in collaborative endeavors such as:

- Resource sharing though reciprocal interlibrary loan arrangements
- Shared online/chat reference services
- Shared cataloging through utilities such as OCLC
- Purchasing through a consortium, as seen in the Health Sciences Library Network of Kansas City

However, the literature is scant on the collaborative research efforts of librarians from different institutions. Bottorff examined collaboration of librarians across different campuses, but still within the same institution. Sharun examined an information literacy assessment tool that was developed across institutions and how the tool evolved through use, but the analysis was still institution-specific. A true research effort comparing librarians' impressions who were from multiple institutions and involved in a multi-institution, multi-disciplinary study can be found in Garcia-Milian's paper on the VIVO project. The authors believe this lack of evidence of multi-institution collaborative research efforts among librarians is for two main reasons. First, the institutions themselves don't have processes set up that are easy to follow and understand; and second, the Institutional Review Boards are more difficult to work with for this purpose.

Designing the instrument

Once the group settled on the idea of space utilization by students, then the authors had to decide what data to capture. Were there enough:

- Computers
- Group study spaces

- Quiet study areas, and
- Other areas students use

Other questions included:

- What spaces were used most
- What times of day were the busiest in the libraries and for what spaces
- How many times a day would the counts be done
- How would missed entries and other errors be handled
- Who would do the counts

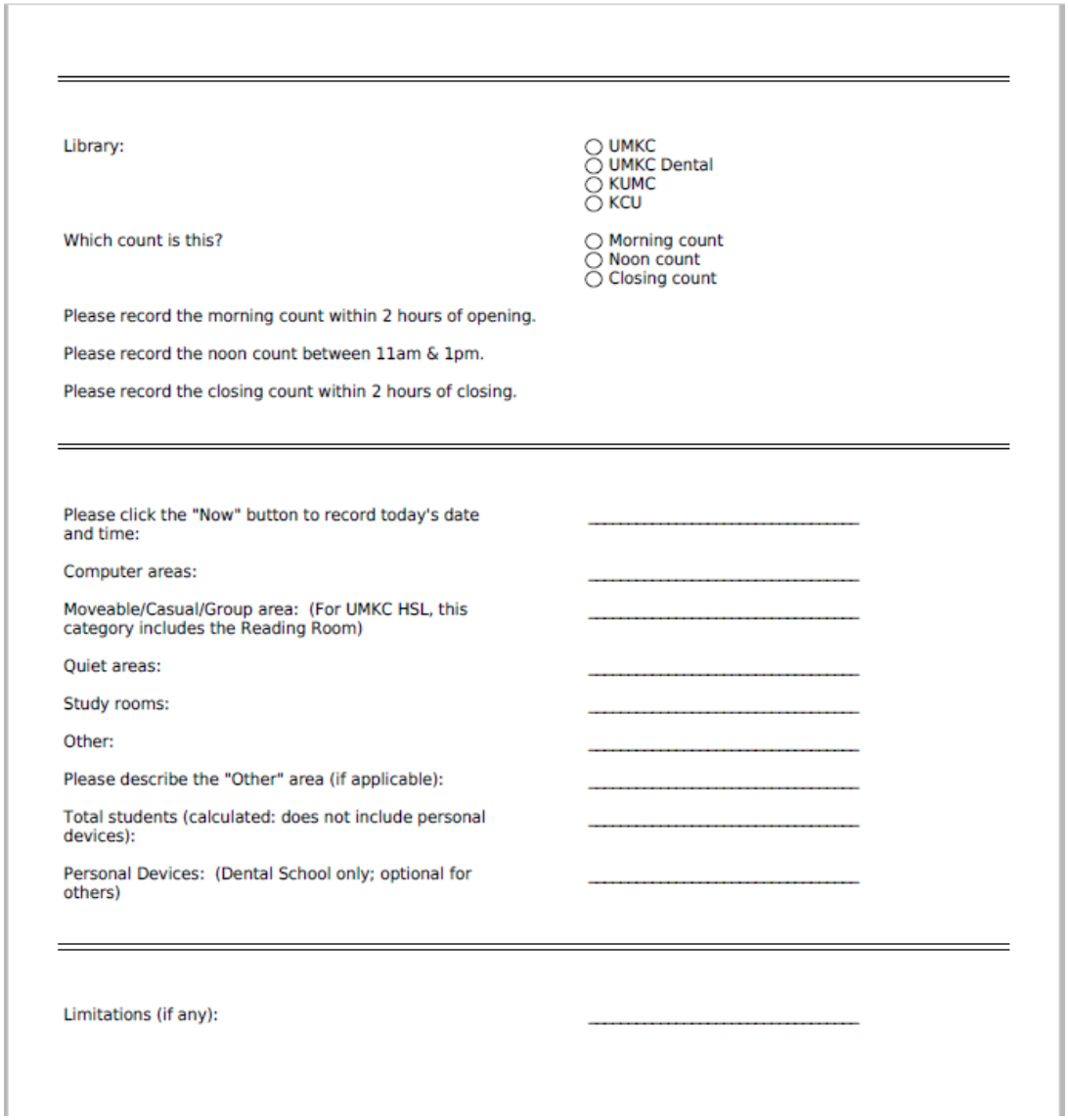
Once the group had the basic data questions defined, the next step was to figure out a shared place to record all the data. The UMKC librarians knew that they had access to RedCap, and that while "REDCap can be used to collect virtually any type of data, it is specifically geared to support data capture for research studies"("REDCap"). One author from UMKC agreed to check if other institutions could use the program. The UMKC RedCap program coordinator was very helpful and agreed to set up accounts for each of the other libraries. It was then the group decided to call itself the Tri-School Library Project.

With the assistance of the RedCap coordinator, one author set up a test survey instrument (See fig. 1). RedCap offers the ability to try out an instrument first and see if it works. The group tested the instrument, made a few small changes, ran a pilot, and then decided it was ready to go. One of the nice features of the RedCap program is that everything is in the cloud, so you can access it whenever you need, and there are no need for paper copies. At the UMKC Health Sciences site the staff does the counts all day long, and simply enters the data directly into the instrument on the web. Safe, secure, and done in one step.

Institutional Review Boards

If you are conducting research with humans, you are required to submit your proposal to your Institutional Review Board (IRB). The group did some research and it seemed that if one institution got IRB approval, then that would be sufficient for all of the institutions, as there was a cooperative agreement in place between our universities. At UMKC there was a requirement that the principal investigator (PI) must complete Collaborative Institutional Training Initiative (CITI), so one author took the online course with 16 modules and submitted it to the IRB. Once that was complete, then the author could apply online for a determination if the project was exempt or not. Exempt projects generally involve human subjects but "raise no substantial risks to subjects"("Exempt Determinations"). This process was done online, and once the exempt determination was issued (see fig. 2), the authors tried sending this to the other two institutions' IRB's. That is when the authors discovered that the cooperative agreement between the universities didn't cover Exempt Research.

The initial decision to apply at UMKC was made because they had the clearest directions on what was required to get IRB approval. At the other two institutions the librarians weren't sure of the process, or who was clearly responsible for the approval process. But with the glitch it meant that an author at each institution had to try to figure out what was required at each location. The project was on hold for a few weeks while the authors at the other two institutions tried to navigate their systems. At KUMC, the author was new to the IRB process, and so with no background knowledge it was hard to even figure out where to begin. However, collectively the group worked through the submission (see figs. 3 and 4), and eventually all three IRB's approved the project as Exempt.



Library:
- ◯ UMKC
- ◯ UMKC Dental
- ◯ KUMC
- ◯ KCU

Which count is this?
- ◯ Morning count
- ◯ Noon count
- ◯ Closing count

Please record the morning count within 2 hours of opening.

Please record the noon count between 11am & 1pm.

Please record the closing count within 2 hours of closing.

Please click the "Now" button to record today's date and time: _____

Computer areas: _____

Moveable/Casual/Group area: (For UMKC HSL, this category includes the Reading Room) _____

Quiet areas: _____

Study rooms: _____

Other: _____

Please describe the "Other" area (if applicable): _____

Total students (calculated: does not include personal devices): _____

Personal Devices: (Dental School only; optional for others) _____

Limitations (if any): _____

Fig 1. Tri-School library project instrument.

UMKC
Office of Research Services

5319 Rockhill Road
Kansas City Missouri
TEL: 816 235-5927
FAX: 816 235-5602

NOTICE OF EXEMPT DETERMINATION

Principal Investigator: Susan Sykes Berry
2411 Holmes Street
Kansas City, MO 64108

Protocol Number: 15-567
Protocol Title: Tri-School Library Project
Type of Review: Exempt

Date of Determination: 12/16/2015

Dear Assoc. Professor Sykes Berry,

The above referenced study was reviewed and determined to be exempt from IRB review and approval in accordance with the Federal Regulations 45 CFR Part 46.101(b).

Determined to qualify under Exempt Category #2 as follows:
Research involving the use of educational tests (cognitive, diagnostic, achievement), survey procedures, interview procedures or observation of public behavior, unless: (i) information obtained is recorded in such a manner that subjects can be identified, directly or through identifiers linked to the subjects; and (ii) any disclosure of the human subjects responses outside the research could reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability or reputation.

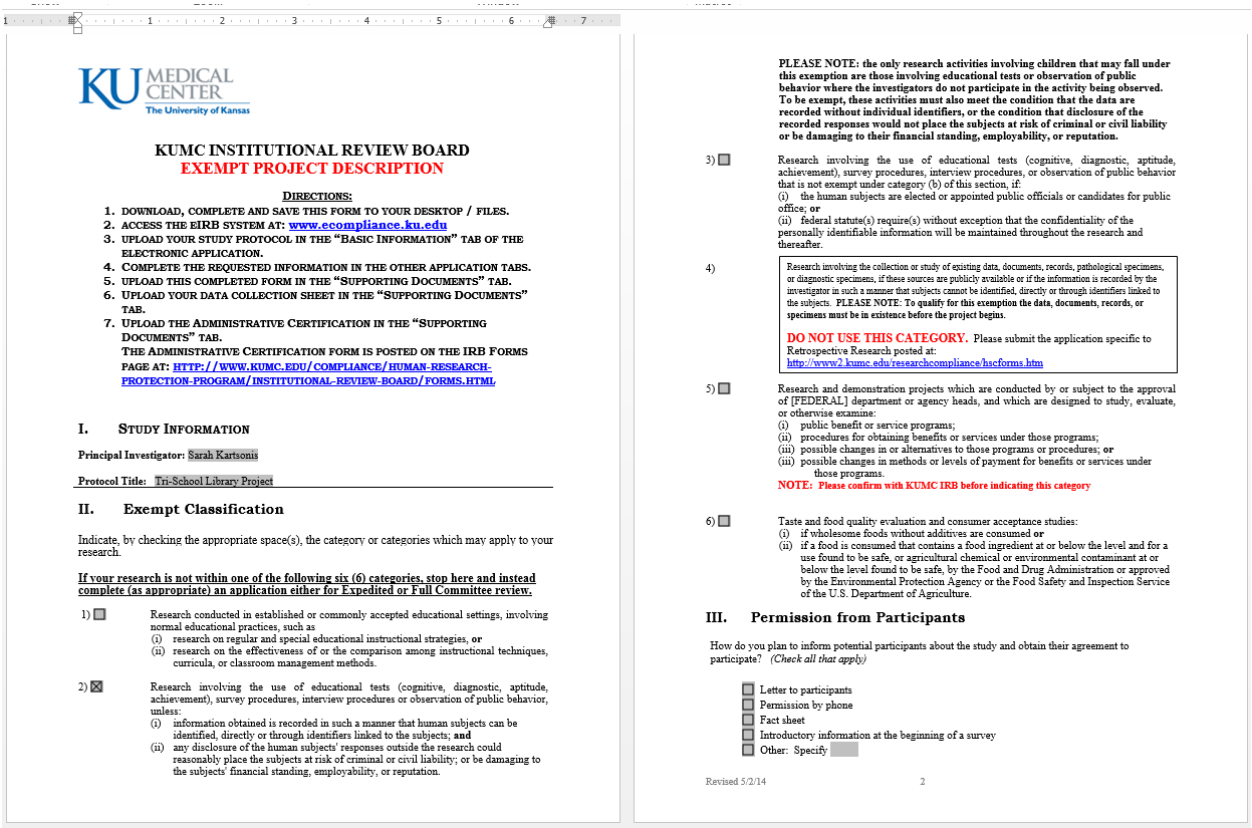
This determination includes the following documents:
Attachments
Research Protocol
TriSchoolLibraryProject_TriSchSurveyInstrument

You are required to submit an amendment request for all changes to the study, to prevent withdrawal of the exempt determination for your study. When the study is complete, you are required to submit a Final Report.

Please contact the Research Compliance Office (email: umkcirb@umkc.edu; phone: (816)235-5927) if you have questions or require further information.

Thank you,
Chris Winders
UMKC IRB

Fig. 2. Exempt determination letter.



KU MEDICAL CENTER
The University of Kansas

KUMC INSTITUTIONAL REVIEW BOARD
EXEMPT PROJECT DESCRIPTION

DIRECTIONS:

1. DOWNLOAD, COMPLETE AND SAVE THIS FORM TO YOUR DESKTOP / FILES.
2. ACCESS THE EIRB SYSTEM AT: www.ecompliance.ku.edu
3. UPLOAD YOUR STUDY PROTOCOL IN THE "BASIC INFORMATION" TAB OF THE ELECTRONIC APPLICATION.
4. COMPLETE THE REQUESTED INFORMATION IN THE OTHER APPLICATION TABS.
5. UPLOAD THIS COMPLETED FORM IN THE "SUPPORTING DOCUMENTS" TAB.
6. UPLOAD YOUR DATA COLLECTION SHEET IN THE "SUPPORTING DOCUMENTS" TAB.
7. UPLOAD THE ADMINISTRATIVE CERTIFICATION IN THE "SUPPORTING DOCUMENTS" TAB.
   THE ADMINISTRATIVE CERTIFICATION FORM IS POSTED ON THE IRB FORMS PAGE AT: HTTP://WWW.KUMC.EDU/COMPLIANCE/HUMAN-RESEARCH-PROTECTION-PROGRAM/INSTITUTIONAL-REVIEW-BOARD/FORMS.HTML

I. STUDY INFORMATION

Principal Investigator: Sarah Kartsonis

Protocol Title: Tri-School Library Project

II. Exempt Classification

Indicate, by checking the appropriate space(s), the category or categories which may apply to your research.

If your research is not within one of the following six (6) categories, stop here and instead complete (as appropriate) an application either for Expedited or Full Committee review.

1) ☐ Research conducted in established or commonly accepted educational settings, involving normal educational practices, such as
(i) research on regular and special educational instructional strategies, **or**
(ii) research on the effectiveness of or the comparison among instructional techniques, curricula, or classroom management methods.

2) ☒ Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior, unless:
(i) information obtained is recorded in such a manner that human subjects can be identified, directly or through identifiers linked to the subjects; **and**
(ii) any disclosure of the human subjects' responses outside the research could reasonably place the subjects at risk of criminal or civil liability; or be damaging to the subjects' financial standing, employability, or reputation.

PLEASE NOTE: the only research activities involving children that may fall under this exemption are those involving educational tests or observation of public behavior where the investigators do not participate in the activity being observed. To be exempt, these activities must also meet the condition that the data are recorded without individual identifiers, or the condition that disclosure of the recorded responses would not place the subjects at risk of criminal or civil liability or be damaging to their financial standing, employability, or reputation.

3) ☐ Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures, or observation of public behavior that is not exempt under category (b) of this section, if:
(i) the human subjects are elected or appointed public officials or candidates for public office; **or**
(ii) federal statute(s) require(s) without exception that the confidentiality of the personally identifiable information will be maintained throughout the research and thereafter.

4) Research involving the collection or study of existing data, documents, records, pathological specimens, or diagnostic specimens, if these sources are publicly available or if the information is recorded by the investigator in such a manner that subjects cannot be identified, directly or through identifiers linked to the subjects. **PLEASE NOTE: To qualify for this exemption the data, documents, records, or specimens must be in existence before the project begins.**

DO NOT USE THIS CATEGORY. Please submit the application specific to Retrospective Research posted at:
http://www2.kumc.edu/researchcompliance/hscforms.htm

5) ☐ Research and demonstration projects which are conducted by or subject to the approval of [FEDERAL] department or agency heads, and which are designed to study, evaluate, or otherwise examine:
(i) public benefit or service programs;
(ii) procedures for obtaining benefits or services under those programs;
(iii) possible changes in or alternatives to those programs or procedures; **or**
(iii) possible changes in methods or levels of payment for benefits or services under those programs.
NOTE: Please confirm with KUMC IRB before indicating this category

6) ☐ Taste and food quality evaluation and consumer acceptance studies:
(i) if wholesome foods without additives are consumed **or**
(ii) if a food is consumed that contains a food ingredient at or below the level and for a use found to be safe, or agricultural chemical or environmental contaminant at or below the level found to be safe, by the Food and Drug Administration or approved by the Environmental Protection Agency or the Food Safety and Inspection Service of the U.S. Department of Agriculture.

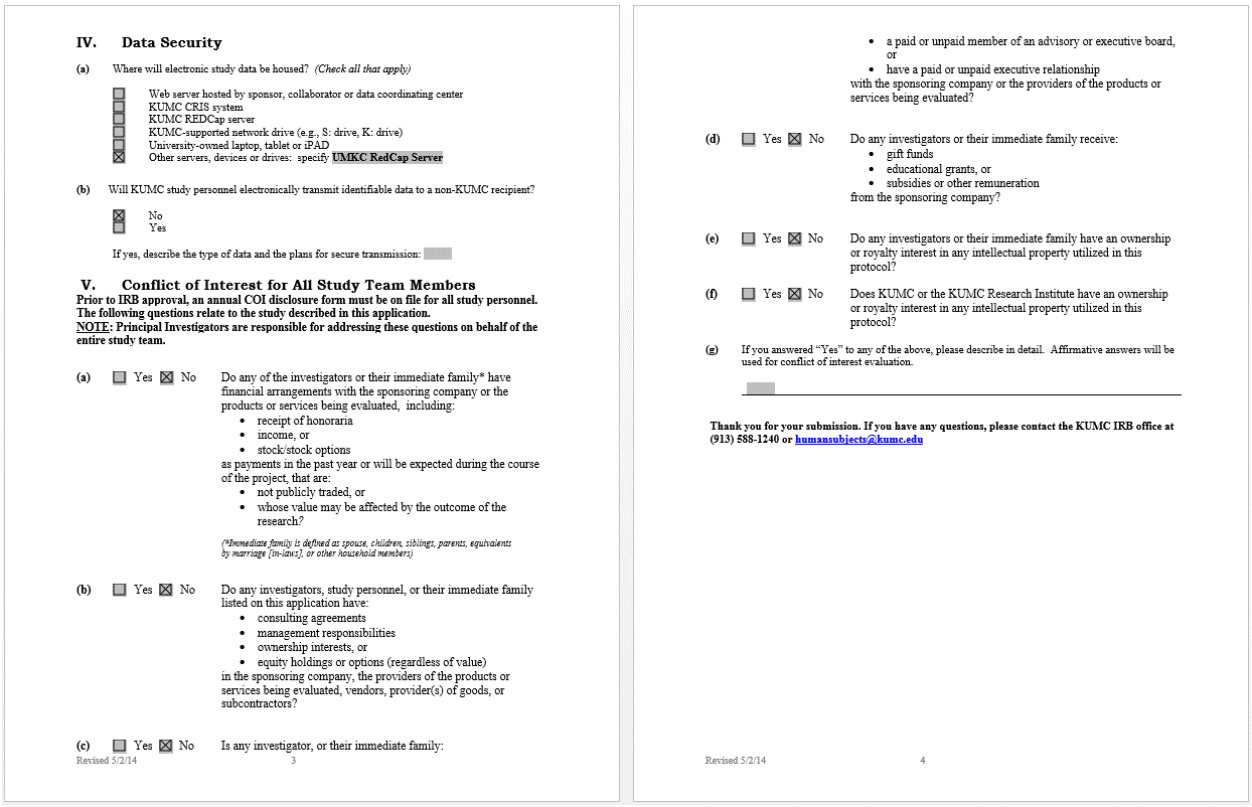
III. Permission from Participants

How do you plan to inform potential participants about the study and obtain their agreement to participate? *(Check all that apply)*

☐ Letter to participants
☐ Permission by phone
☐ Fact sheet
☐ Introductory information at the beginning of a survey
☐ Other: Specify

Revised 5/2/14 2

Fig. 3. KUMC exempt project description.



IV. Data Security

(a) Where will electronic study data be housed? *(Check all that apply)*

- ☐ Web server hosted by sponsor, collaborator or data coordinating center
- ☐ KUMC CRIS system
- ☐ KUMC REDCap server
- ☐ KUMC-supported network drive (e.g., S: drive, K: drive)
- ☐ University-owned laptop, tablet or iPAD
- ☒ Other servers, devices or drives: specify **UMKC RedCap Server**

(b) Will KUMC study personnel electronically transmit identifiable data to a non-KUMC recipient?

- ☒ No
- ☐ Yes

If yes, describe the type of data and the plans for secure transmission:

V. Conflict of Interest for All Study Team Members

Prior to IRB approval, an annual COI disclosure form must be on file for all study personnel. The following questions relate to the study described in this application.
NOTE: Principal Investigators are responsible for addressing these questions on behalf of the entire study team.

(a) ☐ Yes ☒ No Do any of the investigators or their immediate family* have financial arrangements with the sponsoring company or the products or services being evaluated, including:
- receipt of honoraria
- income, or
- stock/stock options

as payments in the past year or will be expected during the course of the project, that are:
- not publicly traded, or
- whose value may be affected by the outcome of the research?

*(*Immediate family is defined as spouse, children, siblings, parents, equivalents by marriage [in-laws], or other household members)*

(b) ☐ Yes ☒ No Do any investigators, study personnel, or their immediate family listed on this application have:
- consulting agreements
- management responsibilities
- ownership interests, or
- equity holdings or options (regardless of value)

in the sponsoring company, the providers of the products or services being evaluated, vendors, provider(s) of goods, or subcontractors?

(c) ☐ Yes ☒ No Is any investigator, or their immediate family:

Revised 5/2/14 3

- a paid or unpaid member of an advisory or executive board, or
- have a paid or unpaid executive relationship

with the sponsoring company or the providers of the products or services being evaluated?

(d) ☐ Yes ☒ No Do any investigators or their immediate family receive:
- gift funds
- educational grants, or
- subsidies or other remuneration

from the sponsoring company?

(e) ☐ Yes ☒ No Do any investigators or their immediate family have an ownership or royalty interest in any intellectual property utilized in this protocol?

(f) ☐ Yes ☒ No Does KUMC or the KUMC Research Institute have an ownership or royalty interest in any intellectual property utilized in this protocol?

(g) If you answered "Yes" to any of the above, please describe in detail. Affirmative answers will be used for conflict of interest evaluation.

Thank you for your submission. If you have any questions, please contact the KUMC IRB office at (913) 588-1240 or humansubjects@kumc.edu

Revised 5/2/14 4

Fig. 4. KUMC exempt project description.

Seven Conclusions to Take Away

1. Form a happy group for collaboration. You will be spending a great deal of time with those folks and it is so much better if all of you like each other and know that the work will be shared equally.
2. Decide who wants to take on the organizer role-they are the linchpin.
3. Decide on the research topic first.
4. Do the literature review to see what is out there.
5. Design the instrument next.
6. Apply for IRB approval. You might think this should be first, but it can't. To get approval you have to submit your information about the project and your survey instrument, so there is nothing to approve until you have designed those two things.
7. Start collecting data!

Works Cited

Bottorff, Tim et al. "Branching out: Communication and Collaboration among Librarians at Multi-Campus Institutions." *Journal of Library Administration* 48.3–4 (2008): 329–363. Print.

"Exempt Determinations." *ors.umkc.edu*. University of Missouri Kansas City Office of Research Services, n.d. Web. 28 June 2016. <http://ors.umkc.edu/research-compliance-(iacuc-ibc-irb-rsc)/institutional-review-board-(irb)/exempt-determinations>.

Garcia-Milian, Rolando et al. "Librarians as Part of Cross-Disciplinary, Multi-Institutional Team Projects: Experiences from the VIVO Collaboration." *Science & technology libraries* 32.2 (2013): 160–175. Print.

"REDCap." N.p., n.d. Web. 28 June 2016. <https://projectredcap.org/>.

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Mentoring on Mars: Peering at the Landscape through a Variety of Lenses

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Indiana State University

Valentine Muyumba
Associate Librarian, Chairperson of Technical Services
Indiana State University

Abstract

How might mentorship help people to thoughtfully adapt to working in highly diverse environments? Embracing diversity allows mentoring to become a learning space allowing a person to practice what it is like to work closely with someone who seems so different. Cultivating an appreciation of diversity is an expression of inclusive excellence and becomes a transferable skill that powerfully affects the mentor and mentee's other working relationships. The disciplines of management, academic leadership, and social justice advocacy have successfully employed metaphor to unpack and understand culture and behavior. The technique used to access these metaphors, called framing, challenges the individual to view institutions, situations, and people through different lenses to come to an understanding of alternate ways of knowing. In this paper a fictitious, two-part work scenario is presented. Rather than relying on blanket prescriptions of good behavior, framing is proposed as a realistic method for dealing with conflict in formal mentoring situations, as well as in the less recognized forms of mentoring embedded within organizational relationships. The scenario is presented as a general introduction to framing, but can be used as a workshop tool for mentoring or supervision programs.

Literature Review

In the library literature of the past twenty years mentoring is most often addressed programmatically. Goodsett and Walsh describes the foundation of a strong mentoring program for novice tenure-track librarians (915). Ross offers statistical analysis about the role of mentoring programs in retaining and promoting academic librarians into leadership positions (413). Pairing people with different career tracks and backgrounds is highlighted as strengthening mentoring (Kenefick and DeVito 91; Kuyper-Rushing 441; Rastorfer and Rosenof 117). Although framing has not been cited as a tool for library mentoring or supervision the authors posit that the tension between faculty autonomy, untenured and junior faculty status, positional power, and seniority lends a complexity to human interactions in academic librarianship that makes framing an especially useful conflict management tool.

The framing employed in this paper comes from Bolman and Deal who use the four frames of structural, HR (human resource), political, and symbolic to express four lenses that people can look through to understand behavior (19). None of these frames are inherently

good or bad. The authors' interpretation of these frames, and metaphors to explain them are listed in table 1.

Table 1
Examples of Bolman and Deal's Frame Metaphors

Frames	Positive/Enthusiastic Metaphors	Negative/Dismissive Metaphor
Structural	well-oiled machine: we get more done in less time and with less effort, we maximize the good	dehumanizing factory: we create widgets at the expense institutional innovation and our own well being
HR	dream team: cooperation, trust, and sharing motivates us; we are nothing without our people	dysfunctional family: sibling rivalry confounds a shared vision and stunts our individual growth
Political	efficient coalition: we get meaningful things done through negotiation and compromise	back-stabbing jungle: self-interest trumps the ethics of care and the public good
Symbolic	theater of ideas: we inspire all to reach their personal best, we are heroes	pie in the sky: we sacrifice efficiency, good will, and practicality for an ideal

Because it is beyond the scope of this paper to provide a broad overview of the forty years of framing literature that exists in the fields of management, organizational behavior, social justice, and educational leadership, a comparison chart of other scholars' work on frames is compared to Bolman and Deal in table 2. This table, which by no means covers all scholars examining frames, gives the reader a place to start for further reading.

Table 2
Bolman and Deal's Frames Compared

Scholars	Structural	HR	Political	Symbolic
Birnbaum	bureaucratic		political; anarchical	
Manning	bureaucracy	collegium; feminist	political	cultural; spiritual
Morgan	psychic prison; machine	cultures; organisms	political system	
Mintzberg	bureaucracy			adhocracy
Delgado/ Stefanic			social justice	
Wheeler		servant leadership		

Sources: Birnbaum, R. *How Colleges Work: The Cybernetics of Academic Organization and Leadership*. San Francisco: Jossey-Bass, 1988.; Delgado, R., and J. Stephanic. *Critical Race Theory: An Introduction*. New York: New York University Press, 2012; Manning, K. Organizational Theory in Higher Education. New York: Routledge, 2013; Mintzberg, H. The Structuring of Organizations. New Jersey: Prentice-Hall. 1979; Morgan, G. *Images of Organizations*. California: Sage, 2006; Wheeler, D. Servant Leadership for Higher Education. San Francisco: Jossey-Bass, 2012.

Background to the Scenario

This paper deals with a scenario that is informed by experiences of librarian and library staff participants across several universities. Elements of these experiences have been combined and incorporated into a fictitious, two-part scenario to convey authentic organizational and relational complexity while maintaining participant and institutional anonymity. Pieces of the scenario are punctuated with three sets of discussion questions to spark deep thinking about framing. Manning's work, *Organizational Theory in Higher Education,* informs the approach of how the material is presented. The scenario includes one formal mentoring relationship but the authors stress the importance of considering all of the relationships in the narrative as being a potential part of using frames to mentor, coach, and interpret organizational behaviors.

In presenting the three sets of discussion questions the authors invite the reader to appreciate the spirit of the exercise: Framing is the practice of thinking about people whose perspectives and behaviors are subtly or radically different than one's own. Framing is also used to understand the culture of an organization or sub-organization – such as a library department within a library, and a library within a university. Being right, winning a battle, or trying to force other people to behave alike is not the point of framing as it is presented here. Rather, the authors encourage the reader to seek understanding for self-empowerment and to empower others. Because of this the authors posit that there is no one, right answer to any of the discussion questions posed in this paper.

The Setting

The Main Campus Library of Noontime University is a four-story building boasting a print collection of 800,000 books. The library receives over one and a half million visitors per year. The Library Dean has two associate deans and an administrative staff of four reporting directly to him. The Associate Dean of Technical Services is in charge of the departments of scholarly communications, library systems, acquisitions, and technical services. The Associate Dean of Public Services is in charge of the departments of access services, reference and instruction, and special collections. A department head librarian manages each department. Permanent workers in the library belong to one of three types: Faculty – Twenty-five tenured or tenure-track librarians, including librarians with administrative status such as the deans and department heads. PES (Professional/Administrative Staff) – Ten PES's who are exempt employees with as much autonomy over their work as the librarians. Staff – Forty non-exempt staff. The university adheres to AAUP (American

Association of University Professors) guidelines. University faculty and staff are not unionized.

The People

Stephanie, Assistant Professor and Cataloging Librarian. Stephanie is a Hispanic in her twenties who grew up in the shadow of Noontime University. As a first generation college student she earned a BA from Noontime. After graduation Stephanie relocated to another part of the country to earn her MLS and begin her career as a cataloger for a library consortium. After working in this position for one year she was excited to spot an advertisement for a cataloger at her alma mater, Noontime. Since she wished to come back home to be closer to family she applied for the job and got it. Stephanie has been a cataloger at Noontime for three years and is in the middle of her tenure-track probationary period. She is well liked because of her genuine concern for other people's wellbeing. Last year when another librarian broke his hip it was Stephanie who immediately organized weekly grocery and household cleaning runs among the library staff to that colleague's apartment. Stephanie's assigned library mentor is a Noontime reference librarian, Robert, with whom she has a productive and friendly relationship.

Many of Stephanie's coworkers, including her supervisor, Hope, her mentor, Robert, and the Library Dean have noticed with delight Stephanie's grit, creativity, dedication, leadership, and enthusiasm. Stephanie has already won a well-known regional award for a community project she spearheaded. She is currently the youngest member of a highly influential ALA national committee. Stephanie was recently invited to write a book chapter by a nationally known library scholar. Some say Stephanie is slated to be a library superstar. Stephanie likes her supervisor, Hope, and her department colleagues but is sometimes impatient with what she secretly relates to Robert as the "plodding style" of technical services. She feels this way because many department issues and workflows are handled via discussion and consensus. Stephanie realizes that consensus building is Hope's leadership style and she does appreciate Hope's experience and judgment. Stephanie's usual frames are symbolic and political.

Robert, Associate Professor and Reference Librarian. Robert is a White man in his thirties who hails from the West Coast and has been working as a reference librarian at Noontime for 15 years. He is tenured and has no immediate plans for seeking full rank. Robert is often the "go-to" person in his department when someone is needed to speak with irate or agitated patrons at the library Information Desk. The head of reference and instruction often calls upon Robert for his advice on people and policy. Many have counseled Robert to seek promotion. But he is happy where he is, saying that a management job would tie him down and lay temporal claims on his workday autonomy. Robert is often assigned as a mentor to the new librarians because he is good at spotting high profile services opportunities and projects for his mentees. He also genuinely cares about the people he coaches and takes his mentoring role seriously. Some in the library believe Robert to be witty, wise, and helpful, while others see him as unctuous and too savvy for his own good. Robert and Stephanie's supervisor, Hope, get along because they share the same irreverent sense of humor. Robert is most comfortable operating within the political and symbolic frames.

Hope, Associate Professor and Head of Technical Services. Hope is a Black woman in her fifties originally from the East Coast. She came to Noontime University ten years ago with tenure as a cataloger and was promoted to head the technical services department two years ago. Hope has a reputation of being a generous, approachable, hardworking professional. Through her dedicated university service and governance work she has become friendly with the university provost, the speaker of the faculty senate, and the assistant to the university president. The Library Dean has favorably noted Hope's status and influence on campus. Hope is still learning how to understand her new boss of six months, Gerry. Gerry is very correct and polite, but Hope misses the closeness and camaraderie she had with her previous supervisor.

Hope is popular with her staff of four cataloging librarians and four cataloging assistants. She sometimes experiences conflict with one of her untenured catalogers, Stephanie, who seems to occasionally rankle at Hope's collaborative leadership style. Hope's response to Stephanie's frustration is to gently remind Stephanie that this is the way of the department. Hope believes in the individual's right to grow and has been instrumental in helping people transfer out of her department for more challenging and better paying positions, even at the expense of her own convenience. Hope wishes to continue as a department head for the foreseeable future, and holds the immediate ambition of putting herself up for full rank within the next few years. Hope's frames are HR and structural.

Gerry, Professor and Dean of Technical Services. Gerry is a White man in his fifties from a rural East Coast town. He has only been at Noontime for six months after working as a unit head in a small liberal arts college that had closed due to financial exigency. Gerry with in with full rank and tenure. Gerry feels he is still carefully learning the culture of the university and the personalities of his library colleagues. He is currently pleased because he recently impressed the Library Dean by successfully shepherding the details of the MOU (memorandum of understanding) of a shared catalog project with another university. In accepting credit for the project Gerry was careful to cite the contributions of Hope, his direct report and the Head of Technical Services, and the Head of the Systems Department in this endeavor.

Gerry is still trying to figure out Hope. He values the fact that the technical services department runs so well that there are few, if any, fires for him to put out. He does not micro-manage and is grateful that Hope's competent management makes him feel as if he doesn't need to. He appreciates the high profile Hope maintains in the faculty senate and is both happy for it and intimidated by it. Gerry would like to get closer to Hope while still maintaining his authority over her. He does not seek a working relationship with any of the department staff under his purview, preferring to speak only with his department heads. To his Library Dean he is dignified, respectful, efficient, and ever on the lookout to assist. Gerry has the reputation of being even-tempered, fair-minded, reasonable, and polite – butt a bit distant. He is most comfortable operating within the structural and political frames.

Discussion Questions I

- Stephanie: Stephanie is described as having grit and the potential to be a library superstar. This could be true of someone employing any of the four frames. In Stephanie's case, how do you see her preferred frames of symbolic and political as assisting her in achieving what she has thus far in her career?
- Stephanie and Robert: Both mentor and mentee have the same preferred frames, symbolic and political. How might two people who share these frames tacitly understand each other?
- Stephanie and Hope: Department head and librarian do not have any preferred frames in common. From what you've learned so far of frames, where could the biggest areas of potential misunderstanding between them lie?
- Hope and Gerry: The department head and associate dean share the structural frame. But Hope's other frame is HR, while Gerry's is political. Using framing as the analytic tool, why would Hope want to get closer to Gerry? Why would Gerry want to get closer to Hope? Do their motivations in this matter differ, dovetail, or conflict?

Scenario Part I

The Monday Morning Fallout

On an early Monday morning Gerry phoned Hope and asked her to come up to his office. Once there Hope was shocked to find Gerry angry. In the six months he had been her supervisor she had never seen him angry. Gerry told Hope that he had been embarrassed in front of the Library Dean because of her. Last Friday afternoon she had sent one of her people up to him to endorse the rush purchase of a big-ticket item, Gerry explained, and he had trusted her judgment and signed off on it. Now, this Monday morning, the Library Dean wanted to know why the library was spending $900 to purchase a book for a geology professor's private library. Since Gerry's signature was on the purchase order the Library Dean's budget specialist had ordered the book with Foundation money, as was procedure. But when the Dean learned of the purchase and that the book was slated to be delivered by the vendor directly to the faculty member's office without first being processed by the library, he was livid and called on Gerry to explain.

Gerry had no details for the dean, but said that he was confident that Hope had good reason for sending the rush purchase order up to him. The dean, however, was not satisfied with Gerry's explanation and admonished him for endorsing something he could not explain. Now, in front of Hope, Gerry told her that he felt a total fool in front of the Library Dean for not being able to provide the details of the rush purchase order.

Hope, caught off guard, was at a loss for words. She was angry and hurt at Gerry's attitude. When she composed herself she explained that she did not know what Gerry was talking about. She had been in the library all day Friday but did not know of any rush purchase

request of a big-ticket item. Gerry, shocked by Hope's ignorance of the purchase order, reined in his anger and spoke more softly. When Hope asked Gerry which one of her staff had brought the purchase order to him to sign, he was further embarrassed by having to admit that he knew the woman by sight but had forgotten her name for the moment. Hope asked Gerry to give her time to go back to her department to investigate. Gerry asked her to return to him with details as soon as possible.

Back in her department Hope stood among the cubicles and calmly but audibly called for everyone's attention. Still upset from Gerry's attack she asked in a controlled tone if anyone knew anything about a rush order on a big-ticket item from Friday. Everyone looked blank except for Stephanie, who sheepishly apologized to Hope for not immediately letting her know about the order first thing that Monday morning. Hope thanked everyone and asked Stephanie to follow her back to her office. Once both women were inside her office, she closed the door, sat down, and asked Stephanie to explain what had happened on Friday.

The Friday Emergency

Stephanie, still apologizing for not letting Hope know about the order that Monday morning, released a flood of disjointed details that made Hope's head spin. Hope gently quieted Stephanie and asked her to take a chronological approach to what led up to her involvement in the purchase order. On the previous Friday afternoon, Stephanie explained, she got a call from a geology professor who was very upset at the library not having a resource that he had usually put on reserve at the Circulation Desk for one of his graduate classes. What had actually happened was that the circulation staff had phoned this professor on Friday to explain that the library book was missing, and that they would immediately conduct a formal search for it while also ordering the first few chapters of the book through interlibrary loan to immediately put on reserve for his students. Circulation also referred the professor to his reference librarian liaison and said that they would also speak with his liaison directly about this matter. Not satisfied with this response the professor phoned library acquisitions to see if a new copy of the book could be ordered immediately. The acquisitions staff member explained to him that rush purchase requests like this must go through the reference librarian liaison for the geology department. When the library liaison could not be reached by phone the acquisitions staff member told the professor that she would leave a message for the liaison.

Still unsatisfied the geology professor then phoned Stephanie, a librarian he personally knew from serving with her on a senate subcommittee. When he related his problem of the missing book he neglected to inform Stephanie of circulation's short-term and long-term responses to this predicament, nor did he let her know that he had been referred to his reference librarian liaison. He also did not tell her that he had just got off the phone with acquisitions. As a cataloging librarian Stephanie did not often come into contact with teaching faculty outside of her service commitments. The urgency in his voice panicked Stephanie and, cognizant that he was one of the more high profile researchers on campus, she believed that she needed to fix the problem. While he was speaking Stephanie looked up the title of the book on a vendor's website and saw that it cost $900. Since technical services staff are cross-trained, she knew the rudiments of how to fill out a rush purchase order form.

She also knew that the reference librarian liaisons or library administrators had to sign off on big-ticked purchase items such as this book. However, because it was lunchtime she was not surprised to find Hope absent from her office and the geology reference librarian not answering his office phone.

After a minute's thought she realized that in Hope's absence she could probably get Gerry to sign the rush purchase order. She brought the completed form up to Gerry, who was on a phone call and, seeing her standing in his doorway, silently motioned her into his office. He cupped the mouthpiece of his phone and looked at her quizzically. She told him nervously that she needed his signature for a rush purchase request. When he silently mouthed the words, "Where's Hope?" Stephanie let loose a barrage of details that confused and distracted Gerry. He rolled his eyes and motioned for her to put the form down on the desk, where he quickly signed it. As Stephanie was trying to thank him he was back into the thick of his phone conversation. Stephanie then delivered the form to the dean's budget specialist, not realizing that she had filled it out improperly and that the vendors would be instructed to deliver the book to the geology professor's campus office.

The Appraisal

Stephanie, standing in Hope's office and unaware that Gerry, the Library Dean, and Hope where upset, was poised own responsibility for her omission at not informing Hope of the purchase that morning. But she was completely gob smacked at Hope's assessment of her behavior. Hope asked Stephanie why she did not ask one of the more experienced catalogers in the department for advice; Why she did not wait to speak to Hope after lunch; Why she did not speak with anyone in circulation to confirm that the book was missing; Why she did not tell the geology professor that she'd leave a message with the appropriate reference librarian. To all these queries a shocked and confused Stephanie explained that the professor was asking *her* for help, and she felt she had to fix the problem. But Hope told Stephanie that she had created a problem, not solved one.

Discussion Questions II

- What frame is Gerry using by assuming that Stephanie would not approach him without Hope's permission?
- What is Stephanie's perspective on skipping over normal reporting lines? Why would someone with her preferred frames do this?
- Which one of Stephanie's preferred frames would influence her to define the geology professor's emergency as her emergency?
- Whose trust was betrayed in this incident? How can Hope claim the betrayal? How can Gerry claim it? How can Stephanie claim it?
- How can Hope best use her HR and structural frames to Coach Stephanie and deal with Gerry? What other frames might Hope embrace in dealing with these coworkers?
- What lesson do you want Stephanie to learn from this incident? How would you employ framing to help her? What are your preferred frames?

Scenario II

The Tuesday Afternoon Coffee

Upset by the events of Monday morning Stephanie called Robert and asked if she could chat with him. He met her as soon as his schedule would allow, Tuesday afternoon. To get away from the library they walked over to the student union cafeteria for a coffee. Stephanie related the events as she saw them, and asked for Robert's input of her genuine desire to fix the problem quickly and cleanly, and of her consternation at Hope's reaction to the situation. But Robert told Stephanie that he agreed with Hope's assessment of the incident. Stephanie reacted defensively to Robert's comment. She always felt that the two of them had always seemed to think so much alike, and now that he was taking Hope's side she felt doubly betrayed. Robert could see that Stephanie was still deeply smarting from the situation. He drew a long, deep breath before making another comment.

Discussion Questions III

- Why would Stephanie feel betrayed by a disagreement with a person, such as Robert, who shares her preferred frames?
- Why isn't Robert reacting the same way to this incident as Stephanie? Do people with similar or identical preferred frames act and think alike? Why? Why not?
- What is Robert's obligation as an official mentor in this situation? Should he be talking with Stephanie about this incident, or stick with just counseling her on her service and research?
- Robert's preferred frames are political and symbolic. Using frames as the tool of analysis, what do you think his counseling strategy might be in talking with Stephanie about the incident?
- Should Robert speak of this incident with Hope? Why? Why not? How could framing assist you in answering this question?

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Taking the ILS for a Walk on the Quad: Cross-Campus Collaborations for Tech Services

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Abstract

It's normal in academic libraries to have public services librarians engaged in projects that have them working closely with faculty and staff from departments across the university. This raises and solidifies the profile of the library within the university community, which in turn can help justify the library budget—an ongoing task in the best of times. Technical services librarians have a role to play in this important relationship-building as well, and can greatly contribute to the university community as a whole by assisting other departments through skills in which librarians specialize: organization, findability, and access. At Maryville University and the University of Central Oklahoma, two librarians have been engaged in cross-campus collaborations with their respective student involvement offices to allow them access to the libraries' Integrated Library Systems in order to catalog and circulate the items in their collections. In addition, the Maryville University library has worked on a similar project with their Art & Design program. Topics covered include: benefits to the library and other departments; challenges of "translating" an ILS and its functions; and some particulars of challenges based on the two libraries' systems (MOBIUS and Sierra on the one hand, and Alma on the other).

How to Maintain Reserves through Departmental Cooperation

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Abstract

At George A. Spiva library of Missouri Southern State University, reserves items include the materials purchased by the library and faculty members' personal belongings. All of the physical reserves are shelved behind the main circulation desk for educational purposes. However, a variety of issues have occurred to the reserves because of the cessation of some courses or the leaving and retirement of faculty members. To facilitate the access and availability of the reserves to library patrons, a solution is imperative. In this presentation, we will talk about the practices in reserves that are implemented through the cooperation of the departments of Technical Services and Circulation. The creation of a maintenance policy and the cataloging guidelines for the reserves, including physical copies and electronic materials, are to be discussed. The joint workflow for the clean-up of the reserves at the circulation desk and in our ILS, Sierra will be introduced as well.

Introduction

The Missouri Southern State University (MSSU) is an expanding state university in Joplin, Missouri. Having four schools with over 200 academic programs for undergraduate and graduate degrees, the university has an enrollment of nearly 6,000 students. George A. Spiva library is the only library on campus, and it is a MOBIUS Consortium member belonging to the SWAN cluster. The library houses over 500, 000 items in various formats including books, periodicals, microforms and multimedia. With subscriptions to more than 150 databases, 150,000 e-books and full-text access to hundreds of e-journals, the library provides comprehensive online resources for students, faculty and staff.

Technical Services (TS) occupies a large, shared space and is comprised of two units – Audio-Visual and Curriculum Collection (AVC) and Government Documents Collection (Gov Docs). The department includes one librarian, three full-time staff members and one part-time staff member. For circulation services, the Circulation and Resource Sharing specialist is in charge of two circulation desks located on the first and third floor in the library. Several student assistants are hired each semester to work for the Technical Services and the Circulation Desks.

Literature Review

Academic libraries have offered course reserves as a service to their students and faculty for years. The service has remained as a viable part of higher education. Austin states that libraries are the most logical candidates for being gateways to electronic and traditional reserves, media services, course pack creation, textbook ordering, courseware set-up, and other campus programs which support teaching (49). It is well known that the traditional library reserves service is undergoing a fundamental change. McCloskey explains that although traditional physical access to reserve materials remains in the library, electronic reserves is "emerging as a key element in the transformation of library operations" (16). How to sustain both physical and electronic reserves services becomes a challenging topic for academic libraries.

McCloskey describes reserves as a collaborative service between the library and teaching faculty (17). And the library staff responsible for the reserves operation should work closely with faculty. As Austin says, "If reserves are to survive a service, all of us will need the ability to react quickly and efficiently to the changing needs of both faculty and students and to the changing landscape of our information world" (50) .

On the other hand, library reserves services entail close collaboration and cooperation among different departments. Libraries rely on everyone working toward the same goals to provide quality service, addressed by Bordeianu and Lubas (73). In general, the library circulation desk provides space to store and reserve materials in various formats, as requested. Other library units, such as Acquisition, Cataloging and Reference make their own contributions to the availability of reserved materials.

Reserves Services at Circulation Desk

At Missouri Southern State University (MSSU), library reserve services have long been a convenient way for faculty to provide supplemental course materials for educational purposes. Spiva library has a web page available for Course Reserves to display the course titles and the instructors' information, which enables students to easily browse reserved physical and electronic materials. To further facilitate the teaching and research activities on campus, the library offers four reserve options including those for community, faculty personal reserves (i.e. their own materials), regular reserves (such as handbooks, manuals, study guides, test materials, etc.), and permanent reserves that are mainly purchased through the library budget. Faculty can also request the library move some related items from the library collections to course reserves for a period of time.

All of the physical reserve items including books, CDs, DVDs, and curriculum kits are cataloged and processed as necessary in Technical Services and then are placed on the Reserves shelf behind the main circulation desk. For electronic reserves, PDF files are created by the Circulation Specialist for the materials provided by faculty, such as book chapters, journal or newspaper articles, music scores, etc. The corresponding bibliographic records are made in the library's ILS with access to the PDF files. This allows all of the reserve items to be searchable on the library catalog and in the library's ILS, Sierra.

However, a variety of issues have occurred concerning reserve items. For example, several reserve items were listed under a department or program such as "Writing Project" which had no individual for contact. This created a problem of finding who had put the materials on reserve and whether they were still being used. In particular, some out-of-date publications needed to be confirmed for their continuing stay on reserve. Also, other reserved materials still being shelved were more like "orphans"; some of them were for faculty members who had left the university or were retired, and a few of the items were even their personal property. The rest of the items were for courses that were already discontinued or cancelled on campus. Likewise, several electronic reserves for retired faculty were still kept in the library system. Dealing with these reserves was a hard decision for the library. The other big issue was that many items still had the reserves location in the library's ILS. These items; however, had been moved to other library collections years ago. The unmatched physical location causes a lot of "missing" items within the library, which leads to chaos when a "missing" item is requested. In addition, there were a lot of "on-the-fly" bibliographic records created under the name of a faculty or department, which were not associated with any current courses.

Start of Departmental Collaboration

In February of 2015 the Circulation Specialist left unexpectedly. The position was under review with the MSSU President's council for two months. This left the position in limbo with only the daily tasks being shouldered by another librarian. In May when a replacement was appointed, a catch-up period began, particularly in reserves.

The new Circulation and Resource Sharing Specialist previously worked in Technical Services, and was aware of the messy condition of reserved materials when she was cataloging and processing reserves. She took the initiative to reach out to the Technical Services librarian for a departmental collaboration to organize and re-develop a collection that could be more visible and accessible to students and easily maintained by library staff as well.

Procedures of the Joint Project

After a couple of meetings between the Circulation Specialist and the Technical Services Librarian, the following agreements were made to start a joint project with the purpose of making requesting, processing, and retrieving all course reserve materials easier, faster, and more efficient.

Shared Responsibilities for Physical Reserves and Electronic Reserves

The Circulation Specialist is the primary contact person for all course reserves issues. She is responsible for contacting faculty members and departments at the beginning of each semester to be informed of any updates for the course reserves. She will add new electronic reserves and remove old ones in the library's ILS as faculty members require. For physical reserves, the Technical Services Librarian conducts cataloging and processing work and

then sends the finished items to the main circulation desk. The Circulation Specialist takes care of additional reserve processes by attaching labels, adding items to specific courses, adding reserve messages, and informing the related faculty and department of the availability of their reserves.

For any items that need to be removed from reserves, the Circulation Specialist will take care of the electronic materials by deleting bibliographic records as necessary. For physical reserves, the Circulation Specialist will contact TS to determine the new location of these physical items; either relocating items to other library collections or returning them to the real owner (faculty or department). And then the TS staff can proceed to re-catalog the items.

In addition, Reserve Notes generated by the library's ILS were never taken into account in the past. And the library policy for Course Reserves does not stipulate any regulations for the handling of such notes. However, confusion was caused during regular circulation of library items, mainly in the main or curriculum collections that had been moved off reserves. Although these items had not been used for course reserves for over five years, they still had multiple ON/OFF reserve notes attached to their bibliographic data in the library system. A decision for the Reserve Notes needed to be made at this point. It was agreed to have a yearly clean-up of Reserve Notes at the departments of Circulation and TS. At the beginning of the academic year, the Technical Services Librarian generates a list of items with ON/OFF Reserve notes that are over five years old and sends it to the Circulation Specialist for her review. The Technical Services Librarian will remove all notes for listed items not on reserve from the library's ILS.

Report the Library Director and Document the Agreed Policies for Course Reserves

The Circulation Specialist and the Technical Services Librarian met with the Library Director and reported to him the shared responsibilities for managing and maintaining the items on reserve. He showed his appreciation for the efforts that had been put into the project, and agreed to add the above decisions to the library policy as part of guideline for Course Reserves. Finally, the joint workflow for reserves was documented on the departmental wikis to indicate the respective tasks responsible for two departments.

Actions Taken for Reserves

The initial clean-up started with the physical items being kept on the Reserves shelf. With the assistance of her student workers, the Circulation Specialist went through about three hundred copies of items shelved behind the main circulation desk, checking their attached reserves labels and the corresponding bibliographic records in the library's ILS. This inventory process provided her a full picture of the course reserves including faculty names, course titles, and the number of items for specific programs/departments. She was also aware of several "missing" items with unmatched location in the library system and their actual physical locations within the library building. The Circulation Specialist informed the TS staff of the existence of the "missing" items. Therefore, the TS staff was able to identify

each specific item and fix their bibliographic errors such as location, status, local notes, etc. in the library system.

The Circulation Specialist also consulted with the related departments concerning some manuals and test materials on reserve to be certain of the usage of these items. She sent the TS several copies of reserve items for re-cataloging work or permanent deletion after getting feedback from the departments and faculty members. As the Circulation Specialist suggested obtaining a few newer editions of writing manuals, study guides, and test materials (such as, TOEFL, GRE, IELTS) to replace old editions. The checkout time for such reserve items was also extended from hourly to weekly to encourage students to utilize the resources. The Reserves shelf clean-up ended with the re-shelving of two hundred items.

As the inventory proceeded at the main circulation desk, the Technical Services Librarian was working on database clean-ups for reserves. First, the on-the-fly brief bibliographic records were pulled out in the library system and were checked against the titles of the physical items on reserve. The Technical Services Librarian discovered that most of the bibliographic records were for non-existing items which might have been temporary reserves in the past. Dozens of such records were finally processed for permanent deletion in the library system. The second clean-up was to update the inaccurate locations for order records, whose associated items were not placed on reserve any more. It took time to figure out where each of the individual items was shelved before getting a consistent location for order records.

Following the decision for handling Reserve notes, the Technical Services librarian cleaned up more than one thousand copies of items that have ON/OFF Reserve notes for over five years by the end of September 2015. This means that all items with reserve notes being added before September 2010 were updated in the library system.

When the clean-up of reserves was finished on the reserves shelf and in the library system, the Circulation Specialist worked with another librarian and updated the library Course Reserves webpage with a more clear and searchable features. In addition to two hyperlinks for a general search of course title and faculty name, a table containing course numbers, course title/subject and faculty was added to the page. Each course title/subject was interlinked to their associated reserve materials on the library catalog, which is convenient for users to have a full list of items for a specific course.

Conclusion

As the joint project for Reserves approached an end, the Circulation Specialist and the Technical Services Librarian reflected upon the whole process and realized the following approaches are important for the library to better provide its course reserves services to students and faculty members.

- Having a timely communication with faculty and department is essential for maintaining their reserved materials to meet the needs for teaching and research. Always keep in touch with faculty and departments who have any reserves in the library. Communicate with them via email, phone, office

visit, etc. on a regular basis to get first-hand information of their needs and expectations for reserves. Also, send a reminder to faculty and departments at the beginning and the end of each semester asking them to review their active reserve items.

- Keep track of the items on reserve continually. Make timely updates on them following up campus communication. Take immediate actions to process physical and electronic reserves as necessary, and edit the archived table of course reserves on the library website. Also, pay attention to the changes of personnel (e.g. faculty leaving and retirement) and academic programs on campus, and check the related reserve items for any necessary updates. In addition, inform the library staff involved of the adding/removing of reserve items in a timely manner so that they are able to be prepared for their tasks. A streamlined workflow among library departments needs to be considered and implemented.

- Course Reserves requires organized and detailed work. Therefore library staff must be responsible, patient and attentive. Any errors may lead to unexpected chaotic consequence for the access of course reserves. For example, a wrong coding of location, status, or material type of bibliographic information affects the circulation period of Reserves. Also, keeping complete sets of reserve kits can prove challenging as well.

- Having clearly-stated guidelines to direct the course reserve services is necessary. Establish detailed reserve procedures and integrate them into the library policy. Provide library staff involved with an easy access to these documents so that they are able to refer to them at work. Such documentation is also useful for new hires. Meanwhile, advertise the guidelines and policies on campus to familiarize faculty members and departments with library reserve services.

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Becoming the DH Team...Digital Humanities, Public History, and the Library

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Abstract

With traditional roles of librarians changing, Pickler Memorial Library has invested in building support for digital humanities projects--striving to become a resource of academic and technical expertise for Truman State University's faculty, staff and students.

A pilot project for this initiative began in fall 2014 when a history faculty member approached the Special Collections department to ask about potential collaborative projects that would support the Harry H. Laughlin Eugenics Collection. Taking into consideration the goals of collection support, faculty collaboration, and building a student's digital fluency skills, the library agreed to support the construction of a digital exhibit as part of the course.

This idea evolved to become a cross-departmental initiative which included various campus areas: Library Reference Services, Special Collections and Archives, the ITS Learning Technologies Team, and the History department. With this initiative, the library not only provided traditional research support but expanded their role to become collaborators in course design, digital humanities, and digital fluency development.

Celebrating International Students in the Library

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Abstract

The number of international students attending US universities has jumped 10% in 2015 to reach a total number of 975,000 students. As of 2014, students identified as non-residents or international students at the University of Missouri – Kansas City reached 11% of the total enrollment, representing 79 countries. However, academic libraries have not adjusted their services to meet the increasing needs of their changing populations. The service for international students in academic libraries remains under-developed for many reasons. At UMKC Libraries the presenters decided to reach this segment of the population by celebrating the diversity of their students and promoting the library as a friendly and scholarly hub for international students living away from their family and friends, and for whom the library has become a refuge and place for socializing and studying. The International Students' Day at the library features educational and entertainment activities prepared in collaboration with the student organizations. Speakers share tips and lessons learned from activities such as planning, funding, identifying and securing speakers, collaborating with students, marketing, and other aspects of the event.

Keeping in Step with the College's Mission

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Abstract

Strategic planning is not so much about what to do with all the funding a library has, but about commitment to a plan for excellence – no matter what that means for your library. A strategic plan envisions the future, develops the methods needed to move toward that future, establishes priorities, and promotes a library's core functions and services. It is a key management tool but one that is not often implemented because it sounds scary, seems like too much work, and people simply don't understand what a good plan can do for an organization.

One of the first things to decide is what a library hopes to gain by going through a strategic planning process. There are many avenues available to take on that road to excellence – that's why each library's plan is going to be different. Once a strategic plan is in place, it is there to provide frameworks for decision-making, shared understanding, and priority-setting.

There are many advantages to a strategic plan and the author discusses the ways that a strategic plan provides priorities, goals, objectives to meet the goals, activities to meet the objectives, and deliverables to demonstrate the accomplishment of the objectives.

While many library employees have work experience with individual goal-setting each semester, the paper discusses the differences in goal-setting with and without a strategic plan. Some aspects of creating a strategic plan will be inevitably touched upon but that is not the session's main focus. The primary focus is how the strategic plan drives accomplishment and completion of projects formerly attempted but not completed. In addition, the presenter describes how one's organizational culture can be improved through the use of the strategic plan.

Catch Online Students by Design

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Abstract

In higher education, more online courses and programs are taught every year. It is a challenge for academic librarians to engage with and connect to the online student. Not only is the classroom in an online setting but the students might not even live near the physical campus. We will discuss multiple strategies that librarians have used to engage and interact with students that enriches their learning experience. In this paper, we describe methods on designing courses for interaction, email strategies, check in methods, and ways that grabs the students' attention.

Session attendees will leave with several approaches on how to engage students in the online environment in a way that will enhance their learning. The paper will also include specific methods that can be customized.

Review of Literature

Online education requires just as much, if not more planning and intent, as an in-person class. Creating a course in a learning management system takes more thought and design than posting enough links to last a semester with the hope that students will gain the intended knowledge. Students may choose online classes as an efficient path to education, balancing their time between demands of work and family. Therefore, an easy-to-navigate and uncomplicated course design could determine if a student continues in the class or drops out completely. "Effective online learning, however, is the results of a well-planned design effort that meets pedagogical needs" (Murray et al. 127). Part of these pedagogical needs are interaction with the content, the instructor, and other students.

Lorenzetti states that "…faculty must believe that they are able to design, develop, and deliver an online course before they feel comfortable attempting the task" ("If They Believe" 1). Building this confidence could include training faculty in designing online courses. The training needs to include creating a plan for the instructor's presence within the class and strategies for additional instructor-student interaction. For example such training could be based on Quality Matters or Quality Online Course rubrics.

Putting this planned interaction into action is vital. Instructor presence is more likely to be manifested in the "live" part of courses—as they are being implemented—as opposed to during the course design process. This is important to note because as online enrollment numbers continue to grow, instructors often teach courses they did not design or develop themselves (Richardson et al. 259*).* At first glance, an online class may seem to have all interaction pre-planned and incorporated; however a successful course's interactions should be intentional and carried out throughout the course (Brunet 35). In other words, regular communications such as updates and postings should be planned at the beginning of the semester, yet other unplanned interactions should also take place throughout the semester based on class and individual student needs.

Part of instructor presence and instructor-student interaction is partially based on the responsiveness to the students' questions and comments (Richardson et al. 259). Instructors should establish their communication style early in the process, which may encompass timeliness of email responses or returning phone messages, as well as grading and feedback timeframes. Additionally, the instructor's presence can make a positive impact on student satisfaction (Richardson et al. 274). Instructors who reach out to students with frequent and personalized emails establish a more salient presence in the online course (Campbell 164).

How to create that instructor presence is a challenge in itself, especially when adapting an in-person class to the online format. "When embarking on a course redesign for eLearning delivery, educators are looking for guidelines on what to do—what strategies to employ to achieve student engagement through interaction in an online course" (Dunlap, Verma, and Johnson 145). This paper will provide some suggestions to guide instructor interaction and assessment.

Course Design and Connecting with Students

The online learning environment requires the student to be an active participant while the instructor has more of a supportive/facilitator role in the course. When designing an online course, an important consideration to ensure success and high levels of student engagement is to provide multiple communication opportunities between everyone in the course. High levels of engagement do not only include the student's communication with the instructor they also include the student's interactions with other students. It takes time to build an active and engaging online learning environment and the instructor needs to prepare not only the course content, assignments, and resources, but also communication methods that will encourage the students to become active online learners.

Technology Skills

When designing online courses, it may be natural to assume that traditional college students have the technology skills to successfully complete the course. After all, they did register for an online class and theoretically applied online to be accepted to the university. However, Bennett, Maton, and Kervin, warn that assumptions about digital natives and their technology skills can be misleading. They assert that "a significant proportion of young people" lack access to digital technologies and/or the ability to use them (778). Keeping this

in mind, online instructors should help guide students through the course content and technologies, providing them an opportunity to become familiar with the digital learning environment. For example, the first assignment could be a syllabus scavenger hunt in which students find and download the syllabus, then answer questions about it. Those questions might involve students finding the due dates for assignments or tests, guidelines for using the class discussions, and the instructor's contact information. The quest could be broadened to include the entire course, encouraging students to engage with the complete online space by exploring each portion of the class, discovering all of its various components. Beginning a class this way acts as an introduction to the course's content and design, thus making the class a more comfortable terrain for students to navigate. During this preparatory assignment, students also confront any incompatible technologies and can take the steps needed to fix those problems.

Immediate Non-participation

What then, should the instructor do when not all of the students participate in the class despite the effective course design and cheerful, informative and encouraging emails welcoming them to the class? Here, the teacher takes on the role of an academic shepherd, gathering all the non-contributors, bringing them into the flock. The first step, according to Sull, is to email those students individually, offering assistance, urging them to join the learning community (84). If those emails go answered, Sull then endorses phone calls directly to those students, as long as the university supports that type of communication with students (84). This personal outreach transforms the instructor from a mass email persona into a real person who is willing to go beyond expectations, demonstrating that the instructor cares about each student. Generally, teachers can strongly reinforce student engagement by responding quickly to emails and other communications, following up with individual students, and imparting an "I'm really-interested-in-helping-you" attitude (Sull 84).

Communication

Once students are participating and comfortable with the class format and content, it's time to establish the course's routine of assignments, readings, tests and a regular pattern of communications from the instructor. Typically, college students wait until the first day of traditional, physical classes to receive cues from the instructor as to the pace, tone and content of the course. However, the online instructor lacks this opportunity, so communication should begin early in the semester. In fact, students could be contacted by email before the first day of class, with the instructor introducing himself, providing a link to the online textbook if applicable, conveying an overview of learning outcomes and other student-orientating information. After that, similar communications should continue at a steady rate, keeping students alert and engaged in the learning process.

But reminders of upcoming class events are not enough in the online environment. In addition to updates, Boettcher recommends that online teachers establish consistent, virtual office hours: times when they are available live to students either through video

conferencing, chat, or email. Doing this, Boettcher argues, the instructor can address student concerns and be actively "present" in the online class.

Instructor's Social Presence

The instructor's level of involvement may set the standard for student interaction, which leads into a more complete educational experience. Lorenzetti builds on this idea that "the instructor is actually a critical component of quality, with the instructor having an impact on student involvement in the course and learning as measured by objective performance, course grades, and student satisfaction" ("The Four Crucial Factors" 8). No matter the format of the interaction, the instructor's maintained presence is crucial for the student to be an engaged part of the class (Brunet 36). "Without the salient presence of the teacher, the online format degrades to an automated or "robot" course—with lists of reading assignments, online readings, short video clips, and quizzes with automated scoring and feedback" (Campbell 163). A disconnected instructor leads to disconnected students and poor learning. Establishing the instructor's presence should be part of designing the course, including interaction between the instructor and students, students and students, and students and the materials (Dunlap, Verma, and Johnson 146).

One way for an instructor to be present in an online class is with prerecorded vodcasts or video podcasts (Tomas et al. 101; Goldingay and Land 61). Through vodcasts, the teacher can deliver video lectures or updates. Goldingay and Land contend that regular vodcasts lend "a better social presence and emotional connection" for the teacher within a class because students can see the instructor's facial expressions and "selfhood" (61). Their study also found that students felt better connected to the teacher and the class due to the vodcasts, with one student stating it seemed as though the teacher was talking directly to her (Goldingay and Land 65).

Social Environment

Furthering that idea, Whitehouse strongly urges that the online teacher should not only maintain a presence for herself, but also create a "social presence" for the class (15). Vodcasts can be helpful in this endeavor as well. For example, vodcasts could be done "live" as part of a video conference with the entire class, thereby allowing for questions and discussion from the students. In this way, the online class truly becomes a virtual classroom with everyone present, thus allowing students to see and hear each other, granting additional opportunities for connection.

Another way to augment class socialization is to incorporate discussion posts and forums into the course. While several studies have asserted that these forums are not always effective at increasing learning outcomes, many others adamantly support their use. "Students need the opportunity to talk through and discuss ideas and concepts with other students as well as gather feedback and motivation from their instructor" (Brunet 36). In order for discussion post to be valuable Whitehouse describes the instructor's participation as "central to these transactions" (15) and that teachers act as role models for the "types of sharing that can take place" (15). Additionally, Whitehouse poses his discussion questions

in the first and second person, using "you" and "I" "to ask directly for people's thoughts" (15). Whitehouse's employment of the first and second person imbues the discussions with a personal, conversational tone that make the posts more like an exchange of ideas, thus creating a sense of community within the class. Still, some students may feel left out of the discussion process. Samuels-Peretz noted that students who did not contribute fresh ideas to discussions may not garner as many responses (if any) as their classmates. When this situation arises, Samuels-Peretz advises that the instructor coach those students through modeling and encouragement, thus enabling them to become more substantial contributors (65).

Perhaps, at least in terms of the social aspects of learning, an essential goal is to make the virtual classroom as much like the physical classroom as possible, complete with an uninhibited exchange of ideas and information, and a sense of a community of learning and collaboration. In contrast the physical classroom is limited to the time allowed for each session. Whereas the online class has an advantage in that students will not have to wait for the next class period to speak with a professor or their classmates. Instead, the lines of communication are always open, whenever students want to collaborate or need support.

In terms of support, the process of teaching an online course is very similar to a traditional course in that the instructor observes the academic and personal behaviors of students, striving to help each according to their own needs. Keep in mind the online teacher is challenged by the lack of true face to face time with the class, but to the sensitive instructor, assessing the needs of the class can still be done effectively.

Assessing Engagement Strategies and Instruction

When the instructor employs strategies to engage with students throughout the online course, contacting students becomes part of the instruction and assessment. The learning management system offers tools that assist in assessment beyond the grade book. The instructor can easily identify which students have not logged into the learning management system in recent days. Depending on the instructor's preferred communication style, this can spur an email or a phone call to the student to check in and discuss the class. Most learning management systems have a method to create reports on the students' activity in the course. This "user progress" can be part of the students' participation grade for the course.

As discussed above, online discussion forums are a great way to engage the online learner. The challenge at times is grading these assignments. It is important to establish how the discussion assignments will be graded from the very beginning of the course. A discussion rubric is an effective method to assess all discussion forums. The rubric needs to be clear on the grading criteria and the expectations associated with each criteria. By using the same rubric for all discussions the students will learn the instructor's expectations.

Prompt feedback is a key component when assessing engagement and instruction. The students receive a grade; however, the feedback is even more essential to creating an

engaged online learning environment (Conrad and Donaldson 46). The feedback should be based on the criteria in the rubric and include positive suggestions for improvement. The beginning of the course is the most critical time to provide feedback, since it will encourage student academic growth throughout the course.

Establishing a standard assessment tools, such as rubrics, from the very beginning of the course will set the expectations for the students throughout the course. The assessment tools work to ensure that all the course assessments will be based on learning objectives. Pre-determined assessment methods contribute to providing swift feedback that will help maximize the engaged online learning environment and add a more objective perspective to the assessment process.

Conclusion

Designing an online class is not just posting online videos, readings, quizzes, and assignments hoping that learning will take place, as if the course will run effectively on auto pilot. Instead the instructor's role is similar to teaching in the physical classroom in that the instructor needs to gage each student's individual progress and interaction within the course. In the online environment, creating student interactions and collaborations are vital to their learning experience. Through vodcasts, live video interactions, engaging discussion forums, consistent feedback and support the instructor can set the foundation and expectations for an active community of learning.

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2015 Summer of Changes: Reducing Print Collection, Migrating to New ILS and Redesigning Space at Dibner Library of Science and Technology

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Abstract

Dibner Library is an academic engineering library supporting the teaching and research needs of the faculty and student body of the NYU Tandon School of Engineering, formerly known as Polytechnic Institute of NYU (Poly). The schools, New York University and Poly, officially merged in 2014. This union served as a catalyst for reinventing Dibner, a much needed and long overdue process. Dibner Library was struggling with an inadequate, outdated print collection, lack of user space, and online discoverability issues. Soon after the merger, drastic changes had to be made in a short period of time as library staff sought to advance the library toward the goal of enhancing user experience by addressing the outdated collection while repurposing and redesigning space. In a year's time, the Dibner staff - 5 librarians, 1 technology specialist, 2 managers and a team of student workers - completed their mission to reduce print by 84% (from 120,000 vols. to 20,000 vols.), migrate MARC records for the remaining collection and redesign the study space. It was a logistic balancing act involving management of personnel (faculty, catalogers, subject specialists, movers, staff, etc.); time constrained processes that often ran simultaneously; financial limitations; and the training/disseminating of information. The Dibner Library's experience, especially in the way of expected and unexpected outcomes, and future plans for growth, may be of interest to others facing similar circumstances.

Historical Background

On January 1, 2014 Polytechnic Institute of NYU officially joined New York University resulting in the merger of all academic and administrative units including the libraries. The transformation of Dibner Library unofficially started with the merger. With an influx of students from an expanded student body, space was an immediate concern at the engineering school and at the NYU Division of Libraries. Both the library management at NYU and the librarians at Dibner deemed the integration of library services - such as adapting NYU Libraries' ILS, Aleph, and other discovery tools - a priority.

Dibner Library's relationship to the larger NYU system was unique. Dibner became a full member of the NYU Division of Libraries while residing on the school of engineering property, housed in the 3rd and 4th floors of the Dibner Building. The school of engineering

proposed and financially supported refurbishments and other physical upgrades. The NYU Division of Libraries agreed to financially support and manage library processes in order to add learning space and integrate library resources.

Weeding of the serials print collection took place during the summer of 2014. Though a large project, it proved to be a straightforward process that resulted in 4,085 square feet of additional space. The success of this project was the catalyst for planning a larger weeding of the print collection and full integration of library services. Discussions for 2015 changes started during the fall of 2014.

Total holdings in Dibner Library approximated 120K volumes located throughout the library: main circulating stacks, new books, course reserves and archives. Librarians focused on weeding the main stacks and new books during the summer of 2015 and made plans for inventorying the rest of the collection at a later date. Library administration requested that all MARC records for Dibner holdings be migrated into Aleph by the end of the summer.

The librarians at Dibner had long acknowledged some weakness in the collection, but now viewed correcting it with greater urgency under the mandate to quickly restructure space and holdings. It was evident that the library's holdings were inadequate to its new mission. It held many unnecessary items; there were some classics, but the bulk of the collection consisted of outdated material. As might be expected, circulation of this print collection was low, especially as access to e-articles and e-books increased. Enabling the library to serve its new mission as the engineering library of NYU required the commitment of the Dibner librarians to building a stronger and more focused engineering and science collection in support of research at the NYU School of Engineering (SOE).

Review of Literature

Prior to weeding, the librarians performed a rudimentary review of the weeding literature. A preliminary search did not find many articles that closely mirrored our circumstances and the urgency of the situation precluded more discovery. Many of the time constraint issues detailed by Pamela Arbeeny were also evident during the Dibner Library project. Knievel, Wicht and Connaway discussed evidence based decision making guided by circulation and interlibrary loan records, a practice that the Dibner Library also employed, and Crosetto, Kinner and Duhon, writing about a project with some similarities to our own, detailed their own usage of readily available data. In outlook, we agreed with Leach that many of the core competencies necessary to weeding a science and technology collection were obvious. The situation Dewan describes where "the all-electronic collection," (32) especially "engineering, and science libraries" (32) is increasingly viewed as an option was a big part of our weeding consideration. Indeed, all of the important titles mentioned by Brin are held in our electronic collections and we agree that we need to rebrand the library as a space and community hub rather than a collection of books. Thankfully, we were not tasked with the evaluation and cutting of continuing resources and all the difficulties with content continuity that process entails as described by Kennedy et al. In preliminary organization and implementation, the Dibner Library weeding was accomplished by the librarians using a

localized patchwork of the Qualitative (based on patron needs) and Quantitative (based on patron wants) framework described by Zuber.

Methodology

Weeding of the collection, data migration and relocation of print materials required systematic planning. Progress in each area impacted the operation as whole. The entire operation was completed in 5 phases.

Phase 1: MARC Records & Data Analysis (January-August)

All aspects of the operation were data driven. The IT Specialist at Dibner Library and Cataloger of Electronic and Special Formats at NYU Libraries collaborated throughout the project starting in the winter of 2015. They exported MARC records from Koha (the prior Poly ILS), then queried and manipulated them as required for processing. Dibner librarians, along with the cataloguer used MARC records to identify items that matched weeding criteria such as LC call number range or circulation history. They also produced various reports that compared the Dibner collection against the NYU collection in order to determine duplicate copies. Most importantly, the IT and cataloging staff cleaned and readied the MARC records for migration into Aleph. (A byproduct of this work was an app created to aid in the process.)

Phase 2: Weeding: Quick & Dirty (May)

Phase 2 was a quick and dirty process of selecting materials to keep or remove from the collection. Since the library was changing its role from that of an independent small university library to that of a specialized science and engineering library within a much larger university library system, Dibner librarians with approval from library administration at NYU Libraries, decided to remove almost all non-science books. Librarians at Dibner agreed to employ a set of criteria towards the goal of weeding books that neither supported the curriculum nor were considered likely to be of interest to the community. Furthermore, the librarians established a criteria to identify books for retention.

Access Services managers supervised student workers with this task. Student workers marked books that the library was keeping with new spine labels that were distinctly different from the previous ones. Relabeling was a visual cue that the item was to be left on the shelves.

- Criteria for Retention
    - Materials that are of historical value to Poly. The archivist provided a list of historical research categories with dates along with corresponding LC classification call numbers.
    - Current faculty publications (the archivist provided the list).
    - Books borrowed within the last 5 years.
    - Latest edition of a textbook.

    - Symposia, conferences proceedings and similar publications whose purview matched the school's academic disciplines.

Items not falling neatly into the above categories were evaluated by librarians who placed color dots on the books they thought the library should keep as described in *Phase 3*. They paid special attention to the items in call numbers HE, Q and T.

- Criteria for Discard
    - Duplicates.
    - Damaged books (managers made the decision whether damage was sufficient for discard on a case-by-case basis).
    - Books whose LC class and sub-classification ranges used less than 2 shelves.
    - All abstracts & indexes.
    - Text books older than 10 years.
    - Materials in a foreign language.
    - Items that were electronically available in library research databases from scholarly societies and academic publishers and in open access resources.

Dibner librarians shared the list of unneeded items with other NYU libraries (including Bobst, the NYU Abu Dhabi and NYU Shanghai Libraries) to see if they could use the books to fill gaps in their collection. After support staff and student workers labeled the books for retention at Dibner or at other NYU Libraries, it was time to remove the remainder. This was done by support staff and student workers. Two Public Access managers identified the items for removal and supervised student workers who pulled books from the shelves. The Access managers worked different shifts, one daytime, one evening, overseeing the process and handling any contingencies. This allowed an uninterrupted workflow during library operating hours.

Phase 3: Weeding: Subject/Comparison to NYU (June)

The library reclaimed much space for repurposing by withdrawing books in accordance with the methodology noted above. Once that was accomplished, librarians determined to free up more space by making a subject comparison to the larger NYU libraries. At this stage the core group at Dibner enlisted other NYU Librarians and faculty who were broadly familiar with individual subject areas in a new effort to identify core literature in certain science and engineering disciplines and to determine what was dated or obsolete material. Dibner librarians encouraged volunteers to be aggressive in weeding with the understanding that this was not merely a pulling of material from the active circulation stacks, but an opportunity to build a new collection.

The Head of Science and Engineering (a position overseeing both the Coles Science Center at the main NYU Library and the Dibner Library) initiated the process and informed the directors of departments at SOE about the weeding. Dibner librarians then reached out to liaisons in the academic departments and to subject specialists at NYU Libraries. Dibner librarians requested that the specialists either come in and review the shelves in their subject fields or work from an excel list to identify books to either 1) keep (these were dotted), or 2)

keep but not at Dibner (possibly at another NYU Library or in offsite storage. These were dotted with a different color.) Experts from the library side included a business librarian, fine arts librarian, a librarian specialist in English and Comparative Literature, and a science reference librarian. Departmental faculty outside the library included professors from the Mathematics; Technology, Culture, Society; and Management departments. Each librarian (5) was assigned a call number range either to weed alone or to work with faculty in weeding.

Phase 4: Flipping the Shelves and Space Arrangement (July-August)

This phase required many hands and methodical labor including the work of outside contractors. Moving a step closer to the goal of transforming the core collection into a focused science and engineering library that better served the institution's new mission, the Dibner librarians dedicated the 4th floor shelf space to titles matching the criteria for retention (and expansion). There was some space on the 3rd floor to which the A-PQ (non-engineering) books were moved. NYU library administration hired an outside contractor, one that specialized in moving books, to dispose of discarded items (those not dotted or labelled), relocate the remaining collection to new shelving areas, and demolish unneeded shelves so that the space could be repurposed for student study and lounge areas. Their job included coordinating with the contractors that carpeted and painted the 4th floor. The library had lost some study rooms in this area due to some School of Engineering space configuration. However, in the end the SOE agreed to build five large new study rooms and add 150 seats.

Phase 5: Scanning App and Data Migration (August)

Once the library had determined which books would remain part of the collection, MARC records for the retained books, which were now in a new location, and for course reserve books, were migrated to ALEPH. Early in the summer, the Library's IT support had developed an iOS app that was an enormous help in this potentially tedious and expensive task. The function of the app was to retrieve MARC records for items to be kept and deposit them into a file that would later be imported into ALEPH. Student workers began the process by scanning the old Poly barcodes into the app using iPod Touches. When the student scanned the existing Poly barcode into the app, it queried KOHA and retrieved the item's MARC record. The student would then attach the new NYU barcode to the book and scan the new barcode into the app to attach it to the existing MARC record. The updated MARC record would be saved into the database that would be imported into ALEPH. Using student labor and the app resulted in cost savings of $113,750 for just the cataloging if a contractor had been hired to migrate the records. An even greater cost of $186,750 would have been incurred if the library had hired the contractor and chosen the option of cataloging AND physical processing (which would include barcoding and RFID tagging).

Conclusion

In the summer of 2015, the Dibner Library, new member library of the NYU Division of Libraries, reduced its collection from 120,000 to 20,000 volumes, migrated to a new ILS

and redesigned study spaces in order to better serve its primarily engineering population both on-campus and online. In addition to its primary objective, this resulted in some welcome ancillary developments, including an app specifically written to aid in migrating data, and the development of a systematic method for analyzing and weeding the collection.

Outcomes

- This summer of activity demonstrated that three major projects could simultaneously be accomplished with a relatively small staff in an extremely limited timeframe. (The projects were: (1) extensive weeding (made more arduous by being long overdue); (2) OPAC migration; (3) space refurbishment/repurposing.)
- Development of an iOS app for migration of MARC records**.**
- Data Migration of Bibliographic records. (This was chiefly accomplished by an IT Specialist and a Cataloger of Electronic & Special Formats, working closely together. It entailed the running of numerous reports for weeding; matching Poly MARC records to those at NYU to identify duplicates; the cleaning up of MARC records for import into a different OPAC.)
- Winnowing down the collection to one consisting solely of institution specific historic and core materials.
- Implementation and fine tuning of a new Collection Development philosophy based on the new role of the library.
- Creation of a new librarian position to build the engineering collection and establish a collection development plan.
- Creation and repurposing of space to better serve the needs of the current student body. (This amounted to approximately 5,768 square feet of reclaimed space and the construction of five large study rooms outfitted with the necessary infrastructure to support learning technology.)

Future Work

All requirements for reclaiming space were met, but work remains on the ultimate and ongoing goal of repurposing space to better serve the library's new mission and community of users. RFID tagging was postponed and will be completed during the winter break of 2016. The School of Engineering project managers suggested the current layout of space that was reclaimed from the stacks. Space reconfiguration can benefit from more planning and fine tuning in accordance with current library guidelines found in the literature. Moreover there is an intractable noise problem that has long plagued the user community. Part of student outreach may involve turning the problem over to the school’s engineering students in the way of contests to find the best solution.

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Using Data to Drive Public Services Decisions

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Abstract

Many libraries collect massive amounts of data, but much of that data sits in a spreadsheet waiting for mandatory reporting, bragging about services, or other reporting. Meanwhile, public service departments make major decisions based on impressions, anecdotes, and past practice. University of Missouri-Kansas City (UMKC) University Libraries have been working toward increased evidence-based decision making, and particularly in public services on making decisions about staffing and services based on data. This article discusses common practices for library decision-making, the tools and methods used at UMKC for data collection and analysis, and several examples of how UMKC Libraries used this data to make decisions about proposed changes to staffing and services.

Introduction

As journal inflation remains high and library budgets face continual cuts, evidence-based decision making has become increasingly important in academic libraries. All libraries collect data to report out, but libraries can put that data to good use to inform collection development decisions, fundraising efforts, and user experience studies. This article focuses first on the concept of evidence-based decision making in libraries. It then addresses the data collection methods and tools used by librarians and staff at the UMKC University Libraries (the Libraries), followed by three case studies that highlight how data is used to frame policy and procedural decisions.

In order to fully understand the data collection methods used and the outcomes of decision-making presented in this article, it is important to outline the UMKC Libraries' organizational structure and highlight a few details. Three campus libraries make up the Libraries:

- Miller Nichols Library (MNL), the largest library, located on the main campus
- Health Sciences Library (HSL), located on the hospital campus, within the School of Medicine
- Dental Library (DL), located on the hospital campus, within the School of Dentistry.

UMKC School of Law administers the Law Library, so it is not included in the UMKC University Libraries. Librarians and staff in the Miller Nichols Library Public Services

Division, comprised of Circulation Services, Interlibrary Loan, Learning and Research, and the Music/Media Library, conducted the analysis presented in this article. Aside from the Music/Media Library service desk, the Miller Nichols Library has a single service point, combining research and circulation services at one service desk.

Literature Review

The body of scholarship in librarianship is largely anecdotal. A 2012 systematic review of the literature surrounding relationships between librarians and faculty found that of 304 articles published on the topic, only 77 (25%) reported on research projects. Of those, only two actually assessed the nature of the relationship (Phelps and Campbell). Because so much literature is centered upon anecdotal accounts and case studies, decision-making in libraries can be difficult. Decisions in libraries, as in many institutions, are often reactive. A number of trends propose various alternate methods for decision-making, including strategic planning, visioning, total quality management, and preferred futuring (Brophy; Budd; Currie and Shepstone; Dougherty; Eustis, Kenney, and Rounds; Michalko, Malpas, and Arcolio; Russell). However, libraries have increasingly begun to take a more research-intensive approach, utilizing theories and approaches to organizational change in their planning, as well as systematic research.

Evidence based library and information practice (EBLIP), defined as decision-making that integrates research evidence, librarian experience, and user values and preferences (Eldredge, "The Evolution of Evidence Based Library and Information Practice, Part I") has gained widespread acceptance in libraries as an ideal strategy for decision-making. What began as a call to mirror the tenets of evidence-based medicine (Eldredge, "Evidence-Based Librarianship") has since become a sub-discipline of librarianship in its own right (Eldredge, "The Evolution of Evidence Based Library and Information Practice, Part II"). The result of this has been an increase in the research output of librarians, and greater adoption of research and theory in practice.

Data-driven decision-making is a subset of EBLIP, using local data as the means to personalize the body of evidence to an individual library's needs. It is commonly used for collection development (Bleyberg et al.; Breeding; Hiller and Self), but has also been broadly adopted for public services decision making, especially desk staffing (Peters; Hughes; Bishop and Bartlett; Todorinova et al.; LeMire, Rutledge, and Brunvand). The case studies presented here focus entirely on data-driven decision making for a variety of areas in public services.

Methodology

Approaches to data collection vary widely by institution. Some are decidedly systematic, employing the highly recommended data warehousing approach of compiling all data into a single database to facilitate query, comparison, and analysis (Bleyberg et al.; Massis). However, the UMKC Libraries do not have the capacity to build (or license) and maintain such a resource, and thus librarians either pull data from a variety of existing sources or collect new data to meet a specific need. All cases described here utilize different types of data collected as a part of the regular workflow: head counts,

research (reference) question tracking, interlibrary loan statistics, and anecdotal reports. The nature of the data is such that it does not meet the definition of human subjects' research, and thus no institutional review board determination was necessary. Other methodologies that involve the collection of new data through surveys, user research, and other approaches are critical to decision-making and assessment in the UMKC Libraries, but they are not the focus of this article.

Head Counts

Starting in 2002, Circulation Services staff began conducting hourly headcounts during a four week sample period mid-semester, identified so as to avoid holidays or major events at the library. At the beginning of each hour, a student assistant walks through all five floors of the library counting individuals on each floor, and counting separately anyone using the Information Services computer lab housed in the building. Student assistants counted individuals in public spaces and in visible group study rooms, excluding people in staff areas, classrooms, and meeting rooms. This data is tabulated on paper and entered into a historic formatted excel spreadsheet for ease of entry and visual analysis. Beginning in 2006, library staff developed a semi-automated process of translating those spreadsheets into clean data appropriate for analysis.

Additionally, in spring 2014, MNL began to track student head counts during finals week extended hours. During this counting period, students use the same methodology to count individuals during the last hour the library would normally be open (or the first hour, in the case of early openings), and all additional hours that the library is open for this limited time period.

Research Question Tracking

Public Services staff at MNL use an online research question tracking tool to document patron questions asked and answered. While the tool has gone through many iterations and platforms, Gimlet is the current tool staff use to collect data on question duration, type, patron status, format, time, and location. Gimlet is primarily a tool for Learning and Research librarians and other staff who work at the research desk. At MNL's single service point, Circulation staff use Gimlet to track interactions not otherwise logged in the Integrated Library System (ILS, in this case III's Sierra), particularly any research questions they answer. While research question tracking tools never provide a completely accurate depiction of the work that occurs, the perception of the tool is generally positive, thus making a fair reflection of the experience at our research desk. (Graber, Alison et al.)

Interlibrary Loan

UMKC University Libraries manage all interlibrary loan requests and operations through ILLiad, a licensed interlibrary loan management system that was fully implemented in 2007. This tracking system maintains a rich database with robust reporting mechanisms, which allow direct export for the purposes of the analyses referenced here.

Anecdotal Evidence

While the focus of this paper is on use of hard data to make decisions in public services, librarian experience is one of the major sources of evidence for EBLIP (Eldredge, "The Evolution of Evidence Based Library and Information Practice, Part I"). Anecdotal evidence, also called "anecdata" or practice-based evidence, "should not be used in isolation as the basis for major changes in resources or services, but it can be used to inform further investigation, providing insight into patrons' values, preferences and experiences" (Lewis 109). With it, one can better understand the story that the data is trying to tell, and see a clearer path forward. Each case study describes some mechanism for applying anecdotal evidence, generally through sharing the data with the practitioners directly involved in a particular discussion and inviting feedback. While this is not a systematic qualitative analysis, the decision-makers gained a better understanding of the situation, and the integration of anecdotal evidence increased buy-in for the proposed changes.

Case Studies

Research Desk Staffing

In 2010, MNL combined the circulation and research desks into a single service desk with discrete areas for circulation and research support. At the point of consolidation, research staffing was reduced from two librarians to one and MNL began to explore opportunities for cross-training and job sharing. Because the concept of a combined desk was new to MNL, the department heads responsible for the change committed to regular and consistent review of the staffing model, quick change when a problem was observed, and openness to ideas and feedback. As building use, student needs, and staffing levels have changed, those department heads held true to this commitment and staffing model has changed regularly. To meet this need, they established a way to easily review data at least annually, both for regular review purposes and in response to specific questions or concerns.

Each time the managers responsible for the desk meet to discuss staffing, they have had two consistent goals: increased efficiency, and a high level of service. Meeting both needs is a balancing act, and one best conducted with the support of data. To determine the ideal approach for any given semester, department heads and the divisional director compiled data from the research question tracking system, as well as anecdotal evidence. They then used Tableau, a data visualization software, to pull the data points together. Using Tableau, the decision-makers could quickly tweak the visualizations to answer questions as they arose, allowing for a collaborative analysis that occurred concurrently with the discussions.

One particularly useful visualization was a day-by-day, hour-by-hour look at desk interactions (see fig. 1). Rather than relying on averages, which could easily be skewed by outliers, one is able to look at a broad view of activity. Those reviewing the statistics could then zero in on an hour, a question type, a day of the week, or any other facet of the data. For the particular visualization in fig. 1, the goal was to determine the most efficient way to provide additional chat coverage. Librarians consistently reported feeling overwhelmed with

staffing both in-person and chat services. Both anecdotal evidence and hard data showed that the first few days of the semester were significantly busier than the rest of the semester, a continuation of a long-standing pattern. Additionally, through interacting with the visualization the managers saw that after those first days, traffic did not increase until 10am then began to drop off precipitously at 5pm. This assisted the managers in determining to schedule backup staffing for chat during those peak hours, which librarians reported as tremendously helpful in spite of the additional demands on their time.

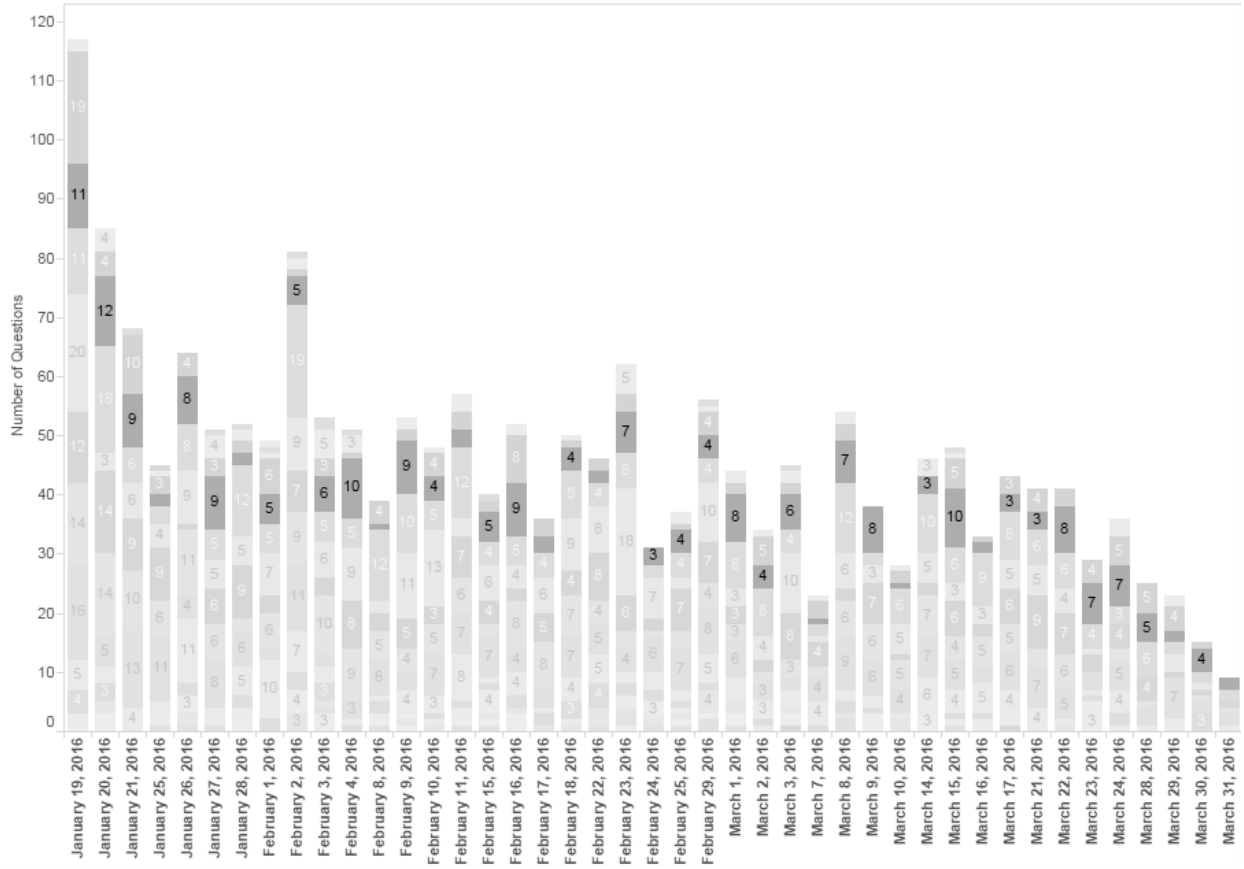

Fig. 1. Data visualization of daily research question traffic for January-March 2016, Monday-Thursday, all question types and locations, emphasis on 10am (interactive visualization available online at https://public.tableau.com/views/GimletStats/QuestionsbyDay)

Another key feature of this particular visualization is the ability to drill down into the data to answer questions. For example, in fig. 1, there were eleven questions logged at 10am on January 19, but there is little information about the nature of those questions. In Tableau, reviewing this underlying data can be conducted directly on the data point (see fig. 2). This allowed decision-makers to see that the majority of those questions were directional, and thus did not necessarily merit particular attention.

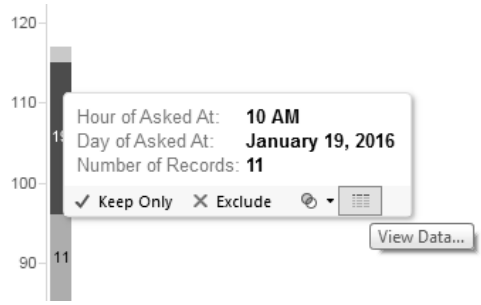

Fig. 2. Viewing underlying data in tableau for more detailed information.

This process of reviewing research question tracking data to inform desk staffing needs is ongoing, and while the examples highlight one particular and recent change, the data has also been used in adding and revising chat service staffing, determining needs (and gaps) for cross-training, and assessing whether librarians and other research desk staff should be at the desk or on call for a given time period.

Overdue Notice Changes

In the several years prior to 2013, patrons returned nearly half of interlibrary loan (ILL) items late (fig. 3). The Interlibrary Loan Department staff were overwhelmed with the strained relationships with lending libraries, and they called for their newly-hired department head to implement daily late fines. The library had, however, done away with daily late fines years before to provide better customer service and was not keen on reinstating them. The department head sought a solution that would encourage library users to return their ILL materials on time without being punitive. In order to study the problem further, she gathered data using the ILLiad interlibrary loan request management system that had been in use at UMKC since 2007. She looked at the groups of users borrowing physical items through ILL (undergraduates, graduate students, and faculty), the number of items borrowed by those groups, and the numbers of items returned late by each group. She also looked at how frequently overdue notices were sent and at the time span between each notice.

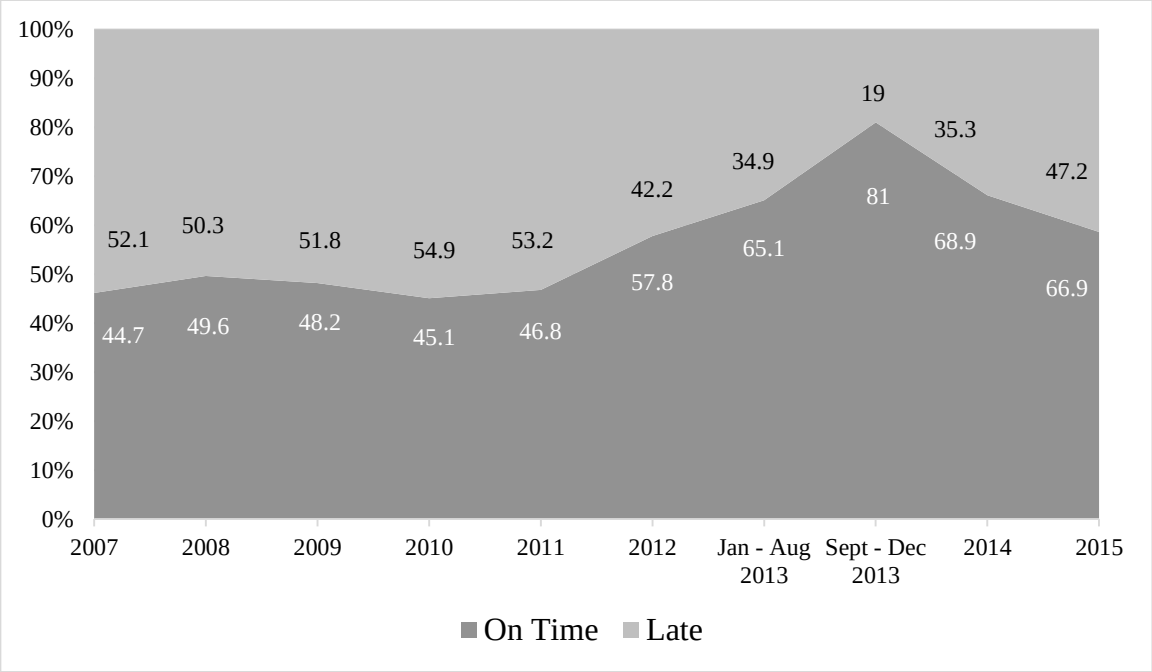

Fig. 3. Percentage of late vs. on-time ILL returns, 2007 – 2015.

The borrowing and returning habits of each user group can be seen in table 1. Faculty, who made up about one-fifth of users obtaining physical items through ILL, borrowed an average of 25.9% of physical ILL items and were the most likely patrons to return ILL items on time. Anecdotally, library staff sometimes perceived faculty as perpetual late-returning patrons because they tended to integrate/lose library materials in their personal collections, but this perception was debunked with the data. Undergraduates made up a small portion of users and borrowed about 10% of items, but only 47% of their items were returned on time. Graduate students, by far the largest group of ILL users, borrowed the majority of physical ILL items and were the least likely to return their ILL items on time.

Table 1
Interlibrary Loan Users and their Borrowing and Returning Habits before and After Changes to Overdue Notices

	Faculty			**Undergraduates**			**Graduate Students**		
	% of users	**% of items**	**% of on-ti return**	**% of users**	**% of items**	**% of on-time return**	**% of users**	**% of items**	**% of on-time return**
Prior to changes (2007-August 2013)	21.0	25.9	68.5	14.8	10.2	47.0	57.0	58.0	43.2
After changes (September 2013 – 2015)	25.8	25.4	71.6	11.6	7.3	63.1	56.7	63.5	71.1

Graduate school student lifestyles can be markedly different from the stereotypical undergraduate experience, especially at an urban university. An unpublished survey conducted in 2013 by UMKC's School of Graduate Studies provided insight into the UMKC graduate student. The survey received 537 graduate student responses. Forty-five percent of respondents were married or partnered and thirty percent of respondents had dependents. Many of UMKC's graduate programs attract students already working full-time who may be gaining a degree to support their current career trajectory or to change career paths. The ILL department head, who is also the Head of Graduate Student Services, understood that graduate students balancing work, family, and school would likely benefit from additional reminders to return their ILL items and revisited the overdue notice workflow.

In the period prior to any changes (January 2007 - August 2013), overdue notices were sent manually in the ILLiad system which were queued to send certain notices at set intervals. Though the intervals were set in the ILLiad system at one, fourteen, and twenty-one days after the due date (in 2007-2011, for instance), not all of the notices were sent on time (see table 2). The manual nature of running the command to send overdue notices meant that it was done inconsistently during this period, depending on a staff member's availability to perform this task with rigid regularity. The inconsistency in this process caused some patrons to receive notices several days late. Sometimes, patrons would not receive a first notice (or a second) before they received their final notice.

Table 2
When Overdue Notices were Queued to Send vs. When Overdue Notices were Actually Sent

	When overdue notices were queued to send (in days before/after due date)				**Days between first and final notice**	**When overdue notices were actually sent** (in days before/after due date)				**Average days between first and final notice**
	Notice 1	**Notice 2**	**Notice 3**			**Notice 1**	**Notice 2**	**Notice 3**		
Prior to changes (2007-2011)	1	14	21		20	8	18.5	27.8		19.8
Prior to changes (2011-August 2013)	-7	1	21		28	-3.8	4.7	24.1		27.9
After changes (September 2013 – 2015)	-5	1	5		15	-5	1	5		15
			Notice 4	10				**Notice 4**	10	

The significant intervals between the notices meant that users received three notices over an average period of 3-4 weeks. In 2011, the ILL Department had adjusted the frequency of notices, opting to send one prior to the due date as a courtesy reminder (negative numbers in table 2 represent the number of days before the due date, while positive numbers indicate days after the due date). The courtesy reminder did encourage patrons to return ILL items on time. In fig. 4, on-time returns began to increase in 2011 after several years of holding steady.

Based on the longitudinal data collected using the ILLiad system, the department head implemented three changes that went live in September 2013:

1. Added a fourth notice (a newer option provided in an ILLiad system update)
2. Implemented automatic email notices (a newer option provided in an ILLiad system update)
3. Changed the intervals at which the notices send

These changes were made to test the impact of more frequent reminders on users' returning habits. After these changes, users continued to return more items than in previous years and returned them sooner than they had before. As illustrated in fig. 4, the number of items returned close to the due date increased significantly after these changes and the number of items returned severely late dropped off to a miniscule number.

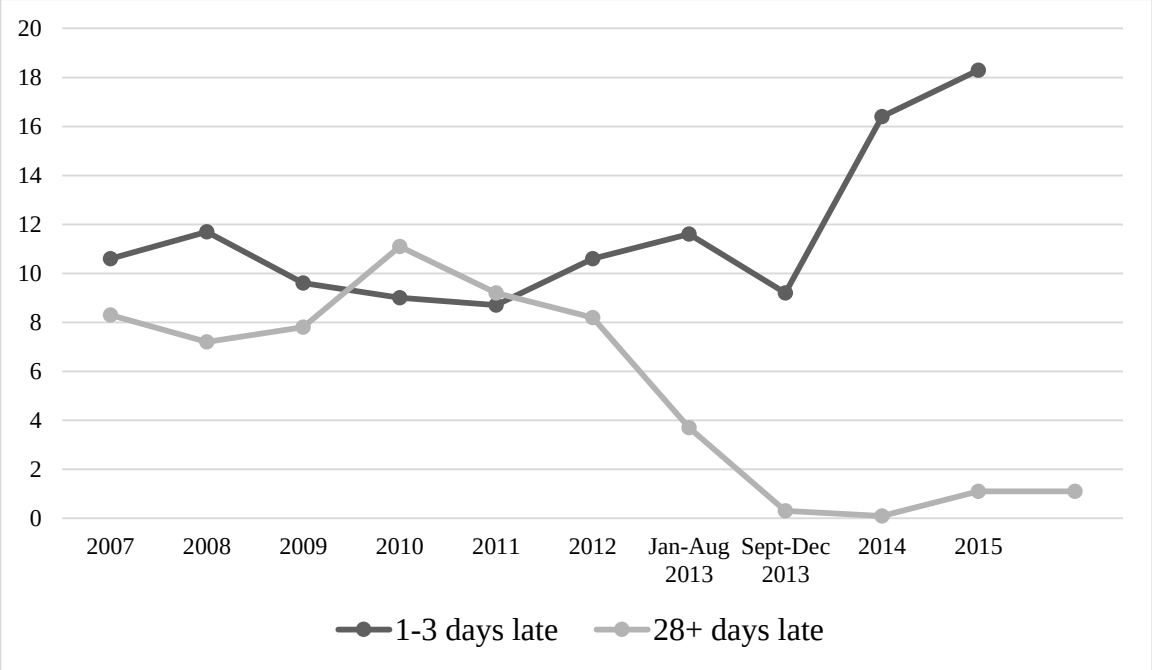

Fig. 4. Percentage of ILL items returned slightly late vs. severely late, 2007 – 2015.

Instead of looking for ways to penalize users for "bad library behavior," libraries can use data to inform policy and procedural decisions and change user behaviors. The Interlibrary Loan Department eventually renewed its relationships with lending libraries without having to punish their own users with daily late fines. Gathering data to look objectively at the

situation, avoiding assumptions, and investigating anecdotal evidence are all important in data-driven decision making for libraries. Though it takes significant time and energy to do these tasks, they are crucial to ensure that libraries are continually responding to the needs of their user communities.

Library Hours

The need for increased library hours is an ongoing demand for many libraries (Bowman; Lawrence and Weber), and UMKC students in particular have been pushing for a 24/7 library for decades. Starting in 2014, UMKC's Student Government Association (SGA) began a renewed push toward additional library hours but because of budget limitations, UMKC University Libraries were unable to immediately grant their request. Instead, library administration proposed adding hours at key times to meet the needs of the greatest number of students possible. Which hours would be most beneficial was a difficult determination to make, as the library would not have data on usage during hours for which it was previously not open. The Libraries have collaborated with both SGA and UMKC Institutional Research to conduct surveys that ask students about their potential use of the Libraries outside of current hours, but thus far, all decisions have been based on a combination of head count data and anecdotal reports. This is largely because budgetary restraints prohibit the University Libraries from extensive changes to library hours thus all changes to date have been minor tweaks with low budget impact.

As with the research desk staffing changes, the process of adjusting library hours based on data is ongoing. Each semester, library staff revisit the traffic patterns described in head count data and discuss experiences opening and closing the library with the appropriate library staff. For example, Miller Nichols Library has historically been open additional hours in the weeks before and during finals. In spring 2014, when the SGA president approached the University Libraries to discuss the possibility of an additional week of extended hours, library staff examined head count data. They noted that while traffic in the library was not as high for the week prior to finals as it was during finals week itself, the raw numbers were high enough that it was worth trialing an additional week in response to student requests (see fig. 5).

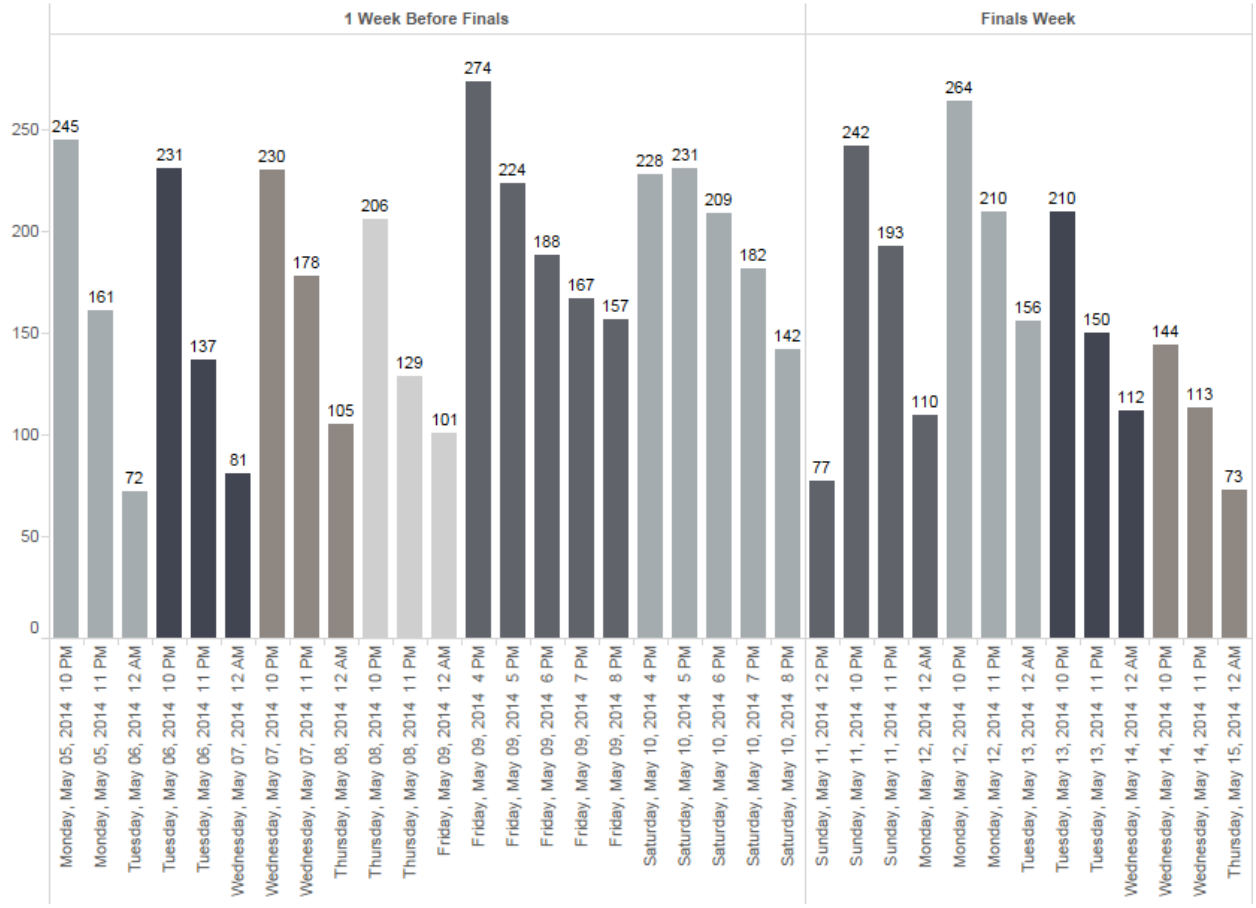

Fig. 5. Number of students in Miller Nichols Library each additional hour during finals for spring 2014.

After trialing the additional week of extended hours in fall 2015, Public Services Division staff again examined traffic patterns and found that student library use during the additional week was high enough to justify retaining the extra hours.

In response to the same student-led initiative that resulted in additional extended hours for finals, library staff also examined the feasibility of adding limited hours throughout the year. A particular request was to add one hour on Fridays and Saturdays (closing at 6 p.m. instead of 5 p.m.). The additional Friday hour was simple to implement with current staffing and at no additional cost, but the Saturday hour would have been difficult to manage with existing staff. Again, library staff consulted head count data and determined that the number of students in the library during the first hour the library was open on Saturdays was small, and anecdotal evidence revealed that many of those students tended to arrive late in the hour. Based on this, library staff recommended that MNL hours shift to both open and close one hour later (see fig. 6).

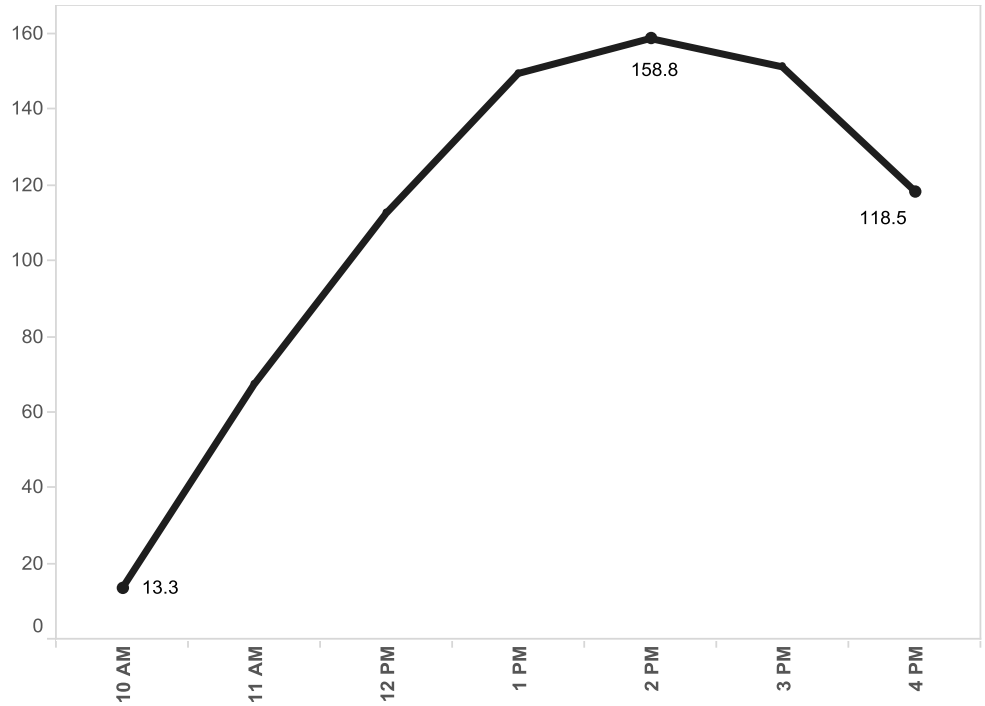

Fig. 6. Average number of people in Miller Nichols Library by hour on Saturdays in spring 2014.

As UMKC's SGA continues the push for extended hours, it is critical that the Libraries continue to gather information from a variety of sources to determine the best way to meet student needs for physical library space. However, consulting existing data has proven to be an excellent method for finding opportunities for incremental change, and then for evaluating those changes after implementation.

Next Steps and Conclusions

For the Miller Nichols Library Public Services Division, it has become a matter of habit to examine data whenever a decision is to be made. In many cases, ample data is already available through regular workflows and processes, and anecdotal feedback is readily accessible in any number of regular meetings. However, there are still a number of areas for improvement in these processes. A data warehouse is widely acknowledged as the best way to make data accessible to a broad spectrum of individuals, and such a system would allow others in the Libraries to better understand the breadth and depth of data that is available for their own decision-making. Additionally, while each individual division of the Libraries uses data and assessment techniques to improve services and workflows, these projects are conducted on a local scale. To help address both needs, the Libraries recently created a new position, hiring an Outcomes and Assessment Librarian. This librarian will help pull together the Libraries' assessment and evaluation efforts, including critical user research that is not reflected in these case studies.

As with any type of decision-making process, the utilization of data to drive change in libraries should be iterative; it is not simply an analysis and a decision, but also an

evaluation and reevaluation. Libraries can make decisions that better meet the needs of their users through careful use of both hard data and anecdotal evidence, and this is far more readily accomplished when it becomes a part of the regular workflow for key decision-makers.

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A Practical Solution for Managing and Assessing Library Electronic Collections

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Abstract

As an early adopter since 2015, the Spiva Library of Missouri Southern State University has been implementing and utilizing Intota (a library services platform) that includes a comprehensive assessment module, Intota Assessment. This paper describes the implementation experience of Intota and provides an overview of the primary implementation tasks in three key stages. It also focuses on how the library utilizes Intota to significantly improve its ERM activities and electronic collection assessment. Examples include streamlining the ERM workflow, consolidating management activities and source data into a central online location, analyzing the library collections based on critical data (e.g., cost per use and peer analysis), and making data-driven decisions involving the acquisition, renewal, and deselection of library resources. The authors will share the various ways which Intota has benefited the library.

Introduction

In the digital age, academic libraries increasingly acquire electronic resources (ER) that have become the major portion of the overall library collections. Librarians have been facing the challenge of effectively and efficiently managing and assessing various electronic collections (EC). Lacking an effective EC management and assessment tool, libraries have a difficult time effectively administering a wide variety of ER, efficiently collecting usage statistics available from various library providers/vendors, easily analyzing the return on investment (ROI) in conjunction with the use of ER, and effectively assessing these ER. Library administrators look for not only usage reports but also in-depth analyses (e.g., cost per use/view, fund reports, and peer analysis).

This paper introduces the implementation project of Intota that includes a comprehensive assessment module, Intota Assessment at Missouri Southern State University's (MSSU) Spiva Library. Intota is a cloud-based library services platform that combines discovery, linking, collection management, and assessment in one system (ProQuest). Intota Assessment debuted in 2013 as a collection analysis service. "Intota Assessment provides tools that enable libraries to showcase the value of their collections and demonstrate ROI for their collection budget (ProQuest)."

The paper shares the implementation and utilization experience since 2015 of Intota at MSSU. The authors provide an overview of the primary implementation tasks in three key stages. They also focus on how the library utilizes Intota to significantly improve its electronic resource management (ERM) activities and collection assessment.

Review of Literature

Library collections have evolved from hardcopy to digital and multimedia resources. Libraries have now reached a tipping point at which ER comprise more than half of academic library budgets (Abrams 151). The common forms of library ER include e-book collections, full-text journals, content and aggregator databases, digitized materials, and open-access scholarly resources. With the rapid growth, managing EC has been presenting various challenges to libraries. Electronic resource management is complex because there are lots of pieces to track: updated title lists for journal packages, perpetual access flags, transfer titles, subscription and payment reminders, administrative information, and usage reports, and more (Anderson 11).

Two reports provide a relatively systematic review on the topic of ERM. The first one is the report of the Digital Library Federation (DLF) ERM Initiative published in 2004. It serves as a roadmap for ERM and has been guiding the development of ERM (Jewell, et al). The other one is the *Library Technology Report* published in April 2014 and by *ALA TechSource*. This report provides a fairly thorough overview on ERM. It discusses the elements of ERM (e.g., knowledge base of resource information and storing license information) and ERM related systems and products. The workflow approach to ERM "covers how to do a workflow analysis to discuss issues with current library resource management using different methods" (Anderson).

The authors' research indicated a number of people have written articles on ERM. Some of the literature addressed one or more aspects of ERM, such as ERM staffing, workflow, acquisition, and cataloging. For example, early in 2002, Duranceau conducted an informal survey related to acquisition and maintenance of ER and tested her hypothesis that "the problem of staffing for e-resources has reached a critical level (Duranceau 216)." Conger demonstrated how EC development from acquisitions, licensing, budgeting, cataloging, technological infrastructure, user services, to assessment was managed through collaboration (Conger 15). Guay, Shapiro, and King discussed the ER cataloging workflow issue and shared a new tool they developed to tackle it (Guay, Shapiro, and King 29). Ramli and Kabli elaborated the evolvement of their acquisition model to "ensure that acquisition/subscriptions are justified within the budget" (Ramli and Kabli).

Among all articles related to ERM, the topic of electronic resource management systems (ERMS) has been frequently discussed. Electronic resource management systems are software systems used primarily to manage ER and services. Beginning in the mid-1990s, electronic resource management systems were developed in-house to keep track of records including information such as ER name, URLs, vendors, license, and the like (Tidal 275). Sadeh and Ellingsen summarized the needs of having an ERMS and described the collaborative process through Ex Libris to design the Verde ERMS (Sadeh and Ellingsen

208). Enoch shared the implementation of the Innovative ERM module at the University of North Texas and suggested a more systematic approach to preparation which would help yield many beneficial results (Enoch 182). Lupton and Salmon described how they built an ERMS at York University and also pointed out the positive and negative implications of choosing an in-house project over paying for a commercial product (Lupton and Salmon 105).

With respect to EC assessment, Nagra had a comprehensive study on e-metrics and related methods for the evaluation of the use of ER and services in academic libraries (Nagra 28). Ogier, Hall, Barley, and Stovall described their experience using a Data Assess Framework methodology as an interview protocol to audit and assess ER data management and associated reports (Ogier, Andi, et al. 101). Columbia University Libraries shared how they engaged subject selectors more systematically in the assessment of ER (Tofanelli, Major, and Carroll). Frias "proposed for a nearly step-by-step presentation of assessing ER using transaction log analysis and ROI" (Frias).

Project Background

Spiva Library serves the students and faculty of MSSU as well as community patrons. The student body is predominantly commuters with a little over 1,000 students living in campus housing.

Since 1989 Spiva Library has been transitioning from print materials and microforms to digital resources. Beginning with a handful of indexes on CDs, the library has grown to have nearly 600 online databases which allow students and faculty 24/7 access to full-text resources. These databases are provided by vendors both large and small (e.g., ProQuest, EBSCO, Gale, JSTOR, CountryWatch, and CQPress). The library managed these databases through Serial Solution's ERMS, Client Center. These databases can be searched individually or through the discovery search tool, Summon.

The ER the library subscribes to are not inexpensive. Therefore, it is important to monitor usage and determine whether it's cost-effective to maintain subscriptions. Over the years, the gathering and analyzing of usage statistics has proven to be a huge and at times frustrating task because of the variety of ways that the various vendors have assembled their statistics. The accuracy of this information has been questioned from time to time.

The Intota subscription decision was based on the need to streamline the workflow of ERM and assemble usage statistics quickly and efficiently in order to enable the library staff to effectively assess the resources. The librarians also hoped that Intota would assist departments with program reviews or the addition of new degrees.

Implementation of Intota

When Spiva Library finalized the Intota subscription in April 2015, the library was excited to form an implementation team under the leadership of the Library Director. The implementation team consists of the library director, the Emerging Technologies

Librarian, Serials and Reference Librarian, Technical Services Librarian, and Reference Librarian. The following section briefly reviews the primary tasks the team performed in three key implementation stages.

Stage One

The team's first task was to get in touch with Intota's provider, ProQuest. Shortly after, the ProQuest's project team and the library's implementation team had the kick-off meeting. During the meeting, the two teams together reviewed the project plan, discussed the project goals and time frame, etc. The library team quickly learned that the Intota implementation comprised three primary tasks over the course of three stages: initial setup of Intota; the harvesting and ingestion of usage data (including COUNTER reports) for the library's EC; and the process of populating Intota's knowledge base with data related to the management of the library's EC such as subscription and cost. After providing the introductory training for the library team, the ProQuest team activated the cloud-based Intota interface where Intota became online accessible to the library. As the library had the subscription since 2014 to Client Center provided by Serials Solutions that has been part of ProQuest/Intota, the initiated Intota was not completely new to the team. The library has the access to the exact same electronic databases Client Center managed. However, in addition to the new look and feel on the services platform, Intota serving as the library's new ERMS provides an additional Assessment module and many other new features. Basically, Intota is an online platform where the library manages its subscribed ER, collates and records administrative information, and creates sophisticated assessment reports through Intota Assessment.

Stage Two

To prepare Intota Assessment for making data-based reports, the library commenced to work on the Data Retrieval Services (DRS) that are online forms. In these forms the library records the login it uses to access such management data as usage reports through a web portal provided by various library content providers. The purpose of this task is to share these credentials with the ProQuest's team. Then the ProQuest team will represent the library to harvest and consolidate usage reports including COUNTER reports from the library providers and later ingest these usage statistics into Intota's knowledge base. The image below is a simple example of the DRS form (see fig. 1). Some of the forms are slightly different and require the library to enter more necessary information.

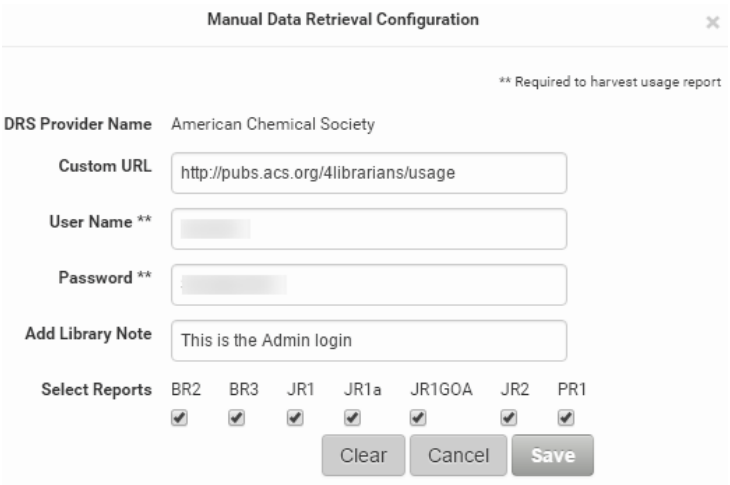

Fig. 1. Manual data retrieval configuration.

In addition to filling out the manual data retrieval configuration forms, sometimes the library team also filled out the automatic (SUSHI) data retrieval configuration forms. The SUSHI (Standardized Usage Statistics Harvesting Initiative) protocol is a set of standards that can be used by ERMS (and other systems) to automate the transport of COUNTER formatted usage statistics (NISO). These SUSHI forms are for SUSHI-capable providers. When the SUSHI setup is working, the ProQuest team will automatically harvest COUNTER reports once a month. Retrieval through SUSHI would give the library more recent usage data than through the manual harvesting which runs once every quarter based on the agreement between the Library and ProQuest. Through this stage, the information of accessing EC usage data is all kept in Intota.

Stage Three

In the meantime working on the DRS forms, the library team started to enter payment details for the library subscribed ER. This step is to have the electronic content's subscription information available in Intota. In conjunction with the uploaded usage, Intota Assessment will be able to create usage-based reports such as cost-per-use. As this type of information exists in the library's integrated library system, Sierra, the team decided to pull the information from the corresponding order records and manually create payment records in Intota. The library team had several meetings to decide which field information in order records goes to which field in payment records. The team intended to make use of all recorded payment related data in Sierra and to have them available in Intota. Payment information can be added at either the database or individual title level within Intota. The picture below gives an example of the costs the team has entered into the Academic Search Premier database for the last three fiscal years: 2014, 2015, and 2016 (see fig. 2).

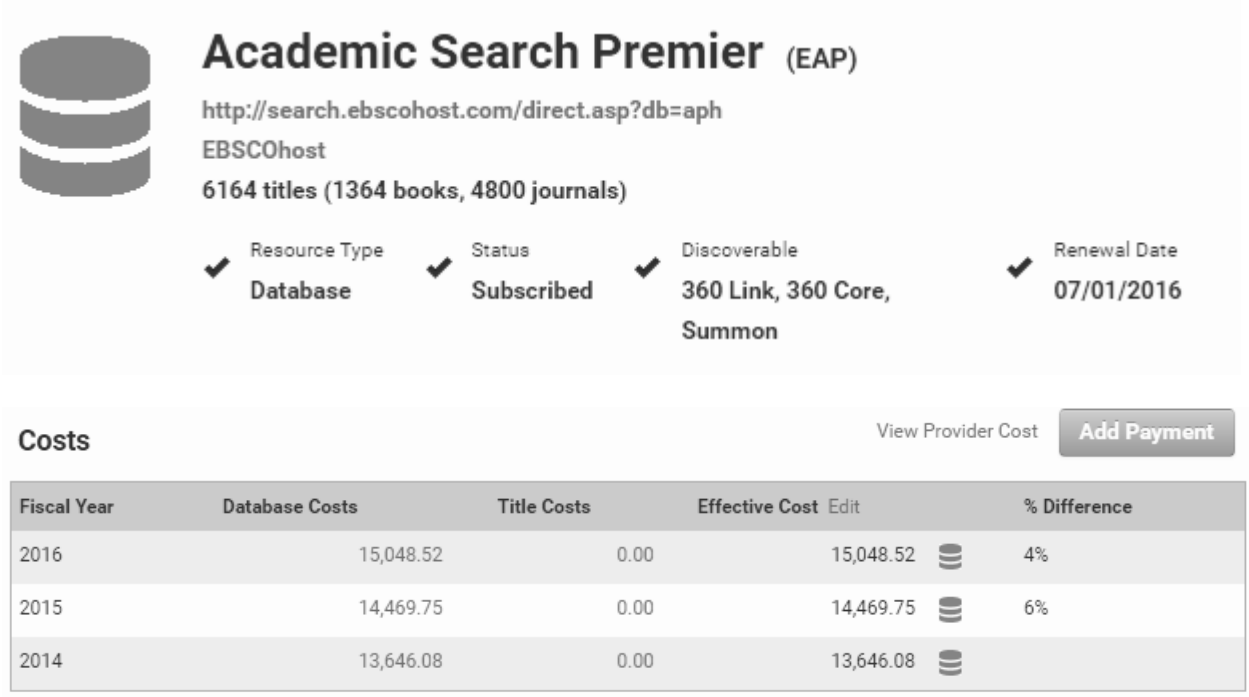

Fig. 2. Academic Search Premier costs.

The library plans to add more information related to invoice and payment such as fee structure in the future. In doing so, the library can use Intota to create multiple types of reports. For example, a payer is associated with a library's budget line, which can assist the librarians in generating a report by budget line. Below is a concrete example of what the library has entered in the payment record (see fig. 3).

Payment

General

Fiscal Year	2016
Payment ID	2390911
Payment Type	Invoice
Payment Date	07/22/2015
Local Currency	USD
Payment Amount (Local Currency)	2591.42
Transaction Currency Code	USD
Payment Amount (Transaction Currency)	2591.42
Local System Resource ID	o12197944
Include In Total For Year	On

Invoice

Invoice Date	07/17/2015
Invoice Number	2220
Order Number	8266
Payee	chron The Chronicle of Higher Education S00567093
Payer(s)	Library 70210 (supplies electronic media)

Other Details

Fund Codes	View Codes
List Price	2875
Consortial Agreement Indicator	Off
Note	FY16-$2591.42
Renewal Date Advance Notice	90
Renewal Decision Date	06/30/2016
Purchase Renewal Date	07/31/2016
Print Cancellation Restriction Indicator	Off

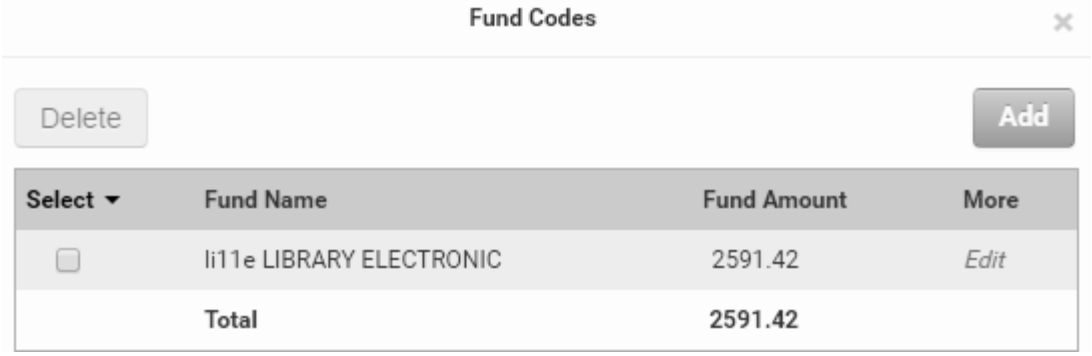

Fig. 3. Payment record.

Similarly, the team added renewal details and license agreements for individual resources. The image below illustrates a renewal record the team has created (see fig. 4). One nice feature Intota offers is that a library can use one of the common licenses already created in Intota's License Template Library if there isn't a license. This is particularly useful for the library due to lack of some agreements on file.

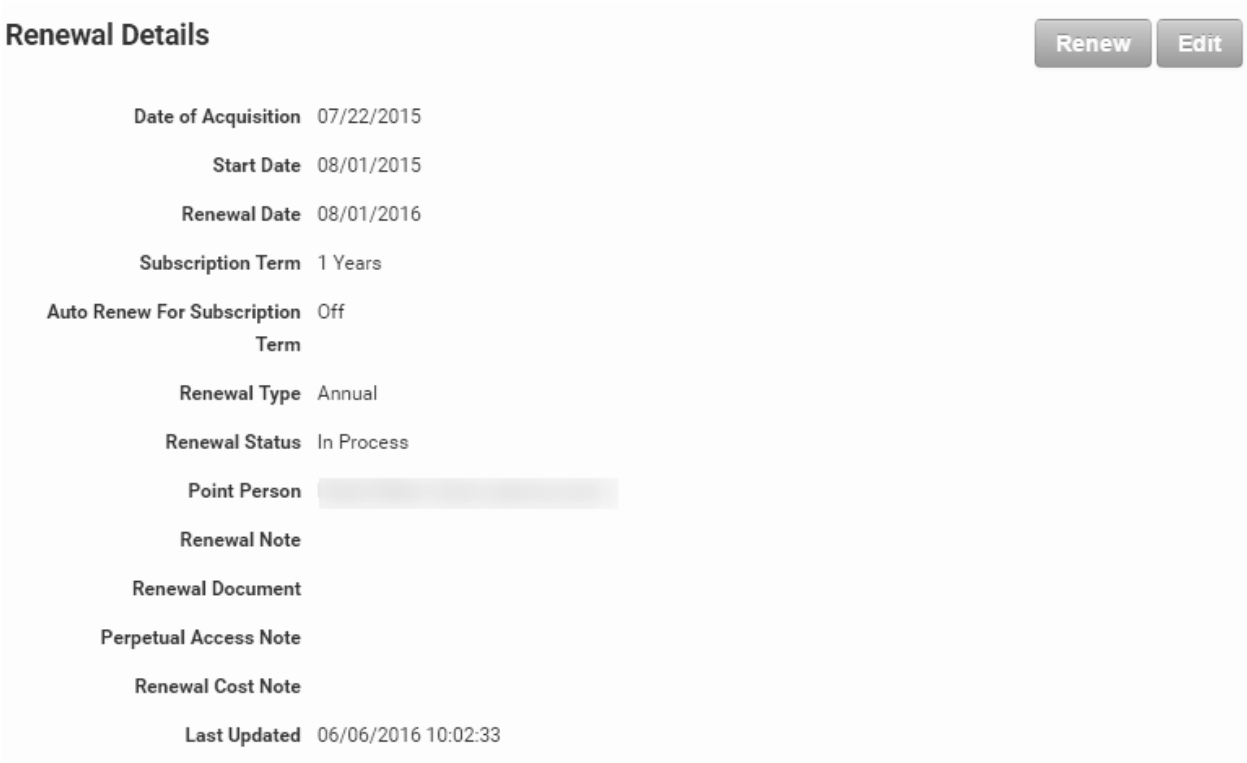

Fig. 4. Renewal details.

The last set of data the library entered is the vendor contact information attached to individual provider profile. The library associated vendor contacts with related resources as appropriate. To populate Intota with these four types of administrative data (cost, renewal, license agreement, and vendor contact), Intota provides the flexibility for the team to use some local terms specific to its workflow via using Menu Settings. Before the library

entered the information in Intota, the team used the Menu Settings to create the terms specific to its practice.

Over the past year, Spiva Library has been working together with ProQuest to implement its own Intota instance. Through the three stages, the library populated the Intota's knowledge base with its own source data that pertains to Spiva Library's management activities. Currently, Intota is up and running. The majority of the COUNTER reports from January 2014 through March 2016 have been successfully uploaded in Intota's knowledge base. The implementation team has added all of the vendor information, the majority of the cost data and the renewal details, and limited license agreements. Intota implementation is ongoing as the team has not completed the populating process. This is partly due to a labor shortage, the lack of some administrative records on file, and time spent on verifying some data.

Utilization of Intota and Intota Assessment

Improve Tracking and Maintaining EC Administrative Data

Managing ER goes through a life cycle, from investigation of new content, acquiring new content, implementation, ongoing evaluation and access, annual review, to cancellation and replacement review (Hosburgh 213). Due to the complexity and dynamics surrounding ERM, such as the legal license agreement and EZproxy configuration for remote access, it requires the collaboration between library units and also other campus departments (e.g., IT unit and Legal Counsel Office). Subsequently, the source data generated from the multiple ERM processes is typically maintained in scattered places. Managing and using these data is cumbersome to some degree.

Spiva Library has been using Intota to consolidate administrative activities and disparate pieces of relevant information into a central online location. As explained in the implementation process, the source data produced through various management activities has been compiled together in one web place. As long as there is a valid login to the library's Intota, access to these data is available over the cloud, on- or off-campus at any time. Previously, these data were usually piled on someone's desktop or filed in someone's drawers in different format media and in multiple departments. Locating the needed management data may not be that easy, especially over a long period of time and/or a change in ERM staff. Intota assists with gathering and collating these data and makes them easily available over one platform.

Additionally, the management data can be easily shared with different parties who have access privilege to Intota. As a result, this creates a chance for two or more units to sit down and to discuss the best practice that works for others involved in the ERM. The relevant library staff in different departments had several long meetings to share and understand each other's work, to reveal gaps, and to come up with solutions to problems. These meetings turned out to be very productive and constructive.
Another feature Intota offers is the note field. The library has used the note field to leave custom notes and pre-built notes for each other. Furthermore, the library has used Intota to run management reports (see fig. 5) based on these source data. The reports can be viewed online or downloaded to a local computer as a zip file. Maintaining and keeping

track of the critical source data related to the back-end staff tasks such as payment and licensing have been significantly simplified with the centralized knowledge base.

Fig. 5. Management reports.

Automate and Streamline the EC Renewal Workflow

For existing ER, whether or not to renew them depends on several factors. With a reduced/flat library budget that generally leads to a low staffing level, an alert system is particularly needed to notify an upcoming renewal and license expiration. This is very important for a library managing a wide variety of EC. Also, the volatile nature of ER may create a huge amount of work for an electronic resource librarian. For instance, some electronic book packages may include numerous titles and some databases may include titles from different publishers. Keeping track of when to renew a specific electronic resource can be daunting. Forgetting to renew an item by a specific date may result in insufficient funds to renew it. Libraries are in need of an automation system that can aid them in the renewal process.

The Spiva Library staff have been using Intota to automatically remind them of upcoming renewals and license expirations. With the renewal details and license agreements maintained in Intota, Intota gives a detailed report of the renewal reminders. Whenever the librarian logs into Intota, in the middle section of the Intota front page, it details the resources that require a renewal. The library staff welcome the alerts because it greatly helps them make a renewal decision in a timely manner and also affords them with sufficient time to negotiate with the library providers/vendors.

In addition, Intota can automatically alert the librarian who is responsible for the resource renewal. Whenever it reaches the customizable days (e.g., 90 or 30 days) before the exact renewal date, an email would be automatically sent to the responsible library staff. Here is one example in below (see fig. 6):

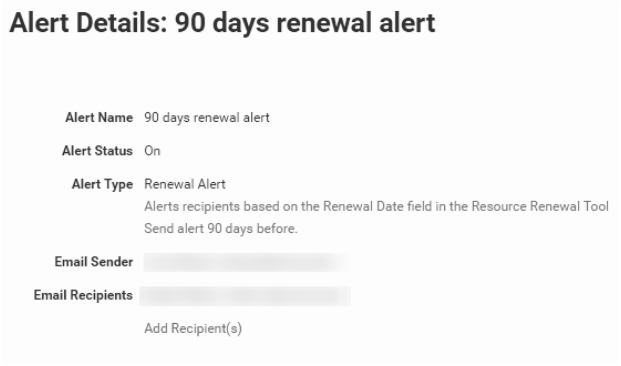

Fig. 6. Alert details: 90 days renewal alert.

Moreover, the library has been using "Resource Renewal Checklist" to manage the whole renewal process. The renewal checklist allows the library to create a workflow and to monitor the activities during the process. To mimic the library's Acquisition Procedures that include the detailed steps to acquire the resources by format (e.g., databases and electronic book collections), the library customizes the default renewal checklist and adds some specific steps as shown in below (see fig. 7).

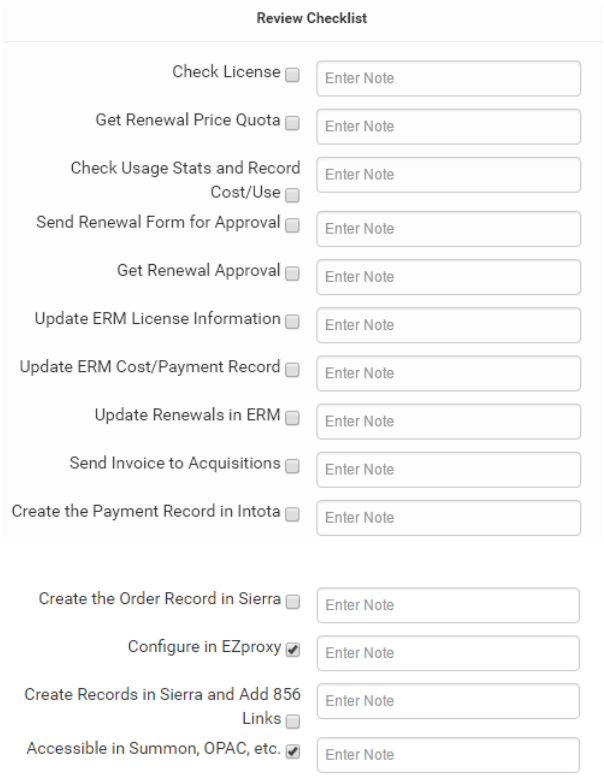

Fig. 7. Review checklist.

Some of the added steps are very useful for the library to make an informed decision. For example, "Check Usage Stats and Record Cost/Use" serves as one step before the renewal is approved; "Accessible in Summon, OPAC, etc." helps ensure that the content can continue being used. The automated and streamlined renewal workflow relieves the library from manually checking the subscription status of ER and tremendously prevents the library interruptions in service or discontinuation of needed resources. However, the accuracy of the renewal alerts relies on the accuracy of the source data entered and maintained in Intota's knowledge base.

Improve EC Assessment

The timely and effective assessment of electronic subscriptions has been an enormous challenge for libraries. Spiva Library is not isolated from this. The library staff have been using SpreadSheet and Word to tackle the collection assessment issue. They endeavored to determine the need for EC which strongly supports curriculum development, instruction, learning, and research as well as the university's budget planning and accreditation. Much previous time and effort unfortunately yielded unsatisfactory analysis results.

The library has been using Intota Assessment to run a wide range of reports on its ER for various purposes. Intota Assessment provides a range of analyses based on COUNTER reports. Some examples are e-book, e-journals, databases, accreditation, deselection, and peer analysis reports. This image below gives a brief view of these reports (see fig. 8):

Fig. 8. Intota assessment reports.

Although the image does not cover all the reports Intota Assessment can provide, it represents some of the most useful analyses used to date. 360 COUNTER reports allow the library to analyze usage through the interfaces where patrons access the subscribed resources. These interfaces consist of the library's Summon and other native database search engines such as Gale Virtual Reference Library. The library staff can click one of the links and enter specific criteria (e.g., the reporting period) to create a custom report. For example, "Accreditation" reports generate information for accreditation purposes. As a member of Association of College and Research Libraries, having the ability to run accreditation reports is certainly an advantage. Intota Assessment makes providing accreditation reports much easier than before.

Also, the library has been using "Deselection" to identify low usage e-books. The library uses several filters to identify e-book titles for weeding. The "Peer Analysis" section is another group of reports the library utilizes. Peer libraries are those who are ProQuest's Intota customers. Although some of the academic libraries are in a much large size than Spiva Library, few peers are similar to the library's size or geographic location. The library has used the peer analysis to compare its collection to other libraries' holdings. These reports aid the library in identifying collection weaknesses by comparing content in other institutions with similar programs.

The library staff have been using Intota Assessment to build, customize, and export various analysis reports. They apply several filters (e.g., ISSN, provider, subject, and authority title) to narrow down the results and export the result in several formats as needed. These evidence-based reports are beneficial for effective EC analysis which can assist the library in collection development, effective negotiation, justification of expenditure, and demonstration of its value to various stakeholders.

Conclusions

The process of implementing Intota involves a series of learning and preparation activities. Some activities are easy to complete, while the others have become overwhelming and tedious. The utilization of Intota has benefited the library in a variety of ways: creating an automatic workflow to notify an upcoming renewal and license expiration; centralizing collection management activities and data in one online location; streamlining the ERM workflow; monitoring the renewal processes; providing a range of analyses based on COUNTER reports; effectively identifying the resources to be retained, deselected, renewed, and acquired with evidence-based reports; achieving a certain degree of transparency between diverse job duties and information; etc.

The Intota implementation creates opportunities for the library staff to review existing practices, to understand each other's work and challenges, and to share ideas that can result in the maximization of Intota's features. The transformed ERM workflow, the local central knowledge base, the improved efficiency of existing processes, and comprehensive collection analyses have provided the library with valuable insight and practical solutions for sharing with other institutions.

Intota meets the needs of Spiva Library and its patrons. The enhanced collection development and effective assessment helps improve the library's services to end users, showcase the value of the library to stakeholders in a timely manner, and support the overall success of the institution's teaching, learning, and research.

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Library Space and Usage Studies Can Inform, Influence & Impact Our Buildings and Services

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Abstract

As information resources in academic libraries continue to become more digital and less physical in format, library space can be seen as valuable real estate that might be better used for other purposes. Some faculty and administrators might assume that the library building (or book stacks) is no longer needed if less physical resources are purchased. Library administrators need to be able to demonstrate their department's impact and value to the education process. An initial step in this assessment process is conducting space and usage studies. Rowan University's Campbell Library has conducted space and usage studies for six semesters. The results have informed the library administrators which in turned helped influence decisions that impacted building renovations and services as well as the image of the library.

Introduction

In the summer of 2013, the administrators at the Rowan University Libraries were new. The position listing for the Associate Provost indicated the person would be responsible for moving the library collection from primarily print to electronic. What kind of impact would this purposeful directive have on the collection and ultimately the building? Over the last decade four rooms in the Rowan Campbell Library became university classrooms, the Writing Center moved into a first floor space, a small museum was opened in a public space on the 4th floor, the University Senate was located on the 4th floor, and during the summer of 2013, the unfinished 5th floor of the library was completed to be new offices for four academic departments. Should the administrators be concerned that more of their space would be converted to non-library use especially if people think the books are being converted to digital holdings? As these new administrators' navigated their new world, they needed information to help inform and guide them.

Review of Literature

Libraries began as a place to keep the books but academic libraries started to experience a shift in that paradigm when physical collections began changing to digital formats. "The relationship of space to the library's expanded role as a partner in learning, a facilitator of knowledge creation, is less clear. Learning is individualized. There are no commonly held specifications for environments that are necessary for it to occur" (Nitecki 50). As Bennett explained, William Bowen, a well-known economist that at one point was the president of the Andrew W. Mellon Foundation, helped lead a move that changed the focus of libraries from book-centered to student-study center (187). The shift was driven in part by economics. It is expensive to house books and journals for just-in-case use. Additional

factors include the "increase[d] use of electronic resources outside the library, the declining circulation of print materials, and falling gate counts" (Gayton 61). With this shift, spaces in libraries started to be used for non-library services such as cafes, writing centers and computer labs (Still and Tonner 444).

Space planning in libraries is a new area of study. A major work in this area was conducted by Nancy Foster at the University of Rochester's River Campus Libraries using anthropological and ethnographic methods (Foster and Gibbons). Some of the studies conducted in the last 13 years include a variety of topics:

- In 2003, Harold Shill and Shawn Tonner shared their finding on physical improvements in academic libraries from 1995-2002 (431).
- "Scholarship age" and use of the library was examined by Karen Antell and Debra Engel in 2006 (536).
- Doug Suarez in 2007 assessed students' behaviors and actions while in the library during a particular winter term.
- Michael Loder was studying "green" libraries in 2008 (348).
- Rachel Applegate compared the library study space with study spaces in other campus buildings (341) in 2009.
- In 2009, Joanna Bryant, Graham Matthews and Graham Walton conducted a case study to evaluate the use of social space in the library (7).
- In 2011, Kelly Matthews, Victoria Andrews and Peter Adams conducted a study that focused on "informal social learning spaces" (107).
- Didem Kan Kilic and Deniz Hasirci studied the "daylighting concepts for university libraries and their influences on users' satisfaction" (471) in 2011.
- Susan Montgomery in 2011 explored the difference between observed student behavior and the students' self-reporting behavior (73) and returned in 2014 to examine how library space facilities impacts learning styles and behaviors (70).
- Peg Lawrence and Lynne Weber "reviewed student use of an academic library during late-night hours to determine the effectiveness of the service" in 2012 (528).
- In 2015, Camille Andrews and Sara E. Wright wrote about their research on how students in academic libraries work individually and collaboratively (467).

A number of studies have demonstrated impacts on library building projects or renovations. Different students have different preferences so it is important to have designated areas for different "zones of activities" or noise levels (Andrews and Wright 472, Foster and Gibbons 20). It is important to have a variety of furniture types for individual use or groups (Andrews and Wright 473, Cunningham and Tabur). Days and hours of service are usually controversial. Lawrence and Weber's study helped reiterate that certain late hours such as Friday and Saturdays are not used (543). At the same time, it is important to remember that "[e]ven though today's students may not be as engaged with the print collection to the degree of previous generations of young scholars, they still have a need for subliminal linkage to the physical collection and the tradition of scholarship" (Cunningham and Tabur).

Collecting data for library usage and space planning has all the common approaches but some specific items that stood out include Anderson and Wright's using student researchers

(475), Lawrence and Weber creating observation maps to record were students were sitting (532), Foster and Gibbons using photo surveys (40), and Poggiali and Cohen needing input from students to help support the renovation project (1).

Methodology

Late in the fall semester of 2013, the Rowan University Administration received comments that students wanted the library to stay open longer hours during finals. The request was not formal and was pretty typical per the collective experiences of the administrators. Extending operational hours does have a cost and with no evidence that it was needed, a conservative approach was taken by adding some late night hours. The plan was to extend the library hours on the days it was already open until midnight to 2am. A list of all the different library spaces was created and the staff member would record the number of students in each area and if they were alone working without technology, alone working with technology, working in a group without technology or working in a group with technology (see fig. 1). The list was updated as changes to the spaces in the library changed. The amount of extended hours and which hours were counted has also changed over the different semesters. At the end of each semester, the counts were totaled, complied and shared with the administration.

Second Floor	individual	indvidual with computer	group	group with computer	TOTAL
PAC, Rm 245 - tables					
PAC, Rm 245 - 2 computers					
Study Rm 242A					
Study Rm 242B					
Reference Computers -					
Reference Rm - tables					
Mircoform Reader					
Reference Area Scanner/Printer Alcove					
Reference - 240A (Purple)					

Fig. 1. Example of head counting tally sheet by area and activity.

Also during the mid-term counts (added in later semesters), an alternative form was used to collect data during the daytime. Since the peak of the days was 1-3pm, one staff recorded usage on maps of the floor (see fig. 2). The information about using technology was not

captured but the maps provided more of cluster map effect. It was noted one sunny day, the individual study carrels located on the sunny side of the building filled up faster than those on the shaded side.

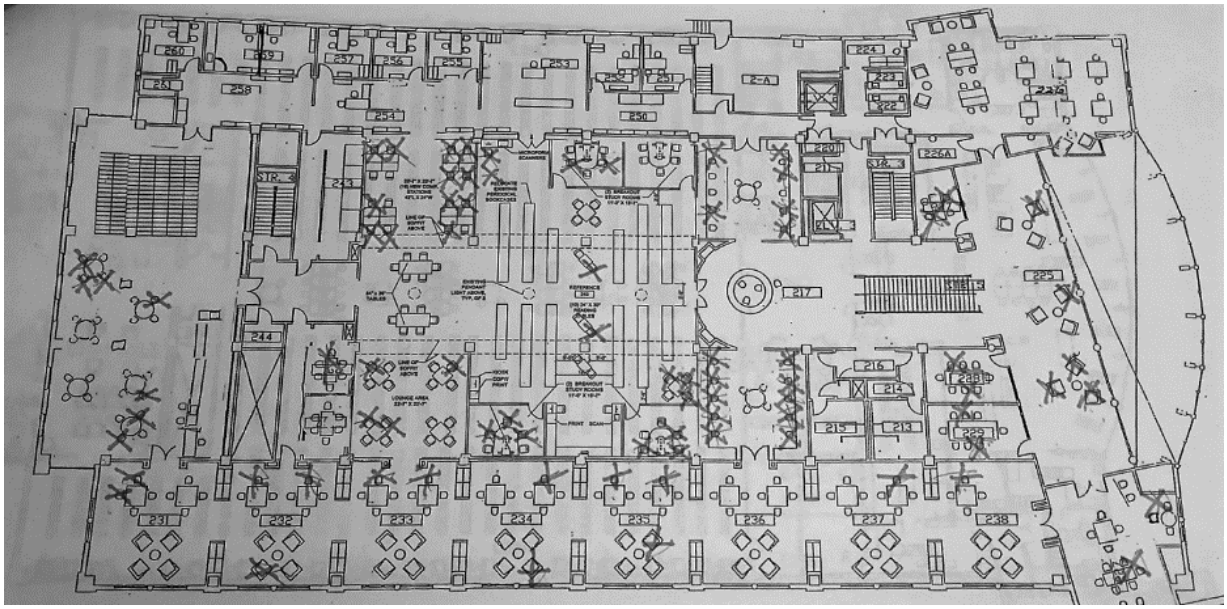
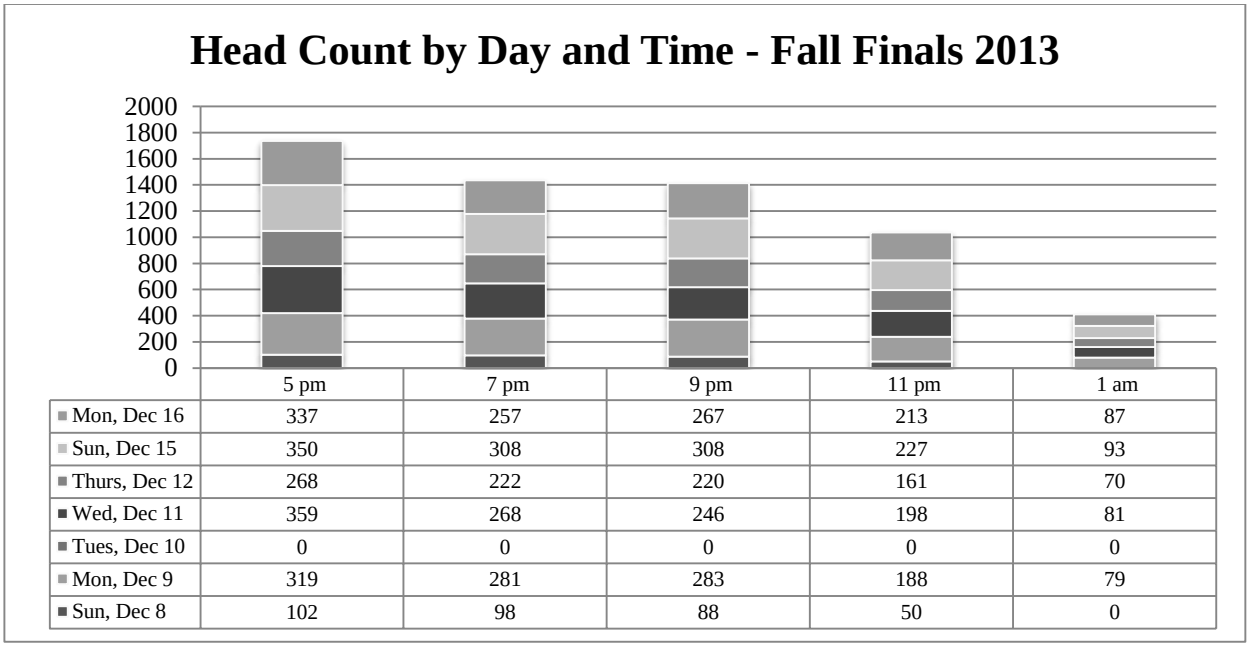


Fig. 2. Example of head counting tally sheet by floor map.

Results

The first semester of head counts, fall finals 2013, recorded by staff walking throughout the building during five shifts (5pm, 7pm, 9pm, 11pm and 1am). The plan was to extend the library hours on the days it was already open until midnight to 2am – a total of 7 nights out of a 9-day range. In the end, it was only 6 nights and one of those was cut short all due to snow storms.

The main purpose of the fall 2013 study was to document use during the extended building hours. As shown in fig. 3, the five counts at 1am recorded at least 70 patrons. Considering the winter storms those last two weeks of the semester, the administration found those counts to be impressive.

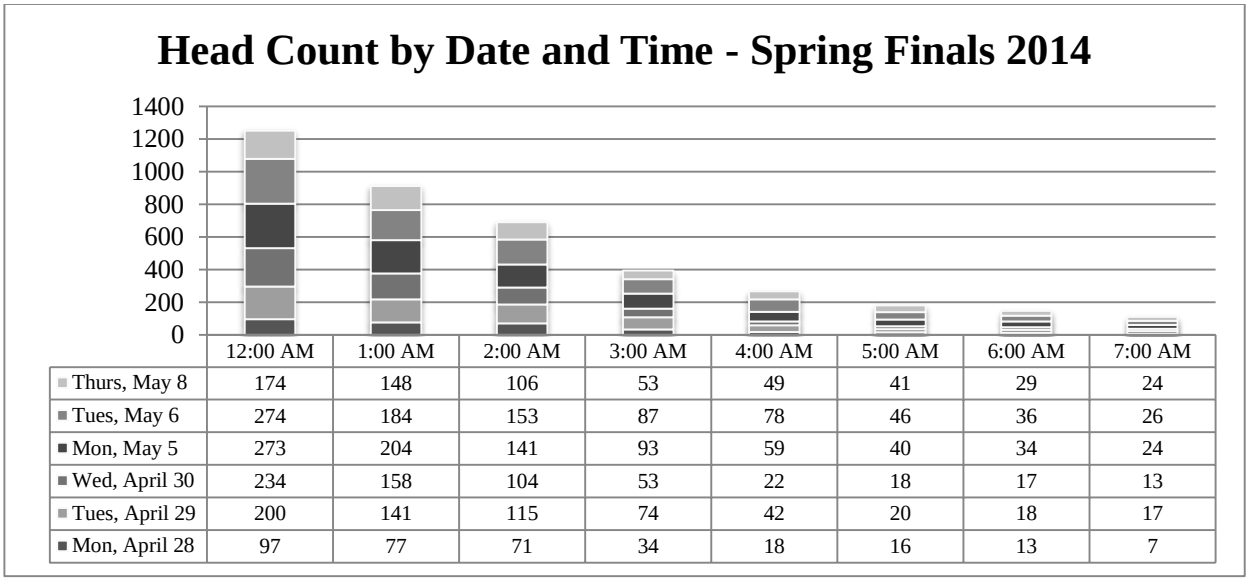


	5 pm	7 pm	9 pm	11 pm	1 am
Mon, Dec 16	337	257	267	213	87
Sun, Dec 15	350	308	308	227	93
Thurs, Dec 12	268	222	220	161	70
Wed, Dec 11	359	268	246	198	81
Tues, Dec 10	0	0	0	0	0
Mon, Dec 9	319	281	283	188	79
Sun, Dec 8	102	98	88	50	0

Fig. 3. Head counts by day and time – fall finals 2013.

By mid-term of the spring 2014 semester, discussions had begun about extending the hours during finals. Everyone understood that the dynamics are different at the end of each semester if nothing else for the weather conditions. Administrators decided the library would do all night coverage but then the question was for how many days. Even though Rowan University at the time had an enrollment FTE of 10,000+, the campus still behaved like a commuter campus on the weekends. The dates/times were set for 11am Sunday, April 27 through midnight on Thursday, May 1; Friday, May 2, 7:30am to 8pm; Saturday, May 3, 10am to 7pm; and from 11am Sunday, May 4 through midnight Thursday, May 8. There were eight overnight shifts but only six were counted.

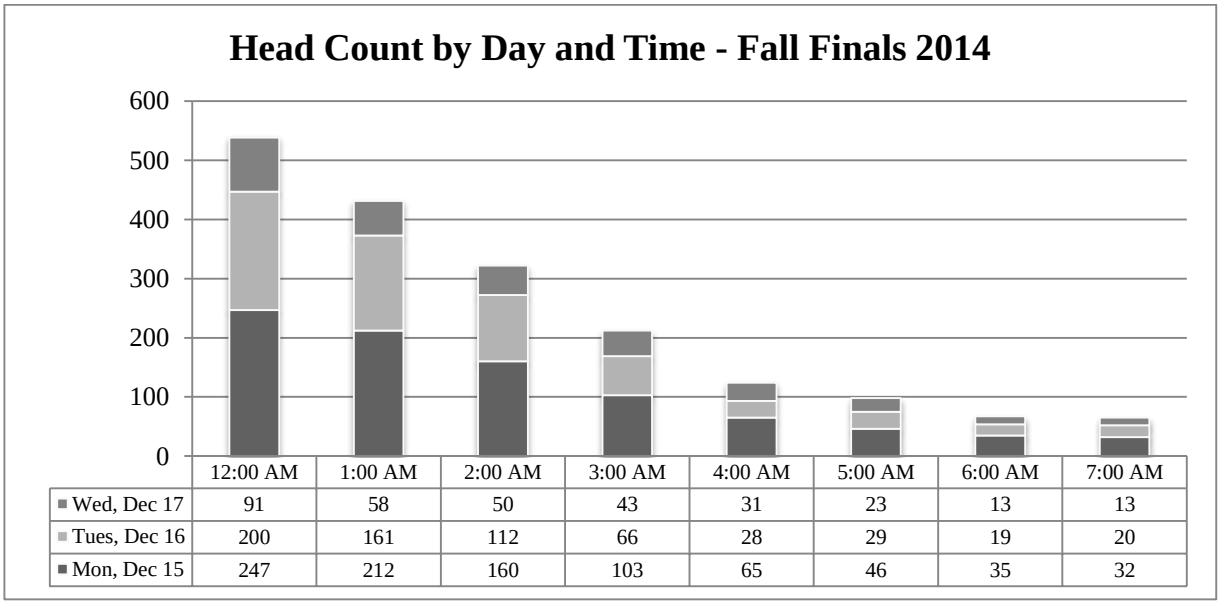
Again, this decision came with expenses to the library and the university. The library had more hours to staff, plus more staff to do the counts. Public Safety was asked to have a dedicated officer in the building for the bulk of the overnight (midnight to 5am) and the janitorial staff, who already worked a 3rd shift, had more to clean up and had to do it around students since the building was open. The building use continued to be over 100 people at 2am for all but 1 day and over 50 people at 3pm for all but 1 day (see fig. 4). The administrators started having a conversation after this semester about what patron count is adequate enough to remain open. If 50 is the amount, then the building would be open past 3am but is it worth closing for 4 ½ hours when 7 to 49 students were still there until 7am?



	12:00 AM	1:00 AM	2:00 AM	3:00 AM	4:00 AM	5:00 AM	6:00 AM	7:00 AM
Thurs, May 8	174	148	106	53	49	41	29	24
Tues, May 6	274	184	153	87	78	46	36	26
Mon, May 5	273	204	141	93	59	40	34	24
Wed, April 30	234	158	104	53	22	18	17	13
Tues, April 29	200	141	115	74	42	20	18	17
Mon, April 28	97	77	71	34	18	16	13	7

Fig. 4. Head counts by day and time – spring finals 2014.

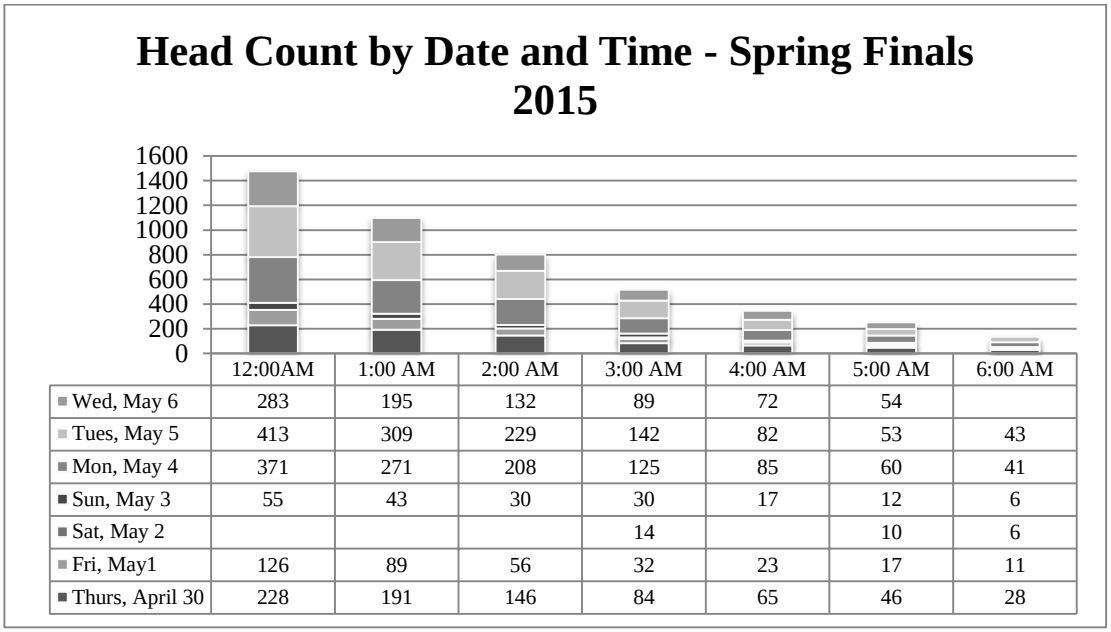
In the fall 2014 semester, the administration chose another conservative offering of overnight extended hours. The hours ran from 11am Sunday, December 14 through midnight on Wednesday, December 17. All three overnight hours were counted and no snow storms occurred like the previous year. Fig. 5 shows that the last day of the overnight extended hours was not as popular with the counts being much smaller. The 1AM counts were significantly higher this fall semester than the previous on in 2013 – 70 to 93 (2013) versus 77 to 204 (2014).



	12:00 AM	1:00 AM	2:00 AM	3:00 AM	4:00 AM	5:00 AM	6:00 AM	7:00 AM
Wed, Dec 17	91	58	50	43	31	23	13	13
Tues, Dec 16	200	161	112	66	28	29	19	20
Mon, Dec 15	247	212	160	103	65	46	35	32

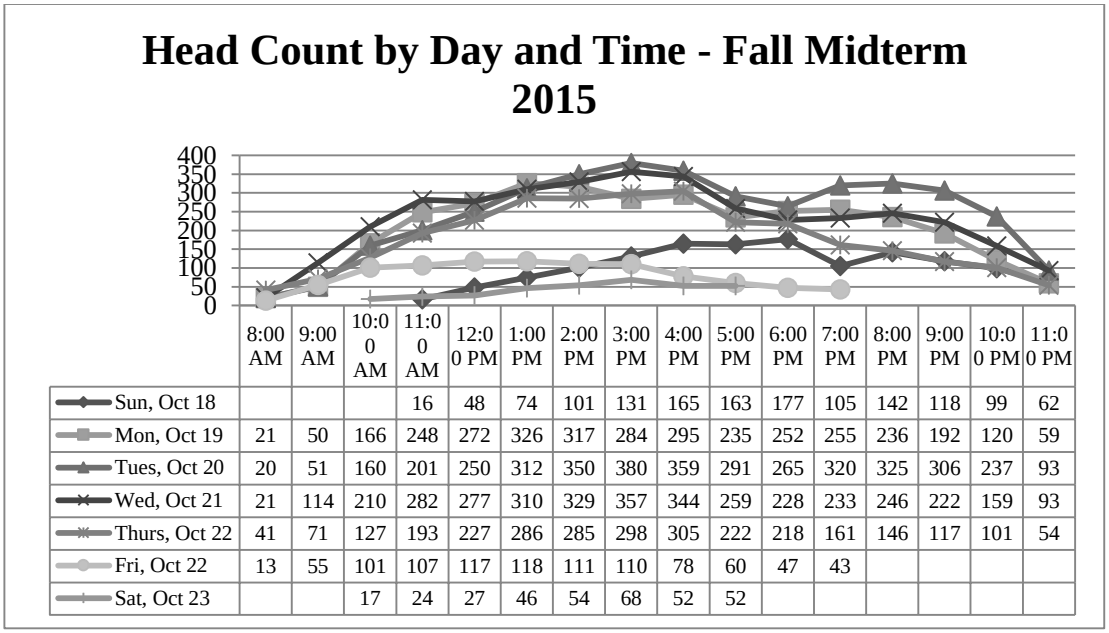
Fig. 5. Head counts by day and time – fall finals 2014.

The spring 2015 semester finals brought about a new twist. The overnight extended hours started at 7:30am on Wednesday, April 29 and ran through midnight on Wednesday, May 6. Unfortunately, not all the extended hours were counted due to staffing issues. The limited information as shown in fig. 6 still demonstrations that the 'Thursday into Friday', 'Friday into Saturday', and 'Saturday into Sunday' hours are not popular and supports the commuter campus phenomenon.



	12:00AM	1:00 AM	2:00 AM	3:00 AM	4:00 AM	5:00 AM	6:00 AM
Wed, May 6	283	195	132	89	72	54	
Tues, May 5	413	309	229	142	82	53	43
Mon, May 4	371	271	208	125	85	60	41
Sun, May 3	55	43	30	30	17	12	6
Sat, May 2				14		10	6
Fri, May1	126	89	56	32	23	17	11
Thurs, April 30	228	191	146	84	65	46	28

Fig. 6. Head count by date and time – spring finals 2015.

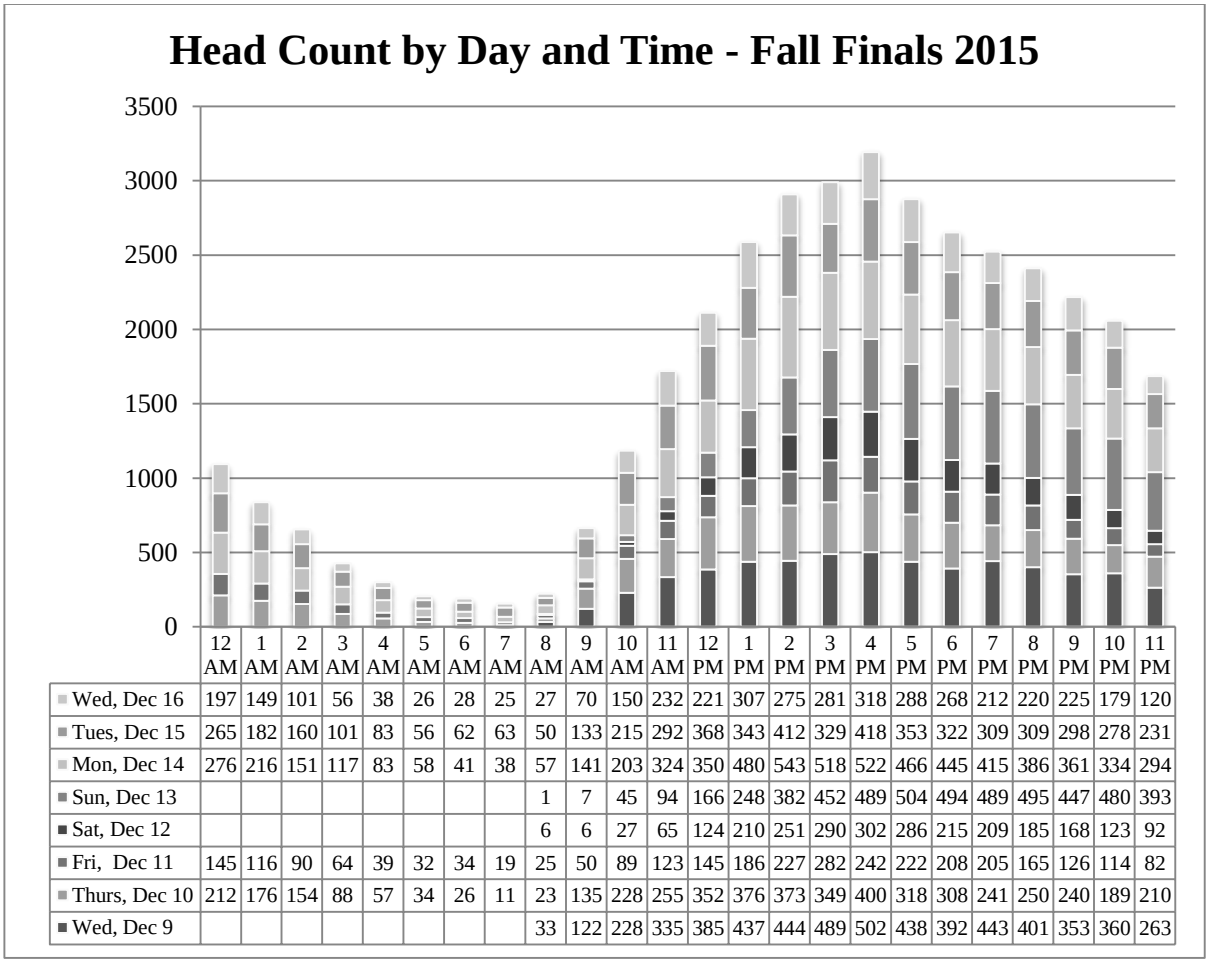


	8:00 AM	9:00 AM	10:00 AM	11:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	6:00 PM	7:00 PM	8:00 PM	9:00 PM	10:00 PM	11:00 PM
Sun, Oct 18				16	48	74	101	131	165	163	177	105	142	118	99	62
Mon, Oct 19	21	50	166	248	272	326	317	284	295	235	252	255	236	192	120	59
Tues, Oct 20	20	51	160	201	250	312	350	380	359	291	265	320	325	306	237	93
Wed, Oct 21	21	114	210	282	277	310	329	357	344	259	228	233	246	222	159	93
Thurs, Oct 22	41	71	127	193	227	286	285	298	305	222	218	161	146	117	101	54
Fri, Oct 22	13	55	101	107	117	118	111	110	78	60	47	43				
Sat, Oct 23			17	24	27	46	54	68	52	52						

Fig. 7. Head count by day and time – fall midterm 2015.

In the fall of 2015, a decision was made that daytime usage needed to be gathered. Since the assumption was the usage would be greater during finals, a baseline would be taken at or near the mid-term of the semester. Hourly counts were taken Sunday, October 18th through Saturday, October 23rd. As fig. 7 shows, usage for Monday through Thursday is very similar with a peak between 1 and 3pm and a second peak between 6 and 8pm. Friday, Saturday and Sunday have significantly less which again confirms the idea of a commuter campus phenomenon.

The extended overnight hours for the fall 2015 finals started at 7:30am on Wednesday, December 9 through midnight on Friday, December 11. Saturday was open from 8am to midnight followed by another extended overnight period starting at 8am on Sunday, December 13 through midnight on Wednesday, December 16th. The same curve pattern was prevalent for all 8 days as seen in fig. 8. Also, the same pattern appeared when comparing the midterm usage with the finals usage (see fig. 9).



	12 AM	1 AM	2 AM	3 AM	4 AM	5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	12 PM	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM
Wed, Dec 16	197	149	101	56	38	26	28	25	27	70	150	232	221	307	275	281	318	288	268	212	220	225	179	120
Tues, Dec 15	265	182	160	101	83	56	62	63	50	133	215	292	368	343	412	329	418	353	322	309	309	298	278	231
Mon, Dec 14	276	216	151	117	83	58	41	38	57	141	203	324	350	480	543	518	522	466	445	415	386	361	334	294
Sun, Dec 13									1	7	45	94	166	248	382	452	489	504	494	489	495	447	480	393
Sat, Dec 12									6	6	27	65	124	210	251	290	302	286	215	209	185	168	123	92
Fri, Dec 11	145	116	90	64	39	32	34	19	25	50	89	123	145	186	227	282	242	222	208	205	165	126	114	82
Thurs, Dec 10	212	176	154	88	57	34	26	11	23	135	228	255	352	376	373	349	400	318	308	241	250	240	189	210
Wed, Dec 9									33	122	228	335	385	437	444	489	502	438	392	443	401	353	360	263

Fig. 8. Head count by day and time – fall finals 2015.

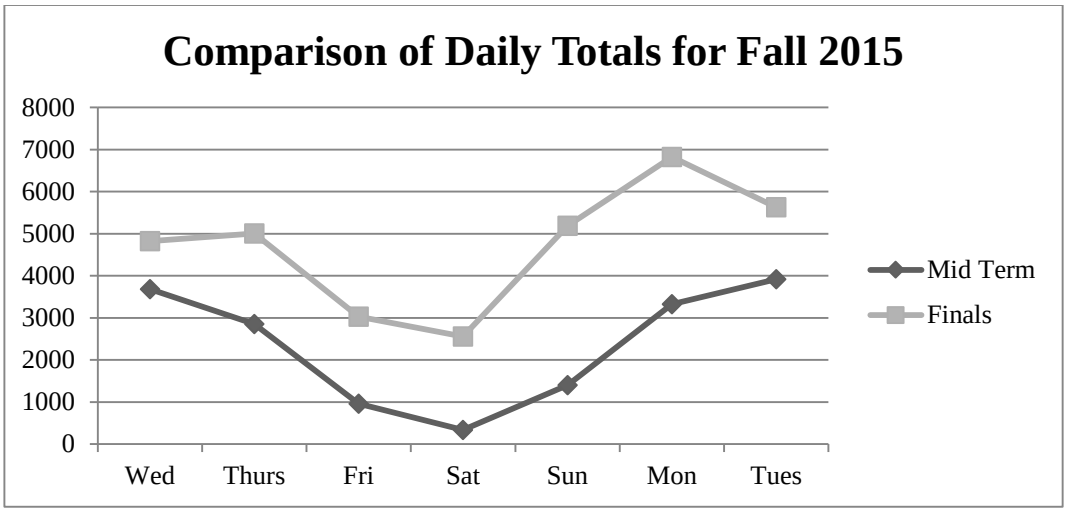


Fig. 9. Comparison of daily totals for fall 2015.

Another midterm count was conducted in the spring 2016 semester but due to staff schedules and holidays that impacted the building hours, the week was past midpoint of the semester – April 3 through April 9. The results were very similar to the fall semester (see fig. 10).

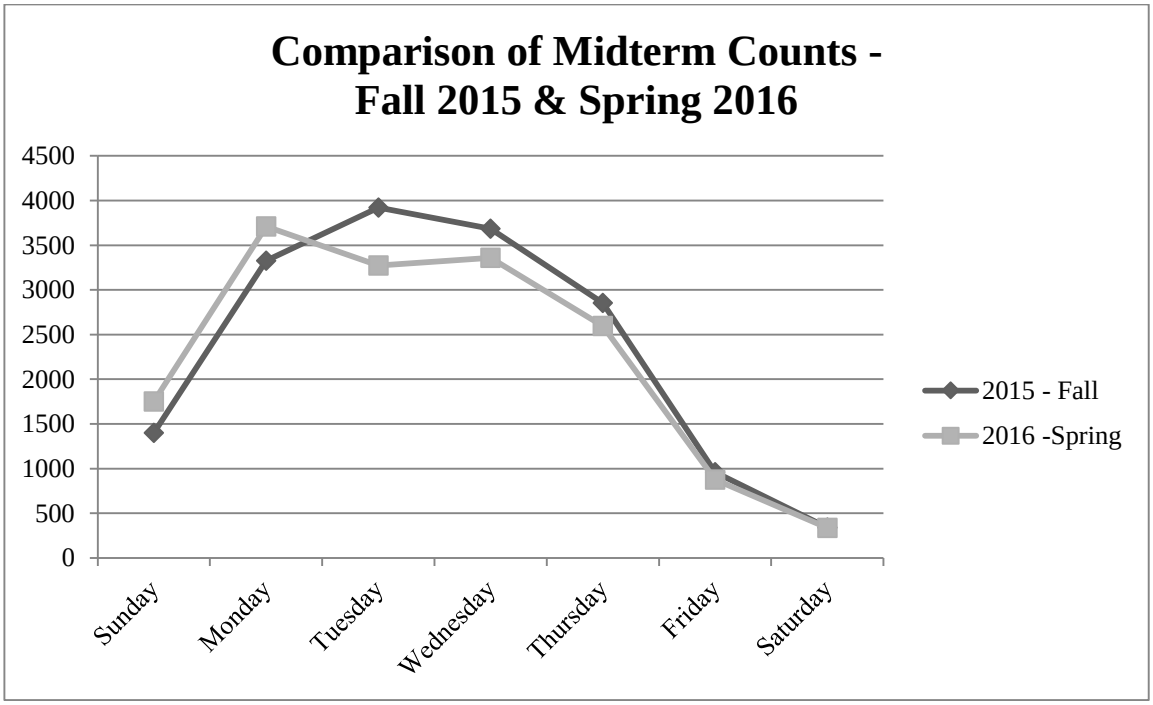


Fig. 10. Comparison of midterm counts – fall 2015 & spring 2016.

The 2016 spring finals (see fig. 11) included nine extended hours overnight and 15 days in total. The extended hours started over a week before finals began and no overnights were offered on Thursday, Friday and Saturday nights. Note that the temperature over the two

weeks was unseasonably cool for early May.

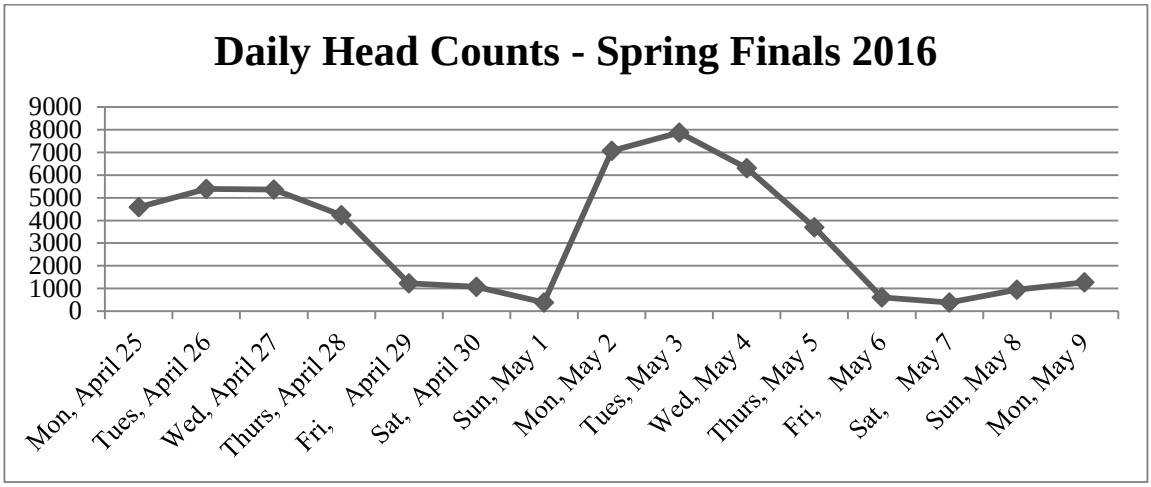


Fig. 11. Daily head counts – spring 2016.

Outcomes – Inform, Influence and Impact

Besides informing and influencing the building hours during finals, facility decisions have been made based in part by the space and usage studies. In March 2014, four doors were installed in room entrances to keep noise down near study areas on the 3rd and 4th floors (see fig. 12). Staff conducting the fall head counts noted the issue which was both reasonable and easy to fix.

The 2014 Endowment Project construction started in the summer, with the fourth floor reading room receiving a face lift. It was full of old, mismatched furnishings and felt more like an attic dumping ground than an inviting study and/or collaboration space (see fig. 12). The decision to fix the area was made before the space studies began but updated furniture was influenced by the observations of the study. The total renovation included new carpet, paint and furnishings. To assist with wayfinding for the 2 classrooms in the area, colorful red carpet squares were used (see fig. 13). The space went from being an eyesore to a hidden treasure. The space has become very popular, as fig. 14 and 15 show.

Fig. 12. Doors & old furnishings.

Fig. 13. Renovation reading room with way-finding carpet.

Fig. 14 Fourth floor reading room – spring 2016 finals.

Fig. 15. Fourth floor reading room – spring 2016 finals.

During 2014/2015 school year, three study rooms were created on the first and second floor. Two of the rooms came from an empty room that was a photocopy room (see fig. 16). It was split and made into two 6-person study rooms (see fig. 17). Another empty photocopy room was also transitioned into a 6-person study room.

Fig. 16. Former photocopy room.

Fig. 17. Two new 6-person study rooms.

After classes were out in the spring of 2015, the music collection was moved into the building (from the Music/Theater building) creating a Performing Arts Collection Room that included specific material/resources and dedicated staff to assist faculty and students to find scores, plays, and music CDs, to mention a few. The room was going to still have study spaces, so based on the head counts and the staff's observations during the head counts, the furniture choices were selected – 6 round tables with 4 chairs each with power outlets built into the tops (see fig. 18). Other study tables in the building that have built-in lamps are typically seen with the lamps unplugged so the student can use the outlets for laptops or other technology.

Fig. 18. Performing arts collection room furniture.

The summer 2015 Endowment Project was the renovation of the reference area and the planning for it began in the fall of 2014. At the start of the project, two semester counts and observations had been documented and another one completed before the planning stage was complete. The administrators had already known the reference collection deselection project would cut the amount of shelving needed so all the taller shelving units were eliminated leaving only short units (see fig. 19). The space studies and observations at the peak day time hours indicated the library needed more computer stations and another printer. The printers are provided by the University IT departments so providing usage information was important to proposing they add another printer in the library.

Group study space is a commonly requested space. The library has 14 with a variety of capacities (4 to 10 person rooms) and three of those were added during the spring of 2015. The addition of TV screens that had wireless connections from laptops were an addition suggested by the Facility Planning Project Manager assigned to the library. He was aware that two new buildings being constructed on campus were planning similar group spaces so this was an opportunity for the University IT department to experiment with less expensive technology in preparation for those new building spaces. The fun part of these group study rooms are each have unique colored accent walls and each room has matching colored chairs (see fig.19). All study rooms in the building have window walls. No privacy implied!! Some of the additional study tables in the reference area (a variety of 2, 4, and 6-person tables) have electrical and USB power on the table tops.

Fig. 19. Reference area – computers & study tables.

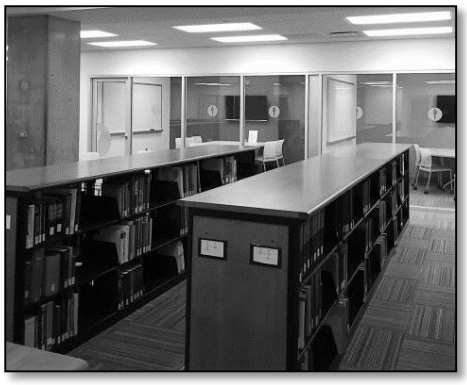


Fig. 20. Reference area study rooms.

A final area that was impacted was zoning the building for types of noise levels and applying signage. Three zones were created – Silent Study (Red); Quiet Study (Yellow) and Group Study (Green) (see fig. 21). Since some floors had a variety of furniture (individual study carrels and group tables), the zones helped the students understand the noise levels in the spaces. The quiet areas are usually well observed but some of the "Yellow" areas quickly become noisy due to the group tables. Floor maps with the zones were hung by each floor's elevator/stairwell entrance (see fig. 22).

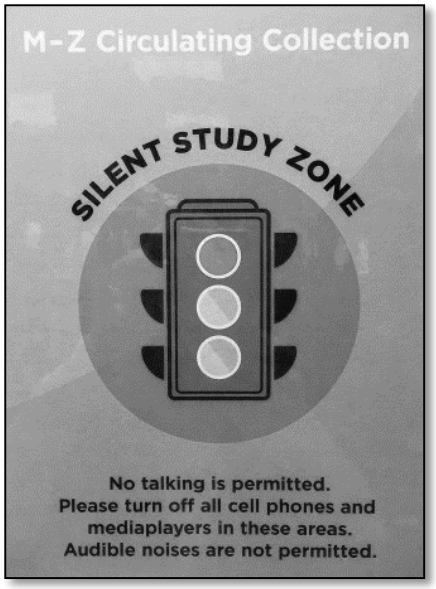


Fig. 21. Zone sign.

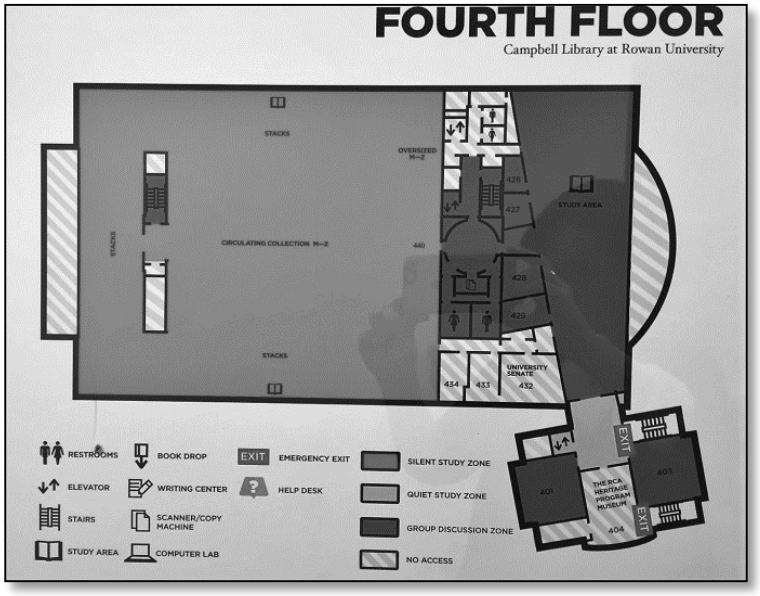


Fig. 22. Zone floor sign.

A unique observation by the author during the head counts is the need for some groups of students to have their tables touch. The large group could be in the same area but that is not enough. The group will move the tables so they touch. It doesn't matter if they are working quietly or studying alone together (Andrews & Wright 473) or if it is square or round tables, the tables must join. This was not a single observation.

Conclusion

The Rowan University Library Administration have learned a number of things from the space and usage studies that influenced and impacted space related decisions. Group study space is popular even if it is not in designated rooms; students will create group space just about anywhere. Furniture needs to be varied because students' preferences vary.

Next Steps

The author and her staff will continue doing the head counts for at least another full academic year. They will explore an electronic collection option versus the paper form. Hourly counts for 5+ days becomes a lot of paper to maintain. Finally, they plan to explore other data collection methods like study surveys.

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Pop-up Usability Testing – More Data, Less Time (and Money)

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University of Missouri - Kansas City

Abstract

Library websites are notoriously hard to design. Librarians strive to build effective websites that serve a variety of users but must blend original, local content with third party tools and interfaces. Standard usability testing enables effective site design but it is costly, time consuming and laborious. In this session, learn how to perform a streamlined version of usability testing, allowing rapid iterations of each site designs. Whether tweaking a current site or creating a new one, this testing method can be planned, executed and the results reported in days or maybe even hours. Using real world examples, this session gives attendees the tools and hands on experience needed to perform "Pop-up" testing methods. Using this process, librarians save time, work and money!

Renovating Foundations: ArchivesSpace and Collections Management

Mary Ellen Ducey, University Archivist
University of Nebraska-Lincoln

Peterson Brink, Assistant Archivist
University of Nebraska-Lincoln

Stacy Rickel, Programmer/Analyst
University of Nebraska-Lincoln

Abstract

Often due to their unique resources, archival repositories operate alongside libraries in providing access to materials. This is true of the Archives & Special Collections at the University of Nebraska-Lincoln Libraries. The presenters feature ArchivesSpace as a collection management tool that provides access to primary source materials. Collection management is an essential component of the discovery process for archive patrons and of equal importance to repository staff who serve multiple constituencies. Specifically, the presenters discuss the implementation of ArchivesSpace and standards associated with description and metadata that lead to access and use of primary source materials, including documents, photographs, born-digital materials, and associated resources. Archival collection management tools operate similarly to a library catalog for public access, however, they also provide essential information for describing, housing, locating, and managing archival collections. As an open access program, ArchivesSpace allows customization and the presenters show how changes made to the installation aligns it to their repository needs. They also discuss reliance on metadata development, migration, and development of processes to enhance use, understanding, and interoperability for all formats of materials.

The Big Reveal: LibGuides Analytics and Why They Matter

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Saint Louis University

Jamie L. Emery, Research & Instruction Librarian
Saint Louis University

Abstract

One of the notable advantages of LibGuides version 2 is the availability of enhanced analytics, which when analyzed thoughtfully, can provide a variety of insights into users' research needs and information-seeking behaviors. Local LibGuides administrators from Saint Louis University will introduce participants to the various kinds of analytics available in LibGuides v2 (Homepage, Guides, Sessions, Browser/Operating System, Searches, and Assets). Using illustrative examples from their own institution's LibGuides analytics, the presenters discuss what data is available and how it can and should be leveraged to improve LibGuides creation, curation, metadata, and ongoing site management.

Snap, Click, Chat: Investigating the International Student Experience

Melissa Burel
Assistant Professor, Catalog Librarian
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Sarah Park
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Abstract

Like many universities in the United States, Southern Illinois University Edwardsville (SIUE) has experienced a large increase in the international student population in recent years. In response, the university community including librarians, professors, and administrators saw an opportunity to reach out to international students to meet their academic needs. In order to accomplish this, two librarians began a research study to explore international students' university and library experiences.
Initially, the librarians reviewed a body of literature regarding international students and the library. Many of the articles (see Review of Literature section) focused on specific challenges that international students often face, such as English language skills, plagiarism, acculturation, and beliefs about the library. Other studies such as those by Allen, Jackson, and Wang attempted to understand international student's needs on a broader level, but only employed a survey method. In order to understand the international student population at SIUE from a broad perspective, this study employs a mixed-methods approach using in-depth interviews, photo diaries, and a survey. The researchers will share their research methods, means of data analysis, and their interpretation of the preliminary findings.

Introduction

International students are one of the fastest-growing populations attending universities in the United States. The most recent *Open Door Data* (Institute of International Education 2016) reported that the number of international students studying in the U.S. sharply grew by 10% in 2014/2015 from the previous year. The number accounts for 974,925 students in U.S. colleges and universities and 4.8% of the total U.S. higher education enrollment in 2014/15.

Southern Illinois University Edwardsville (SIUE) is not far off from this growth. SIUE is a Master's level institution in the Midwest with approximately 14,000 FTE. Among this population, Illinois residents count for 89%, out of state students for 8%, and international students for 3%. SIUE has been experiencing a dramatic increase in the international student enrollment in the past three years (see fig. 1). The number of international students grew 30% from 330 FTE to 430 FTE between 2014 and 2015.

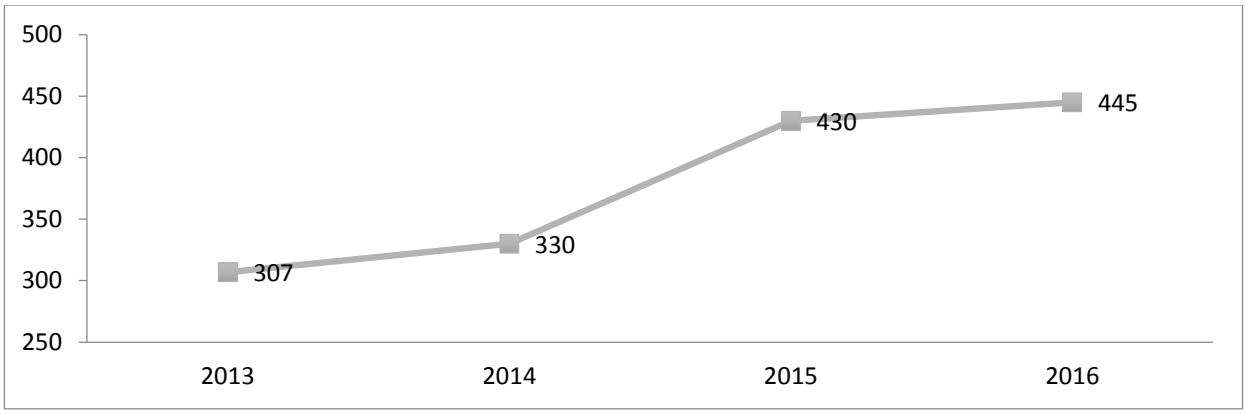

Fig. 1. Trends of international student population (Southern Illinois University Edwardsville, 2016).

The recent growth in the international student population has presented new challenges to librarians at SIUE. One of the biggest battles librarians encounter at the beginning of every semester are textbook requests. Undergraduate students at SIUE are offered textbook rental services based on fees per credit hour while graduate students are required to purchase or borrow textbooks on their own. However, many international graduate students believe that they can also borrow all of their textbooks free from the library, resulting in high demands for textbooks, interlibrary loan requests, and higher levels of frustration among patrons and staff.

The librarians also observe that many international students are not aware of the services and resources that the library offers beyond "textbooks." For example, many international students are surprised to receive a free copy of an article through the library (interlibrary loan service) or get reference help despite the fact that the library provides all international students with an introductory course embedded in the university's two-day long orientation before the first semester starts. In addition, librarians provide bibliographic instruction in established general education courses to all students, and subject librarians provide ad-hoc instruction to upper level research courses upon instructor's requests. However, there is no targeted and formalized approach to reaching international students.

With the growing presence of international students on campus, the library faculty felt a strong desire to understand this population. In response, two librarians volunteered to study a body of literature on international students and their library use. They also started communicating with campus units including Admissions and Office of International Student and Scholar Services to collect information on the international student body at SIUE. The demographic data on international students and interviews with key administrators on campus provided a foundation of initial understanding. However, it lacked substance to understanding the relationship among international students, their library use and academic achievement. After initial investigations, the librarians decided to create a research study to explore the university and library experiences of international students.

Review of Literature

With the increasing presence of international students on campus since the 1980s, academia has recognized that international students have unique needs. The library literature has reflected this trend, with studies identifying and attempting to address the specific barriers that international students face including English competency, academic expectations, and the role of the library on campus.

According to the literature, one of the primary barriers that international students face is English proficiency. Liu & Redfern report that international students whose primary language is English use the library more successfully than others whose primary language is not English. Badke asserts that even students with high TOEFL scores are not sufficiently prepared for the rapid pace of classroom discussion. Peters notes that while most international students may have learned a British form of English, their comprehension and spoken language skills are behind their writing and reading abilities. American English slang, colloquialisms, and regional accents can also impede a student's ability to understand a conversation or discussion. According to Poyrazli, Arbona, Bullington, & Pisecco, it is easier for students with better English language skills to adapt to U.S. culture. Lee & Rice found that these students have more social interactions than those with lower English language abilities.

Many international students are also reported to have barriers in academic expectations in the U.S. In their home country's academia, many international students learn not to contradict professors or debate in the classroom. Students "save face" by not showing a lack of understanding, and are given research information directly from professors without questioning its validity (Badke; Liu & Redfern). This experience inhibits students in U.S. classrooms causing them to participate less, never disagree with professors, and experience a more challenging time with self-directed learning (Orr, Slee, & Evryniadis). Plagiarism and the research process are also examples of contrasting academic expectations. When assessing student understanding of the research process and plagiarism, Chen & Van Ullen found that international students were generally unfamiliar with the research process and students had trouble understanding plagiarism. The students specifically struggled with understanding when to paraphrase and how and when to cite. Gunnarsson, Kulesza, & Pettersson also found similar results in their study with only 18% of students surveyed having heard of plagiarism before and nearly all of them were unclear about the concept.

Another known barrier is lack of experience and understanding with the concept of the library in the U.S. Many students' experiences of libraries in their home countries include closed stacks, libraries without services, and librarians with no formal training (Badke). In their study comparing international student and domestic student understanding of the library, Yan, Finn, & Lu discovered that while the international graduate students used the library significantly more than their U.S. counterparts, 22% did not feel prepared to use the library when first coming to campus. They also found that a significant number of international students did not understand the role of the reference librarian. This misunderstanding of the librarian's role is corroborated in Liu

& Redfern's study, where a large portion of the students surveyed stated that when they were unsuccessful finding materials in the library they did not know they could or understand why they should consult a reference librarian. Jiao & Onwuegbuzie conducted a study surveying 125 undergraduate students to understand sources of anxiety within the library. The researchers found that different technologies, such as printers, computer indexes, copiers, etc., created the most anxiety for international students, followed by affective barriers such as comfort with the library, feelings of inadequacy, or knowledge about the library.

Approaching the needs of international students through specific known issues is valuable when a targeted response is required or needs evaluation. However, the literature requires more studies that address this population group from a broad inductive mixed-methods approach. Previous studies, such as those done by Allen, Jackson, or Wang, sought to understand international students' needs on a broader level, but only employed the survey method. While this method does provide information and is valuable in showing relationships, it does little to provide a holistic understanding of the international student experience. A study investigating the life and information needs of international students from a qualitative and quantitative approach will provide a unique voice in the literature and possibly reveal previously unaddressed aspects of international student experience.

Methodology

This research study employed three methodologies including in-depth interviews, photo diaries, and a survey. The intent of combining these methods was to complement each other and provide a more complete picture of international student experience. The in-depth interviews provided a more detailed perspective about a student's broader experience in the university and library with the areas of inquiry including their recruitment to the university, their academic experiences, library experiences, and social life. The photo diaries, which are also a qualitative method, complement the other methods by providing photographic evidence of student experience. Questions asked in this method focused on spaces, such as spaces the student enjoys on and off campus, spaces where the student studies, places s/he avoids, and spaces s/he likes or does not like within the library. The third methodology, the survey, provided direct quantitative information specifically regarding the international students' relationship with the library. Questions ranged from how often the students visit the library, how often they use different resources or services, and how they feel about the library. Each methodology collected the same demographic information: home country, gender, amount of time in the U.S., and student status.

In-Depth Interviews

The in-depth interviews were semi structured and focused on four different areas of student experience. The researchers wanted to know how the students had heard about SIUE, what they found attractive about the university, and what they thought of their experience so far. The next area of inquiry was about the student's academic experience. Interviewers wanted to know about their overall experience in the classroom, how

students interacted with their peers and faculty, along with a description of their learning networks. For the inquiry about library experience, researchers asked the participants to name three words that they associate with the library and used those terms to probe further into the student's experience. If appropriate, interviewers asked about the student's experience studying in the library, interacting with the people who work in the library, and how this library experience compares with the library experience in their home country. The researchers also asked about the student's social life. The researchers wanted to know what kinds of on-campus organizations the students were involved with, places they enjoyed spending time, and what they do with their friends. At the end of the interview, students were asked to name one thing they would change about the university and to describe one positive experience they had while a student at SIUE. While the researchers prepared probing questions in advance for each section of questions, they were used only when appropriate. So if a student responded that they "never use the library" the researchers did not proceed to probe into their experience interacting with the staff that work in the library.

Forty-eight students participated in the in-depth interviews, 47 of which are usable. Participants were selected from a list of students who were enrolled in the fall 2015 academic year and were categorized as international by SIUE. This list contained 421 students. Participants were chosen using a stratified systematic sample, choosing every 20th student until 52 were selected. At the end of the fall semester, with a response rate of 27%, the researchers performed another stratified sample on the list of the 422 students enrolled for the Spring semester and recruited another 185 students. Students were invited via email on three separate occasions, and after no response on the third invitation, were not asked again. The invitation email included a description of the study, the value of the student's input, and a promise of a $10 gift card.

This method of inquiry was chosen for a number of reasons. Due to the semi-structured nature of the method, interviewers could ask probing questions as new ideas arose. Also, this format provided for more in-depth exploration of different topics and provided participants a format to clarify responses. While this method is useful for gaining information about individual experience, it also presents some drawbacks. In-depth interviews are time consuming, both conducting and analyzing. Also, between different interviewers there can be inconsistencies in questions asked and emphasis which can cause variations in the data. While it is useful to meet students and get to know them one on one, this format can create pressure for a student to respond a certain way, even with repeated promptings that there is no right answer.

Photo Diaries

Photo diaries are a distinctive method that provide visual information about participants and their surroundings but is not as well-known as other methods. In this process, a researcher met with a student to explain the study and give the student a list of questions and a camera. The student took pictures in response to each question. After a few weeks, the student and researcher met again and discussed the pictures the student brought back. The focus of the photo diary method was space: spaces that the students enjoy on and off

campus, spaces where they study, places they avoid or feel uncomfortable, and spaces in the library that they like and dislike. The researchers aimed to understand what space characteristics are attractive to international students and to determine student opinion regarding pre-existing spaces.

Approximately 13 students participated in this method, 12 of which were usable. They were chosen from a list of 421 students from the fall semester and 422 students from the spring semester. They were selected using a stratified systematic sampling method and did not overlap with the sample of students for the interview methodology. The response rate for this method was quite low for a number of different reasons. While each student received an email describing the study, method, and gift card incentive, students still expressed confusion regarding their role in the study. Also, given the time-intensive nature of the method and the requirement of a student to meet with a researcher multiple times, some participants opted out during the study. While these are certainly drawbacks, this method has many strengths. The combination of photos and transcript provides rich insights into the student's space uses and preferences. Hearing and seeing can also create greater impact when making a case for student needs on campus. Researchers integrated a visually oriented method into the study to appeal to those who felt their language skills to be a barrier in communication.

Survey

The purpose of the survey was to gain a broad understanding of the international student's relationship with the library. Questions included how often students use specific library resources and services, what activities the students participate in when visiting the library, how they learn about the library, how they feel about the library, and how often they visit. The survey also included an open-ended question of what the students would like to change about the library. The strength of this method allowed the researchers to reach the whole international student population and ask very specific, closed-ended questions. However, participants skipping questions can make showing relationships between the different variables a bit more challenging.

The survey was sent out electronically to 422 international students in the 2016 spring semester. Everyone received an email describing the study, the importance of their participation, and the opportunity to be entered for a $100 prize drawing. The survey was open for three weeks in April 2016 and the students were sent two email reminders before it closed. 188 students responded to the survey resulting in a 44.5% response rate. It is important to note that not every participant answered every question. When creating the survey, the researchers feared that making each question mandatory would deter participation.

Analysis

The analysis plan for each of the three methodologies is unique owing to the differences in their makeup. The researchers did not have a theoretical framework nor hypothesis to test in this research study, so all analyses were undertaken from an inductive approach. It is important to note that at the time of this writing, the analysis is still in process.

A graduate assistant transcribed the in-depth interviews using ExpressScribe and saved the transcripts on the secured location. An analysis team of five librarians formed and met shortly after the conclusion of the 2015/2016 academic year. All participants completed the required IRB training and were equipped with the NVivo software. After a short training, the team began reading through interviews and compiling a code book. This code book is used for any thematic material that arises from the transcripts and definitions and usage are agreed upon by the team. A pair of coders work on each transcript for high interrater reliability and the agreed upon transcripts are uploaded into a single project for further analysis.

Once all the coding is complete, the researchers will begin analyzing the thematic occurrences. The NVivo software provides word counts, word trees, data on thematic relationships, and other methods of scrutinizing the data which will all be used to identify important trends regarding international student experience.

The graduate assistant also transcribed the photo diary interviews and made the transcripts and photos available to the researchers. An analysis team of five librarians will begin reading and coding the interviews in NVivo and compile a code book of relevant themes. This code book will be separate from that of the in-depth interviews. The researchers will upload the photos into NVivo as well. These images will be coded to each question from the transcript and will be coded for analyst's observations.
The electronic survey was hosted through Qualtrics. While Qualtrics provides useful in-house data analysis, it wasn't particularly useful in this case since the survey data needed to be cleaned. Quite a few students, 12 to be exact, took the survey multiple times and entered the same email each time. The researchers combed through each redundant entry providing just one response per student. The researchers also removed any answers for a text box "other" when no text was entered but a frequency was chosen.

The researchers are currently analyzing the results from the survey. The cleaned data was uploaded into SPSS where the correct variables and data types were selected. The researchers have run frequencies for each of the questions and are planning the next steps of testing for relationships between different variables. The data will also be uploaded into NVivo in order to analyze the free text question. Many students responded in this area and a thorough thematic analysis of this question should provide some interesting insights.

Preliminary Results

The following results stem from preliminary partial thematic analysis of the in-depth interviews and photo diaries and following an initial analysis of the survey data.

Textbooks

Researchers were already aware of the strong demand for textbooks before the study began. In all three of the methods, students repeatedly expressed the desire for the library to carry these textbooks, however this research provided a more nuanced context

for this need. Multiple students commented that textbooks are significantly cheaper in their homes countries, so the price of the book when coming to the U.S. was surprising. Also at SIUE, undergraduates have their textbooks provided to them electronically (for a fee) which graduate students see as an unfair advantage. During a conversation in the photo diary method, a graduate student in the engineering department broke down his monthly income:

> Because as a student I got a CGA, competitive graduate award and I got around 930 dollars per month, is the highest stipend that the international student can get … And I have to pay around 437 dollars mandatory cost… athletic fees, maintenance fees, and there are so many things there. I have to pay for the Morris University Center as well. So half of that, of my pay, is gone… But since most of the graduate students are from international background, most of them are international students, so if they come here and they have to buy books then it must be pretty costly for them because if they buy around 1 book. I bought 1 book it should be 150 dollars. If you buy 2 books it should be 1/3 of their monthly salary…

This means that after student fees and purchasing a book for class, a student has very little to live on for the rest of the month. International students cannot work off campus so this means that they would need some funding from home. While this is possible for some students, other students expressed that this was not possible. Even though students are required to show the university that they have the financial means to attend, many students find that they come up short once they arrive.

Asking for Help

Throughout the in-depth interviews, students were asked about their interactions with those that worked in the library. While many students reported positive interactions, there were a few that mentioned they never interacted with anyone who worked in the library. One male undergraduate student from Europe said that he tried not to interact with them, stating that he had "Minimal interaction." When questioned further about why this was the case he responded that, "Because I don't really check out books frequently."

Within the survey, when asked the level of agreement with the statement, "I feel comfortable asking for help in the library" 87.3% of the 165 respondents selected *strongly agree* or *agree* However, when asked "How often do you ask a librarian a question?" 52.6% of the 152 respondents selected *never* or *rarely* (see figs. 2-3).

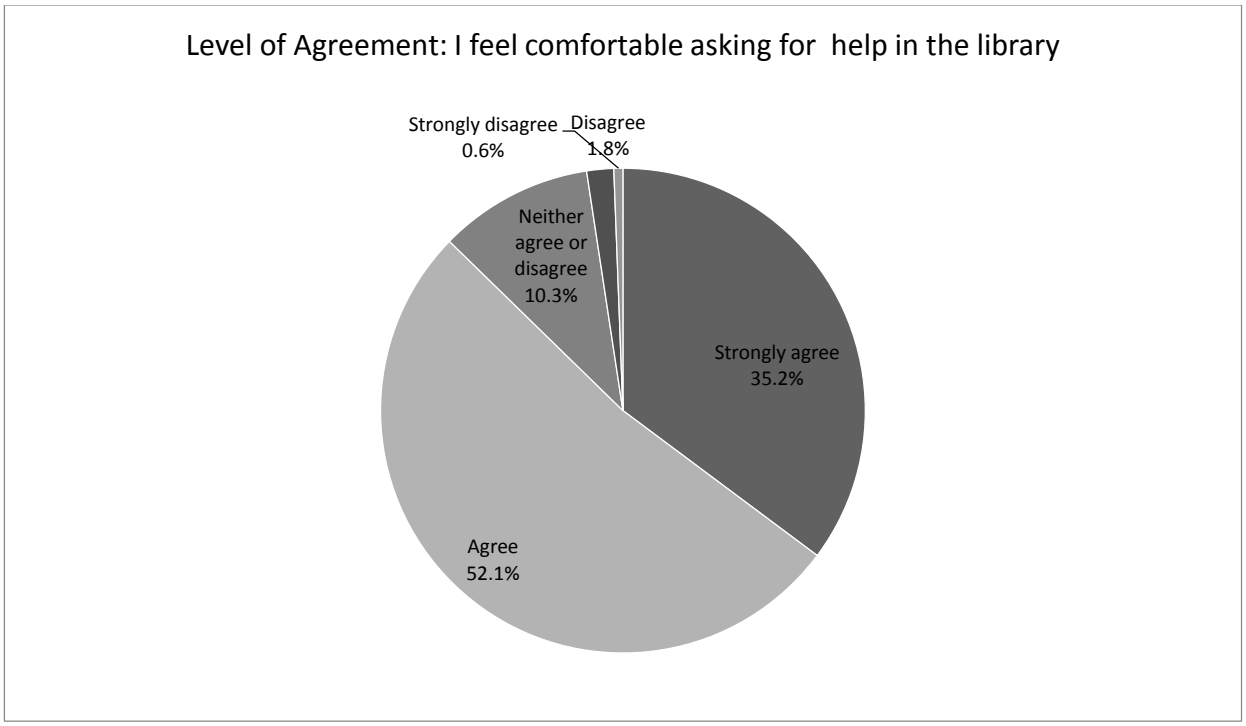

Fig. 2. Survey question 8: How much do you agree with this statement: I feel comfortable asking for help in the library?

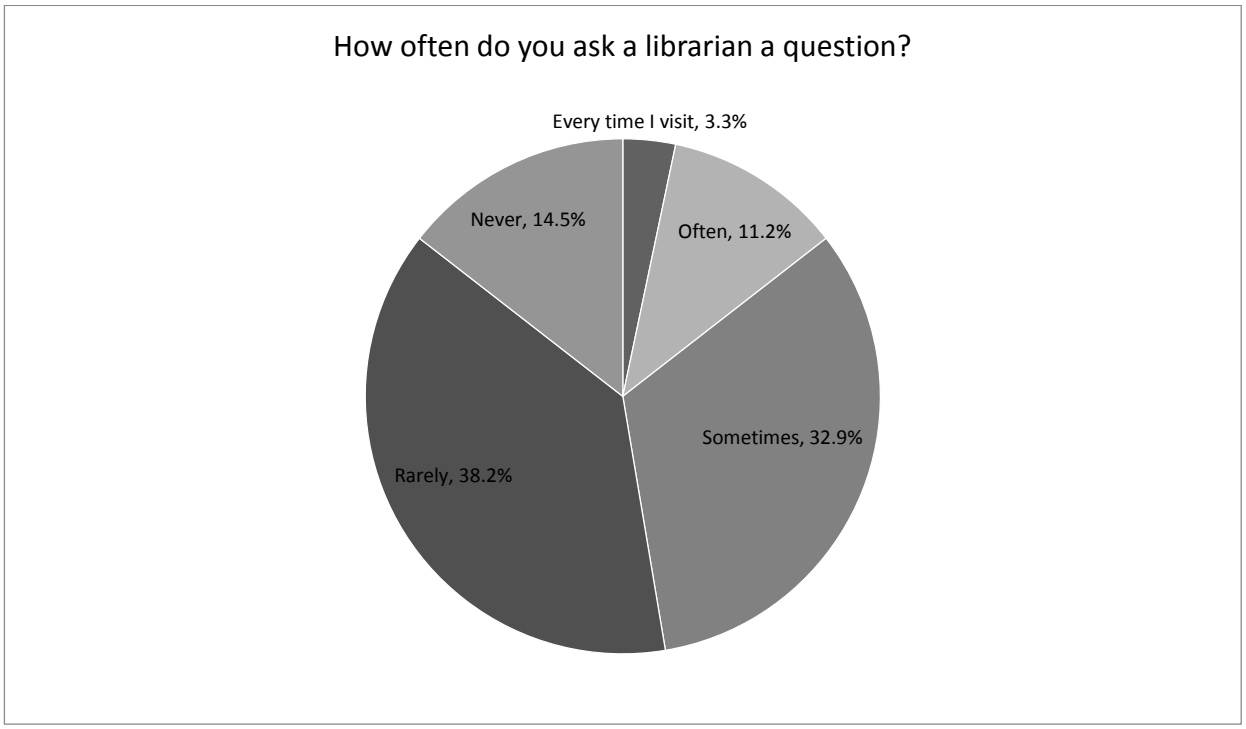

Fig. 3. Survey question 2: How often do you ask a librarian a question?

This inconsistency between level of comfort and the act of asking questions could exist for a number of different reasons and may not be unique to international students. The

researchers recognize that many students know that librarians are available to help, but may not understand the ways in which a librarian can assist them. It is also possible that the 87.3% of those that reported feeling comfortable asking for help could be due to respondent bias. Since a disproportionate number of international students are in the engineering field, it is possible that they use the library more for spaces to study and work than finding and acquiring resources. On the other hand, students could be hesitant to approach librarians for assistance due to language, culture, or other factors associated with being an international student. Whatever the reason, this is something that the researchers would like to investigate further in the future.

Next Steps

While the researchers have made significant strides into exploring the experiences of international students there is still more work to be done. At the time of writing this paper, the researchers are undergoing the analysis phase. They are planning multiple follow-up steps to complete the study in the next six months. The first step is to finish analyzing the collected data in the in-depth interview and photo diaries methods. This involves completing the thematic coding of the in-depth interviews and photo diaries and analyzing thematic occurrences. In the meantime, the team would also like to investigate the quantitative data to find meaningful relationships between different variables. The anticipated date of completion for the analysis is December 2016. Once the analysis is complete, the team will present these findings to the different units within the library. Ultimately, the researchers would like to synthesize the findings of the study into a comprehensive initiative and partner with different academic units within the university to enhance international student experience both on campus and within the library.

Appendices

In-Depth Interview Guide

Introduction

Thank you for taking the time to sit down with me to participate in this research. My name is Melissa Burel and I am the Catalog Librarian here at SIUE and the purpose of our study is to explore the unique experiences of international students here at SIUE. I'm going to be asking questions about your time here at SIUE and please know that there are no wrong answers. I just would like to hear about your experiences from your perspective. If any question I ask causes you to feel uncomfortable or you would rather not answer it, just let me know and we can move on.

Recruitment to SIUE

This first section of questions is about the time before you came to SIUE. So think back to before you were a student on campus here

1. How did you hear about SIUE?
2. What made you decide that you wanted to attend?
3. How do you feel about your experiences so far?

Academic Experiences

Thank you for your responses. This next section of questions is in regards to your academic experiences so your time in the classroom, studying, and interactions with instructors:

1. Tell me about your experiences in your classes
    a. Possible probe: How do you feel about classroom discussions?
2. When you have an assignment that is perhaps challenging, what is your process for finishing that assignment?

The Library

Thank you for your responses. This next section of questions is in regards to your library experiences here at SIUE. Please keep in mind that there are no right or wrong answers, I just want your perspective.

1. What are the first three words that come to your mind when I mention the word library
    a. Probe: Tell me more about [word].
2. What is your experience like using the library?
    a. How do you feel about studying in the library?
    b. What has your experience been like interacting with people who work in the library?
3. What has been your experience using the library in your home country?

Social

Thank you for your responses. This next section of questions is about your social life while you've been here at SIUE:

1. What kinds of things do you like to do for fun?
2. Tell me about the people that you enjoying hanging out with.
3. Tell me about the campus groups you're involved in.
    a. Probe: What do you like about these groups?

Overall impressions

Thank you for your responses. This last section are just some general questions in regards to your experiences here at SIUE.

1. Would you please describe one positive experience that you have had on campus
2. If you could change things about SIUE, what would they be?

Closing

Alright, well that is all for this interview. Thank you for your time and sharing your perspective with me. Before we end for today is there anything that you would like to add that perhaps I didn't cover in this interview?

Here is my contact information so if you have any additional thoughts or questions please feel free to contact me.

Photo Diary Questions

The purpose of this research is to explore your experiences at SIUE. All responses will be kept confidential. Please take picture(s) of the items represented through these prompts. Once you have taken all of the desired photos, you will meet with a member of the research team to discuss your responses. The discussion of your responses could take anywhere from 30 minutes to 1 hour. Please remember that there are no right or wrong choices, we are just interested in your opinion.

1. What are some of your favorite places on campus?
2. Where do you hang out with your friends?
3. What are some of your favorite places off campus?
4. What are the places that you avoid or feel uncomfortable?
5. Where is your favorite place to study?
6. What are some resources that you use most often when studying?
7. What items do you always take with you to class?
8. What do you like about the library? (can include spaces, resources, etc.)
9. What are things that you don't like about the library? (can include spaces, resources, etc.)

Survey

1. How often do you visit Lovejoy Library?

- ❍ Everyday
- ❍ A few times a week
- ❍ A few times a month
- ❍ A few times a semester
- ❍ Never

If Never Is Selected, Then Skip to Question 3

2. What do you do when you visit the library?

	Every time I visit	Often	Sometimes	Rarely	Never
Check out materials	❍	❍	❍	❍	❍
Find articles	❍	❍	❍	❍	❍
Socialize	❍	❍	❍	❍	❍
Use computers	❍	❍	❍	❍	❍
Study alone	❍	❍	❍	❍	❍
Study in groups	❍	❍	❍	❍	❍
Do homework	❍	❍	❍	❍	❍
Take a break between classes	❍	❍	❍	❍	❍
Ask a librarian a question	❍	❍	❍	❍	❍
Eat a snack or meal	❍	❍	❍	❍	❍
Take a nap	❍	❍	❍	❍	❍
Other: _____	❍	❍	❍	❍	❍

3. How often do you use the library's website, databases, or electronic resources outside of Lovejoy Library? (home, office, etc.)

❍ Everyday
❍ A few times a week
❍ A few times a month
❍ A few times a semester
❍ Never

4. How often do you use these library resources (either on or off campus)?

	All the time	Often	Sometimes	Rarely	Never
Databases (EBSCO, JSTOR, etc.)	❍	❍	❍	❍	❍
Print books	❍	❍	❍	❍	❍
Ebooks	❍	❍	❍	❍	❍
Movies	❍	❍	❍	❍	❍
Desktop computers	❍	❍	❍	❍	❍
Laptops	❍	❍	❍	❍	❍
Cameras	❍	❍	❍	❍	❍
Video recorders	❍	❍	❍	❍	❍
Audio recorders	❍	❍	❍	❍	❍
Music CDs	❍	❍	❍	❍	❍
Microfiche/film	❍	❍	❍	❍	❍
Other _____	❍	❍	❍	❍	❍

5. How often do you use these library services (either on or off campus)?

	All the Time	Often	Sometimes	Rarely	Never
Asking someone for help finding books	❍	❍	❍	❍	❍
Asking someone for help finding articles	❍	❍	❍	❍	❍
Asking someone for help with research	❍	❍	❍	❍	❍
Asking someone for help with citations	❍	❍	❍	❍	❍
I-Share	❍	❍	❍	❍	❍
Interlibrary Loan	❍	❍	❍	❍	❍
Printing	❍	❍	❍	❍	❍
Scanning	❍	❍	❍	❍	❍
Faxing	❍	❍	❍	❍	❍
The Writing Center	❍	❍	❍	❍	❍
3-D printing	❍	❍	❍	❍	❍
Other _____	❍	❍	❍	❍	❍

6. When you have a research assignment, where do you most often begin your search?

- ❍ Internet search engine (Google, Yahoo, Bing, etc.)
- ❍ Wikipedia
- ❍ Library catalog search
- ❍ Library databases
- ❍ Librarian
- ❍ Library research guides/LibGuides
- ❍ Looking at the books on the shelves
- ❍ Other _____

7. How helpful are these resources in providing information to you about the library?

	Very helpful	Somewhat helpful	Neither helpful nor unhelpful	Somewhat unhelpful	Not helpful
New Student Orientation	❍	❍	❍	❍	❍
Classroom Instruction	❍	❍	❍	❍	❍
Professors	❍	❍	❍	❍	❍
The Library Website	❍	❍	❍	❍	❍
Friends	❍	❍	❍	❍	❍
Other _____	❍	❍	❍	❍	❍

8. How much do you agree with the following statements?

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
I enjoy spending time in the library	❍	❍	❍	❍	❍
I feel comfortable asking for help in the library	❍	❍	❍	❍	❍
I feel that the library has the materials I need to be successful in my classes	❍	❍	❍	❍	❍
I feel confident finding materials in the library	❍	❍	❍	❍	❍

9. What would you change about the library?

10. Please select your home country:

[Drop-down menu]

11. How long have you been in the United States?

- ❍ Less than 1 year
- ❍ 1-2 years
- ❍ 3-4 years
- ❍ 5 or more years

12. Please select the one that best describes you:

- ❍ Undergraduate student
- ❍ Graduate student
- ❍ Other _____

13. Sex:

- ❍ Male
- ❍ Female
- ❍ Other

Thank you for taking the survey. Please provide your SIUE email address below if you would like to be entered into the $100 prize drawing.

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“But We’ve Always Done it this Way!”: Managing Expectations of Blended Workforces

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Abstract

The current workforce of librarians represents, perhaps, the greatest differences in experiences, skills, ability, and tattoo frequency than at any point in the history of librarianship. It is these many differences that make the current librarian workforce both extremely diverse and, arguably, more effective than it has ever been. The challenge for managers is how to foster these groups of librarians who may have extremely different areas of expertise and allow them to function in a way that benefits the librarians, the library, and most importantly, the users.

New librarians are wonderful additions to any library. They bring excitement, skills, and enthusiasm to their libraries. This enthusiasm can often be met with frustration from those that have “put in their time” or librarians that have been met with resistance from their administration. At the same time, more experienced librarians may feel that newcomers do not appropriately respect institutional history or practice. As managers, it is important to realize that the best path forward is to help all library staff recognize their similarities and shared goals, regardless of years in the profession. This session focuses on bringing together diverse populations of librarians while providing both managers and library staff with key strategies for making the most out of their staff’s distinct skill sets and perspectives.

"I Got My Customer Service Badge!" Using Online Modules for Library Student Worker Training

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Abstract

Training student workers face-to-face using active learning techniques and elements of fun is exhausting, time-consuming, and has to be repeated at least every year if you are lucky, and every semester if you are not. Every academic library wants student workers who are productive, provide exemplary customer service, and make our professional lives easier. Almost every student worker wants a way to make money in between his or her classes without leaving campus. Working in the library should be a match made in heaven, but often the logistical challenges of scheduling, consistency, and complexity lead to repeated content for returning students, gaps in training, and a need for more one-on-one training throughout the student's term of employment.

Using free online tools, LibGuides, and scaffolded content, a librarian at a small private university created a new system for training student workers using online modules with quizzes and small projects to certify satisfactory completion. These use-and-reuse modules allow students to learn at their own pace, avoid unnecessary replication of content, and provide a scaffolded measure of skills that can be easily tracked for reference letters, LinkedIn endorsements, and internal employee recognition programs. This session will explore active learning techniques to create memorable and effective online training modules, free or commonly available tools to streamline content creation and training assessment, and the challenges and rewards throughout the process.

Introduction

For several years the work study program at the University of Saint Mary in Leavenworth, Kansas has relied on a short paper manual and training developed by individual departments to orient new federal work study students. This has led to training that is often time-consuming to plan and implement, uneven in application and policy enforcement, and spends too much time on basic content without scaffolding to higher-level tasks and responsibilities for student workers. After several attempts to redesign initial training for library work study students, the Access & Learning Services Librarian decided to utilize instructional design techniques and the LibGuides 2.0 web content platform to create use-and-reuse training modules for work study students to streamline initial training, track individual progress, move to more difficult tasks to make the work study experience more challenging and rewarding for returning students, and allow students to complete training materials at their own pace.

Literature Review

Academic libraries across the country rely on student workers to turn on the lights, keep books on the shelves, process interlibrary loans, and countless other essential library functions. Past views questioned the value of student employment in libraries: "students are costly in terms of money, time and training--and most often their output is not worth the expense" (Gerlich 146); however, many libraries are now incorporating student workers into working teams containing a mix of professional librarians, paraprofessionals, and student employees. "Interaction with diverse and intergenerational team members raises awareness on how different participants can contribute to a project with their unique skills, competencies, specialized knowledge, and backgrounds" (Denda and Hunter 263).

Nevertheless, in order to achieve team integration of student workers and develop employment programs that are more mutually satisfying, some baseline knowledge and a way to scaffold in skills must be developed to handle the unique challenges of student employment: "First ...it takes approximately four student employees...to equal one full-time employee…. Second, the training needs to be completed in a short period of time…. Third, a large number of people need to be trained at the same time" (Kathman and Kathman 177). Add in conflicting class schedules, sports practices, off-campus jobs, and hiring timelines until finding time for collective training can seem impossible. The next stage of development is for colleges and universities to experiment with migrating essential skills training online, either through campus learning management systems or other platforms. These systems allow library staff to design asynchronous, multimodal training exercises that "create a more genuine learning environment and a more invested student employee" (Starkel 84).

Designing Better Training Instruction

After acknowledging the problems in the current student worker training program, the librarian utilized the ADDIE Model to design the first stage of an alternative program. ADDIE is an acronym for a design process: Analyze, Design, Develop, Implement, and Evaluate. Originally created by the Center for the Educational Technology Department at Florida State University for the United States Army, ADDIE is the foundation for several instructional design models currently in use, though the original also remains popular. While the original application of the model saw each stage as linear and discrete, the system can also be used with iterative techniques to provide a flexible approach to instruction development (Forest).

In the analyze stage, the developer looks at the problem with fresh eyes, defining the gap that instruction will bridge. Once the problem is defined, the developer designs outcomes and measurements which will allow students to demonstrate learning covering the current gap. Development involves the actual creation or selection of learning materials into a lesson or platform experience. Implementation is where the instruction is tested, followed by evaluation of both student learning and the overall success or challenges of the program design. Each stage is ideally followed by reflection and refinement (Forest).

Creating a Pilot Program

Focusing on the desired outcome of completed onboarding knowledge for new student workers, the librarian broke the required content down according to four basic themes: employment conditions, customer service, emergency situations, and basic library tasks. The first three modules were created without library-specific content, increasing reusability and opening up the possibility of utilizing these three modules to create a baseline skill set for all campus work study students. As a baseline, the librarian outlined the contents of the campus Work Study Handbook and Emergency Response Procedures to align information with the current campus work study training standard.

LibGuides 2.0 was selected as the base delivery system simply because the library was already using the system for internal and external tutorials. WordPress, Google Sites, or other content management systems would be equally useful for developing online learning modules. Of primary importance is the ability to embed videos, images, and other more dynamic content in order to cultivate multiple learning modalities and provide repetition of content without sounding like a skipping record. LibGuides 2.0 features that are particularly useful for training modules are time-saving features including one-click enabled previous/next page buttons, the ability to reuse content boxes, and the ability to copy previous guides either in part or as a whole while creating a new guide. These features encourage the user to distill content into basic building blocks, easily copied and rearranged for multiple purposes after the initial creation.

Content was organized in each guide into related pages, with each page length set to a maximum of 1.5 screens to balance between larger video and image formats and the need to avoid overwhelming quantities of information. Text was analyzed to be condensed, formatting into tables or bullet points wherever possible. Utilizing the previous/next page button option in LibGuides 2.0 allowed for built-in intuitive navigation, and pages were designed to be consumed top to bottom, left to right. The final quizzes were embedded on the last page of each module to encourage participants to immediately reflect on the covered material.

Modules utilized YouTube videos for external interactive content wherever possible, either material already created by external organizations or purpose-created by the librarian to accommodate more visual and/or aural-oriented learners.

Quizzes were created in Google Forms, a platform which allows users to create survey and quiz instruments using a variety of question formats. Forms can then be embedded within other websites or shared via social media or direct link URLs. Responses are collected in a connected Google Sheet; summaries of responses are available within the Google Forms interface.

In order to provide instantaneous feedback for the summary quizzes, the librarian utilized a plugin called Flubaroo to automatically grade responses as the quiz is taken and send email results to individual work study students. This instantaneous feedback allows students to evaluate which material they might need to review further to ensure a passing grade for the module and earn the corresponding badge.

Once students achieve the required 80% passing grade for the module, the librarian awards digital badges using the Credly badging platform. Credly allows individuals or institutions to create digital badges using supplied templates or by uploading image files. Each badge record is also digitally linked to a title and short description of the requirements to earn the badge. Awarding badges is as simple as entering email addresses, and students then have the option to display badges on Facebook, Twitter, LinkedIn, and other social media profiles. The Credly platform also allows badges to link to supplementary documentation of achievement, which can be a wonderful way to highlight tangible outcomes of student work.

For the badge-issuer, the Credly platform allows a quick way to verify baseline training, extraordinary achievements, and project participation. Because many work study supervisors are later asked to be references for previous or current work study students, the Credly platform provides a simple way to track accomplishments and ensure the most complete review of materials before writing an important cover letter or responding to an impromptu reference call.

Testing and Implementation

The Library Director vetted each module and invited comments and feedback from her supervisor, the University Provost, as each module was finished. At the end of the spring 2016 semester, current library work study students were asked to test the new training modules and provide feedback. Module links were added to the Library Work Study landing page, as this is always kept open at the primary service point computer and has replaced all paper front desk manuals for students ("Work Study Quick Reference").

Out of twelve students, seven completed at least one training module. Four students completed all three available modules. At the end of the testing period, students who participated were awarded badges and small bags of chocolate to thank them for participation. One student who had not chosen to participate acknowledged that she would have been more likely to complete at least one module and provide feedback if the secondary reward (the chocolate) had been advertised at the outset. Despite the current badging trend, rewards in multiple formats appear to increase the desired outcome by appealing to individuals with a wide variety of motivational preferences.

Feedback on the content focused on clarity and formatting issues. Several students discussed word choices to make the content less intimidating to new work study students. Edits were minor enough to be implemented immediately where necessary. Overall, students said they would have found the modules valuable during their initial period of work study employment.

Four training modules will roll out to all library student workers for fall 2016. The modules will also be provided to university Human Resources and Financial Aid for content review. If they are approved, the librarian plans to market them to other departments for baseline work study training and solicit ideas for further content development.

Conclusions

Creating online modules for library work study basic training components will allow the supervising librarian to implement and monitor self-paced training for all new library student workers in a more streamlined fashion, lightening the workload at an already stressed time in the academic year. Time previously spent on repetitive training will be focused on mentoring activities and specialized training, including developing student/staff library teams for technology, programming and marketing, and library collections management. Library staff anticipate greater levels of student worker involvement in library operations and believe greater involvement will prove more rewarding and beneficial for library student workers, increasing the desirability of library work study positions and increasing positive perceptions of the library among the student body as a community.

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Singing a Different Tune: Moving the Traditional Cataloging Skill Set into non-MARC

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Abstract

Kansas State University Libraries' Metadata, Preservation & Digital Initiatives Department historically has not had an operational workflow that combines aspects of copy, original and non-MARC cataloging. The main reason for this is non-MARC cataloging is project-based, not operational, meaning there are beginning/ending dates. Copy and original cataloging, on the other hand, is mostly operational as it is ongoing work that has no set end date. How can librarians combine these two very distinct types of workflows to create another type of operational workflow—one that can be added to the staff's regular duties without taking time away from their primary responsibilities? The answer is a hybrid workflow that 1) merges aspects of copy, original and non-MARC cataloging, 2) is flexible enough to be adapted to different materials (mainly primary resources from Special Collections and University Archives), and 3) would be utilized by staff only when they have time, need a break from their regular duties, and/or cannot do their regular duties. The first types of materials to go through this workflow are uncataloged handwritten and typewritten theses from 1896 to 1925 (housed in Special Collections). The author uses this experience to demonstrate the different phases of the workflow, and how it provides access and information to more primary resources for students and faculty.

Review of Literature

Non-MARC metadata was a hot topic between 2004 and 2010 with particular emphasis on incorporating non-MARC metadata workflows in traditional cataloging departments. Veve and Feltner-Reichert sent out a survey to four cataloging discussion lists to gather information on how United States academic libraries were incorporating non-MARC metadata into the workflows of traditional cataloging departments. They found that non-MARC activities were being incorporated into traditional cataloging workflows from 2004 onward because of an increase in digital content and user demand for online access to library collections (194).

While some cataloging departments were incorporating non-MARC metadata activities into their workload, other cataloging departments saw themselves in an advisory role rather than actively being involved in non-MARC metadata workflows. Reasons for this include: 1) Non-MARC metadata activities were being distributed to other departments and units within or outside the libraries (Fleming, Mering, and Wolfe 8) and 2) there were not enough resources in the cataloging department to take on the responsibility of incorporating non-MARC duties into the catalogers' daily workload. Specific reasons for distributing non-MARC metadata activities include:

- shortage of catalogers

- non-MARC duties not included in job descriptions,
- lack of time to dedicate to non-MARC activities in addition to traditional cataloging duties (Keenan 207)
- "dumbing down" of the catalog process to create non-MARC metadata records (Boydston and Leysen 12).

All of these are legitimate reasons, but avoiding the centralization of non-MARC metadata creation in the cataloging department creates new issues—no standardization of metadata creation workflows, no assurance of conformance to metadata standards (Valentino, 542), and no consistency in formatting of content. As the need for consistent, quality metadata rose in the library and Web communities, it became evident that standardized non-MARC metadata workflows, schemes, and formatting were necessary for users to find digital objects on the Web.

Based on this increasing need for quality metadata, catalogers experienced in bibliographic description were considered the best people to create this quality non-MARC metadata (O'Bryan and Palmer 6). As Calhoun states:

Metadata is a key to empowering information seekers and to building scholarly information access systems that are easy to use. Metadata expertise is a sustainable strategic advantage that libraries can and should embrace and promote to faculty and other members of the university community. Metadata specialists are well positioned to make worthwhile contributions to the university communities they serve, provided they seize opportunities to contribute their expertise to the larger information network processes of the university – that of transforming mere "information" into knowledge, insight, and action. (185)

Catalogers also felt that being involved in non-MARC metadata activities was a natural extension of their regular duties and enjoyed having non-MARC metadata activities included in their regular duties (Veve and Feltner-Reichert 208). Also, recent graduates of library and information science programs have had some course or experience involving non-MARC metadata, so to have this knowledge with entry-level catalogers also eases the incorporation of non-MARC metadata activities into the regular duties of a cataloging department.

But how can non-MARC metadata activities, specifically metadata creation, become an operational workflow for cataloging departments? Historically non-MARC metadata creation was mostly associated with digital projects involving digitized materials. A variety of people would create non-MARC metadata on a project-by-project basis (Valentino 542). Traditional cataloging activities, though, are mostly ongoing, operational workflows where catalogers create MARC bibliographic records among other duties.

This paper discusses a hybrid workflow that combines aspects of project and operational workflows and copy, original, and non-MARC cataloging implemented by the Kansas State University (K-State) Libraries' (KSUL) Metadata, Preservation and Digital Initiatives (MPDI) Department.

MPDI Department and non-MARC

MPDI has evolved over the years in order to meet trends and changes in librarianship. Like most "cataloging" departments, MPDI was focused on traditional cataloging duties for several decades. The introduction of metadata to the department did not occur until the 2000s. The department's name changed to Metadata and Preservation (MP) during a reorganization of the Libraries in the early 2000s. As other library departments took on digitization projects, staff from MP were brought in as consultants to assist with writing guidelines and creating templates based on the Dublin Core metadata standard for these digitization projects.

In 2008, MP started cataloging electronic theses and dissertations (ETDRs) submitted by graduate students to the institutional repository, K-REx. This endeavor was MP's first time working with non-MARC metadata. Catalogers would harvest the non-MARC metadata from K-REx to create MARC bibliographic records. This semi-regular operational workflow remains ongoing, with work peaking in May, August, and December. Another non-MARC operational workflow taken on by catalogers was providing metadata for K-State's newspaper, the Collegian, for ingest into the Internet Archive every three months. An additional operational workflow that catalogers are no longer involved with was providing non-MARC metadata for K-State scholarly publications for ingest into K-REx. Though these activities were operational workflows, none of them dealt with providing non-MARC metadata records for conversion to MARC of backlog print materials, or non-MARC metadata records for all digitized output from digital projects.

A metadata librarian (non-MARC metadata librarian) was hired in 2013 to lead and manage non-MARC initiatives for the Libraries. The librarian found there was no formal documentation for non-MARC metadata creation. Past non-MARC metadata was written on an ad hoc basis and was project dependent. Addressing this, the non-MARC metadata librarian wrote a metadata policy and created formal documentation for non-MARC metadata creation for the staff in the digitization unit that was then part of the Scholarly Communications and Publishing Department.
When the digitization unit became part of the MP department in 2014, the department was renamed Metadata, Preservation, and Digital Initiatives. Shortly after the renaming of the department, a digital initiatives librarian was hired to supervise the Digital Initiatives Unit (DIU), part of MPDI, and lead digitization efforts at KSUL. The digital initiatives librarian and the non-MARC metadata librarian worked together to streamline digitization and non-MARC metadata creation workflows since these two activities were interrelated. It took almost two years to solidify a foundation of documentation—workflows, procedures, policies, training—to support and lead digitization and non-MARC metadata creation efforts for digital projects.

Since there was a priority to stabilize digital project workflows, the non-MARC metadata librarian did not contemplate how to incorporate catalogers into digital project workflows at that time. Another issue that the non-MARC metadata librarian struggled with was justifying the use of catalogers' time for basic non-MARC metadata creation—when there is no analytical cataloging or authority control being done—in addition to their full workload. Even with these issues, the development of non-MARC metadata creation workflows

included in catalogers' daily workload is becoming more important as non-MARC activities increase.

In 2015 the first operational non-MARC metadata creation workflow involving digital projects and the backlog of print materials from Special Collections was proposed to the catalogers in MPDI with the intention of including this workflow in their daily job responsibilities.

Two-fold Hybrid Workflow

Background

In 2015, the backlog of Special Collections print materials needing to be cataloged was brought to the attention of the non-MARC metadata librarian. The librarian presented the suggestion to create a two-fold hybrid workflow to the head of MPDI and was approved. This workflow would have two independent components: in one, catalogers would create non-MARC metadata records for the Special Collections print materials that would be transformed into MARC records. In the other, the catalogers would create non-MARC metadata records only for all digitized output from digital projects. This workflow also has the capability to merge these two independent components when materials need digitizing and MARC records created. Other benefits of this workflow are addressing the Special Collections backlog, easing the workload of the metadata librarian in charge of doing original cataloging for Special Collections materials (Special Collections metadata librarian), and providing consistency and quality metadata creation for digitized materials associated with a digital project.

Realization of the Two-fold Hybrid Workflow

Moving forward, the non-MARC metadata librarian met with the Special Collections metadata librarian to create a metadata data entry template and guidelines that followed the AACR2 cataloging content standard. The template and guidelines thus provided structure and consistency to the non-MARC metadata and made it easier to transform it into MARC metadata. One aspect of the guidelines that was outside the scope of AACR2 was the option to transcribe handwritten or typewritten text. AACR2 stipulates the transcription of specific information (title proper, place of publication, publisher, etc.) as seen on the source itself. The guidelines and template were created in Google Docs and Sheets to allow multiple staff to work in the template at the same time and access the files from different locations. The structure of the guidelines included field names, instructions, and examples with additional information and definitions at the end of the guidelines (see table 1).

Table 1
Excerpt from the Full Guidelines

Fields	**Instructions**	**Examples**
Author	Input the author's name following cataloging standards (last name, firstname...).	Smith, John Agnus Stevens, Michael C.

	If there are multiple authors, separate each name with a semi-colon. Name authority control will be done later.	Colvadier, Natasha Bell, Timothy; Providen, Alice C.
Title	Input the title from the title page or the first page of the thesis if there is no title page.	How to make bread moist by following pioneers' recipes
Typos, Corrections and Hyphenated Words that are not Compound Words		
Typos	If typos are found while transcribing the abstract/summary go ahead and fix them (i.e., misspelled words, wrong punctuation)	
Corrections	If corrections were made to the text, use the corrected version	
Hyphenated Words	If a word carries over to the next line and is hyphenated and is not a compound word, input the word as one word without the hyphen	
Definitions		
Plate	In this context, a plate is a leaf of illustrative matter that doesn't follow the pagination whether unnumbered or different from the paging of the whole	
Plans	Plans are drawings that show relative positions on a horizontal plane (e.g., blueprints, landscape designs)	
Maps	Maps are representations usually on a flat surface of the whole or a part of an area	

The structure of the metadata template included field names in the first row in the order specified in the guidelines, and the second row was an example of formatting needed for each field that staff could reference (see table 2).

Table 2
Second Row is a Formatting Example. The Following Rows were Non-MARC Metadata for Items.

Author	**Title**	**Alternative Title**	**Statement of Responsibility**	**Date**	**Physical Description**
, .			/ by .		leaves : illustrations ; cm

Author	Title	Alternative Title	Statement of Responsibility	Date	Physical Description
Akin, Del Mar.	A few facts concerning socialisr		/ By Dell Mar Akin.	1901	8 leaves ; 29 cm
Allison, Cyrus Norton	Rubus fruits in Kansas		/ Cyrus N. Allison.	1901	13 leaves ; 29 cm

The template and guidelines are specific to creating non-MARC metadata that will be transformed into MARC for the backlog of Special Collections print materials. These guidelines and template can be adapted more generally to address other materials as well. For digitized output from digital projects, the template and guidelines are adjusted for non-MARC metadata creation but still follow the AACR2 cataloging content standard. This two-fold hybrid workflow demonstrates the flexibility to 1) address the cataloging backlog of Special Collections print materials, 2) provide a consistent and structured metadata creation workflow for digital projects, and 3) merge these two components of the workflow when materials have been designated for both digitization and MARC record creation.

Once the template and guidelines were finalized, the next step was to decide what materials would go through the workflow first. The materials chosen were graduating (i.e., undergraduate) and masters theses from 1896 to 1925. The graduating and master theses were bound separately in volumes by year with a mixture of handwritten and typewritten theses. These materials also provided an opportunity to utilize both aspects of the workflow since they needed to be cataloged and were going to be digitized.

Testing a Two-fold Hybrid Workflow

First the non-MARC metadata librarian trained two copy catalogers and one preservation specialist (metadata unit staff members) who had cataloging experience. The non-MARC metadata librarian trained each person one-on-one by first explaining the template and guidelines and then applying the guidelines and using the template to create non-MARC metadata for one thesis. As each metadata unit staff member went through providing non-MARC metadata, including the transcription of the first page of the thesis (in lieu of a formal abstract), they found some of the instructions for specific fields unclear and the non-MARC metadata librarian took their feedback and updated the guidelines to address those issues.

For the first iteration of the workflow, the non-MARC metadata librarian created brief records for each volume of theses in KSUL's integrated library system, ALMA, to track where the volumes of these were at any given point during the workflow. Next, the metadata unit staff members created non-MARC metadata records for the theses and gave the non-MARC metadata librarian volumes of theses they completed for quality assurance. The non-MARC metadata librarian provided feedback, and once the non-MARC metadata records passed quality assurance, the volumes of theses went to DIU for digitization. At this point in the workflow, the non-MARC metadata librarian did an evaluation and found digitization

was proceeding faster than the creation of non-MARC metadata, with DIU staff working full-time on the digitization of these materials versus metadata unit staff dedicating part-time or less to cataloging these primary resources.

The non-MARC metadata librarian adjusted the workflow along with the guidelines and template to make everything more efficient. They adapted the original guidelines and template and created new ones for student workers in DIU to create baseline non-MARC metadata (author, title, date, keywords, transcription of the first page of each thesis) as they were digitizing the theses. The other change to the workflow was the volumes of theses would first go to DIU for digitization and then to the metadata unit. The last change was the metadata unit staff would only be in charge of providing quality control to DIU's baseline metadata, adding the following additional metadata:

- Physical description note
- Thesis note
- Bibliographical references note
- Source of title note
- Department
- Major professor
- Call number.

The metadata unit staff members also conformed all of the metadata to the AACR2 cataloging standard, including analytics (headings, uniform titles, references) and authority control. Below is the complete workflow (see fig. 1)—digitization, non-MARC metadata creation, upload to K-REX, and MARC metadata creation—for the graduating and masters theses from 1896 to 1925.

DIGITIZATION

- DIU pulls volumes of theses from Special Collections
- DIU emails non-MARC metadata librarian details for each volume pulled
- Non-MARC metadata librarian creates brief records for each volume in ALMA and assign them to DIU for digitization
- DIU digitizes each thesis in a volume and create baseline non-MARC metadata including the filename for each thesis
- DIU delivers digitized volumes of theses to the non-MARC metadata librarian

NON-MARC METADATA CREATION

- Non-MARC metadata librarian reassigns the volumes of theses to the metadata unit in ALMA
- Non-MARC metadata librarian shelves the volumes on designated holding shelves, and notifies metadata unit staff
- Metadata unit staff take a volume of theses and quality controls the DIU's baseline metadata and conforms it to the AACR2 cataloging standard
- Metadata unit staff adds additional metadata to complete the non-MARC record for MARC transformation
- Metadata unit staff quality controls the transcriptions done by DIU
- Metadata unit staff compares each digitized thesis with its non-MARC metadata record to ensure they match
- Metadata unit staff deliver each volume of theses to the non-MARC metadata librarian for quality assurance
- Non-MARC metadata librarian quality controls the metadata unit staff's work and provides feedback
- Metadata unit staff makes any edits based on the feedback from the non-MARC metadata librarian
- Non-MARC metadata librarian approves the non-MARC metadata

UPLOAD TO K-REX

- Non-MARC metadata librarian downloads Google spreadsheet of all non-MARC metadata records for each thesis, and changes the first row of field names to their Dublin Core equivalents and deletes the second row example
- Non-MARC metadata librarian saves the edited spreadsheet (metadata master file), and converts the spreadsheet into a comma delimited text file saving it to the DIU's folder that has the digitized theses files
- Non-MARC metadata librarian checks the folder for compliancy to local guidelines for directory structure
- Non-MARC metadata librarian submits a ticket to IT to upload the metadata and files to K-REx
- IT uploads metadata and files to K-REx and requests feedback from the non-MARC metadata librarian
- Non-MARC metadata librarian quality controls the uploaded files and metadata in K-REx

MARC RECORD CREATION

- Non-MARC metadata librarian harvests the metadata from K-REx using a customized XSLT script in MarcEdit to convert the non-MARC metadata records to MARC records
- Non-MARC metadata librarian divides the MARC file of records into small multiple MARC files of records
- Non-MARC metadata librarian assigns specific MARC files to metadata unit staff
- Metadata unit staff upload the MARC files into OCLC Connexion and make adjustments if needed
- Metadata unit staff works with the Special Collections metadata librarian applying name authority to author names
- Special Collections metadata librarian quality controls the MARC records
- Special Collections metadata librarian notifies metadata unit staff MARC records are ready for import into ALMA
- Metadata unit staff import the MARC records into ALMA, and add holding and item records to each MARC record
- Metadata unit staff notifies the non-MARC metadata librarian that they have finished
- Non-MARC metadata librarian deletes the brief records for each volume of theses from ALMA

Fig. 1. Non-MARC metadata creation.

Conclusion

This two-fold hybrid workflow provided insight into the production of non-MARC metadata creation. Statistics were captured— time spent (minutes) working on theses, number of theses worked on, number of theses completed—to determine how productive metadata staff had been for a specific date. The statistics gathered showed that some metadata unit staff members put this workflow on a low priority whereas others had it as a higher priority resulting in higher production. It also revealed what the average mean was for time spent, the number of theses worked on, and the number of completed theses in a day by the metadata unit staff members (see figs. 2-3). This information is very important for managing non-MARC metadata workflows because there is now concrete information about the production of each metadata unit staff member who was involved in this test run of the two-fold hybrid workflow. These types of statistics will assist the non-MARC metadata librarian in adjusting existing and future non-MARC metadata workflows, contributing to annual reports by providing monthly numbers on the production of non-MARC metadata initiatives within the metadata unit, and creating more efficient non-MARC metadata workflows for the unit.

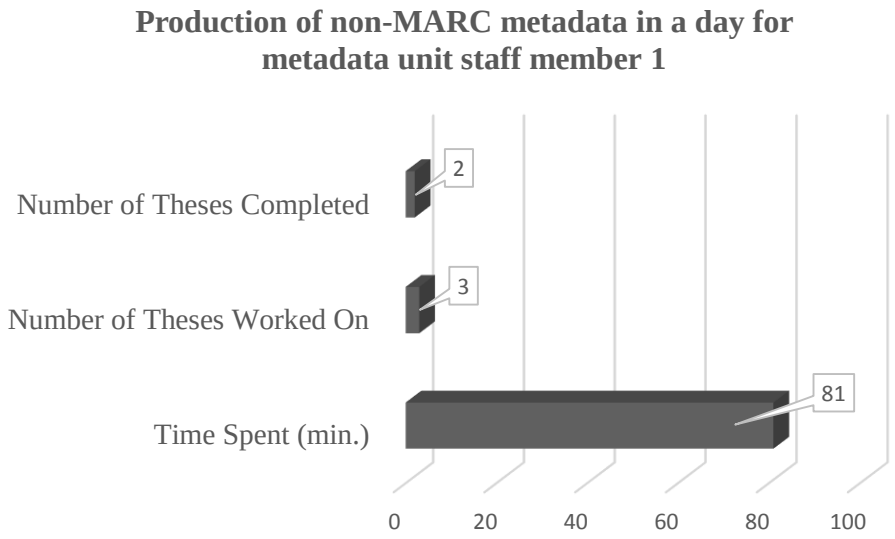

Fig. 2. Average mean of non-MARC metadata production for metadata unit staff member 1.

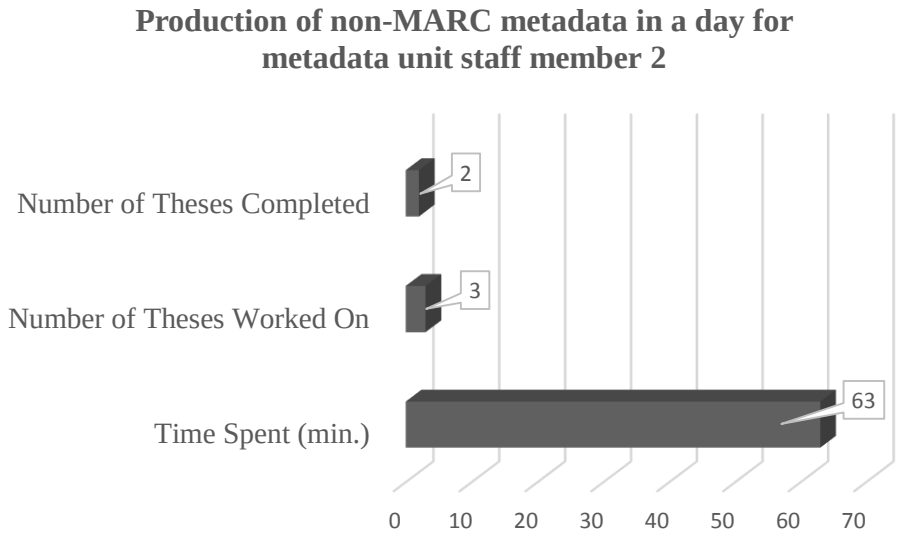

Fig. 3. Average mean of non-MARC metadata production for metadata unit staff member 2.

The non-MARC librarian also collected feedback from the metadata unit staff members through informal conversations about their opinions concerning non-MARC metadata work after being involved in the two-fold hybrid workflow. The three metadata unit staff members all had positive responses and showed an interest in continuing to be involved in non-MARC metadata initiatives. This feedback provides a solid argument to raise the priority of non-MARC metadata work for metadata unit staff. Two other factors that will also influence the prioritizing of non-MARC metadata initiatives in KSUL's MPDI Department are fewer new acquisitions to process and an open copy cataloger position.

The experience of creating the two-fold hybrid workflow, combined with information gathered through statistics and feedback point to an interest in non-MARC metadata initiatives by the metadata unit staff, as well as a willingness to continue this type of work as part of their daily workload. Opportunities for the metadata unit staff to be involved in non-MARC metadata initiatives will continue to evolve, but the two-fold hybrid workflow has provided a foundation to build on in creating future non-MARC metadata opportunities for the metadata unit staff.

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Employing Students in Digitization: Leveraging Digital Projects as Valuable Learning Experiences

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Abstract

Student assistance in conducting small digital projects at Grinnell College has been valuable to the students, the department of Special Collections and Archives, and the Libraries as a whole. Over the course of several recent and ongoing projects, students have been involved in everything from helping to establish a workflow, to choosing the material to scan, to the actual digitization itself. Students are even frequently enthusiastic about publicizing completed projects. By involving students in each step of the projects, Special Collections is provided with much-needed manpower. And the goal is that, in return, students will gain valuable knowledge related to project planning and team coordination, as well as technical and preservation skills and experience. We have found that incorporating students in the earliest stages of a project allows us to help them learn to think in terms of long-range plans, goal setting, and "the Big Picture." Allowing them to assist in determining what materials can be – or should be – scanned opens up the opportunity to discuss such topics as copyright, intellectual rights, conservation and preservation, and digital preservation. By doing the digitization, students gain experience with current technologies that may be transferable to a future workplace. If you haven't considered using students in digital projects before, this will be a good venue to explore and discuss this valuable learning experience.

Introduction

Student assistants in the Grinnell College Libraries have always been an important part of the Libraries team, but they are increasingly at the very heart of many of the successful projects that the Libraries complete each year. Grinnell is a small, private, residential liberal arts college in central Iowa with a student body of about 1,600. While small in size, with respect to both area and staff, the Grinnell College Libraries are a vibrant, active part of the College campus. By involving students in each step of the Libraries' projects, the Libraries are provided with a large work force as well as preparing the students to be contributing members of society. Part of that task is to work with students to help them recognize when they are (or have been) doing tasks that can be translated into recordable job experience (on a resume or CV, for example).

The staff of the Grinnell College Libraries Special Collections and Archives have found that incorporating students in their projects from the earliest stages allows the staff to help the students learn to think in terms of long-range plans, goal setting, and "the Big Picture." And the goal is that, in return, students will gain valuable knowledge related to project planning and team coordination, as well as technical and preservation skills and experience. Allowing them to assist in determining what materials can be – or should be – scanned opens up the

opportunity to discuss such topics as copyright, intellectual rights, conservation and preservation, and digital preservation. By doing the digitization, students gain experience with current technologies that may be transferable to a future workplace.

What follows are four examples of projects undertaken by the staff of Special Collections in which student assistants in that department have been involved in everything from helping to establish a workflow, to choosing the material to scan, to the actual digitization itself. Students are even frequently enthusiastic about publicizing completed projects. The first project was the College's institutional repository. The College took the leap about four years ago to work with a vendor, Discovery Garden, to create the repository, and the project has been gaining steam ever since. Since its inception, the College has added an open journal system, an open conference system, a crowdsourcing component, and continues to add new objects to it every day.

The second project that the Special Collections staff undertook three years ago was to get as many photos scanned as possible from one of the College archives' record groups. As part of the project, the staff proposed to create a tool in the College's digital repository that would allow users of the site to either submit transcriptions of written material or identify people or events in photographs. The staff of the Grinnell College Libraries were inspired, in part, by the University of Iowa's DIY History project. The result of Grinnell's project has been very positive. While the staff hope to continue to receive more submissions, what they have received so far has been helpful in allowing them to add detail to the cataloging of the digital objects they would never have had before.

The third project was the digitization of the College's newspaper. It's something that the staff of Grinnell College Libraries had been contemplating for years, and finally, two years ago, a number of events allowed them to pull together enough funding at the end of the year to get the bulk of the newspapers, dating back to 1894, scanned and made available online. The Libraries contracted with ArcaSearch, who did all of the digitizing of the paper, and hosts the site on their servers.

The last project examined is the processing of a new collection that Special Collections received approximately a year and a half ago, the George Washington Cook letters. Cook and his wife lived for three years in the town of Grinnell, from just prior to Iowa College (later renamed Grinnell College) relocating there from its original home in Davenport, Iowa, until just after it made the transition. The Cook letters contain the experiences of an average, everyday family living on the prairie. The donor is the great-grandson of the Cooks, and was eager to have the letters go to a place where they would be valued as research resources.

Literature Review

There already exists abundant literature regarding employing students in digitization projects. The overwhelming majority of this literature seems to fall into one of two categories. The first category addresses the use of technology in the classroom, usually with a specific goal in mind. Timothy B. Powell writes of the University of Georgia's effort to create a digital archive of Cherokee culture in order to make the archive more classroom-

accessible (Powell 79). In 2000, Milman and Heinecke noted that "the National Council for Accreditation of Teacher Education … and the International Society for Technology in Education … have reported that schools of education are not adequately preparing preservice teacher education students to effectively integrate technology in their future classrooms" (Milman and Heinecke 546). Therefore, the University of Virginia set about creating a new course, "Digital History and the American Civil War," in order to introduce students to teaching with technology in the hopes that they would enter the teaching profession with the skills to teach using technology. The second category is articles which discuss using students in digitization projects who have either shown an interest in the field of library and/or information science or those who have formally declared their intention to enter that field. Franks and Oliver observe that digital curation projects are a prime opportunity for graduate students in library and information schools to develop digital skills (Franks and Oliver 4).

The staff of Special Collections at Grinnell have chosen to follow a related but slightly different philosophy than those listed above. Rather than targeting students for inclusion based on their future plans, or creating a classroom-like environment at work, the staff includes all of their students in these hands-on projects in a real-life setting.

Collection Processing

The George Washington Cook Letters were a collection donated to Grinnell College in 2015 by the great-grandson of the letters' authors, David M. Cook. The letters date from 1857, just months prior to Grinnell College moving to Grinnell, to 1860, shortly after the College finished settling into its new location. The bulk of the processing for this collection was already completed upon receipt of the gift: the letters arrived in Special Collections already sorted chronologically. Further, each letter was already in its own acid-free folder. This much of the work was done by the donor, for which the Special Collections staff were greatly appreciative. What did need to be done was the creation of a finding aid.

The letters needed to be prepared for digitization, too, which meant creating a digital file name based on the standardized file naming conventions used by Grinnell College Libraries. Creating these file names forced students to consider future usage of both the hard copies and the digital forms, specifically, what a scenario would look like wherein a researcher was looking at either a digital copy or a hard copy, and wanted to look at the other. Special Collections digital file names are made up to include the shelf mark of the original object, such that anyone looking at the scan would know exactly where to find the original. Conversely, the digital file name is written in the upper left corner on the back of any scanned objects so that anyone working with a patron, for example, who is looking for a copy of any given image will know that it has already been scanned. The file storage structure also reflects the shelving schema as much as possible.

The Special Collections staff found that asking students to begin at the ground level of a digital project, in this case processing the collection and preparing it to be digitized, created within the students a sense of personal investment and possession over the collection. It was, in a sense, "their collection." It has been the sense, generally, that by creating an opportunity

for students to become invested, they show more care when shepherding a collection through the digitization process. There also appears to be more pride taken in the finished product, which positively influences the students' efforts in publicizing the finished collection.

Workflow

The staff allowed the student who processed the Cook letters, Diane, to determine in what order each of the steps of processing and digitizing should be taken. Having worked for Special Collections for three years, much of this was old hat for her, which was why the staff were able to trust that she would make the most efficient use of her time. As one may know, however, each collection is a little bit different, and rarely are any two collections processed exactly the same way, so each one presents an opportunity to exercise creative or lateral thinking.

In the case of the photograph crowdsourcing project, the Special Collections staff tried to encourage their students to think about long-term planning, while being flexible with their plans, by allowing them to establish their own workflow. This approach differed from the Cook letter project in that the Cook letters needed to be processed before anything else could happen, whereas the photos used in the crowdsourcing project were part of a collection which had long since been processed. Because the collection processing step could be skipped, the staff were able to encourage the students to focus on other aspects of the digitization workflow process. This provided an opportunity to focus on other skills and good work habits, such as goal setting and personal responsibility. The students set goals for themselves each week in terms of number of photographs to be scanned and digital objects created in the repository. This step was closely intertwined with the next, material selection, which is addressed below.

Of all of the digital projects, large and small, that the student assistants have been involved with, none has provided more teaching opportunities than the implementation of the College's digital repository, Digital Grinnell. When the Grinnell College Libraries first began to anticipate populating their digital repository, approximately four years ago, one of the first questions the library staff asked was, “With what?” It soon became clear that most of the discussions revolved around focusing on student scholarship and activities. As mentioned earlier, the staff had found that students sometimes seem to relate the best with other students, so they turned to the student assistants in Special Collections and asked them what kinds of activities they would find interesting to archive. One of the student assistants spoke up about a student group on campus, Voicebox, whose sole purpose was to help organize and coordinate student activism groups. It sounded like a great suggestion, especially if students were creating archives of their own. The staff asked the student who suggested the idea, Sam, to get in touch with the group and ask whether they would like to help the Libraries pilot their digital repository project. The student group happily agreed, and Sam ended up planning the project himself. Because the student group had a relatively small archive, it was easy for Sam to coordinate with them to work in their office and scan the bulk of their material with a portable scanner. This particular project was a great one for

student experience, because it encouraged Sam to think about project planning, coordinating groups of people, goal setting, and digital preservation.

Over time, the Libraries have developed many other projects that have resulted in a repository that now has a broad variety of material, including community history, college history, and related information, but always focusing on student scholarship and activities. The Libraries now have many more people submitting their own work for inclusion in Digital Grinnell, so the question has shifted from "where do we find material?" to "Can we include all of it? If not, what do we choose?"

Material Selection

As mentioned previously, the staff of the Grinnell College Libraries have found that students sometimes relate better to other students than they do with adults (e.g. faculty and staff). Thus, the student assistants sometimes have a better-informed opinion of what other students will find interesting. By asking them to select the materials to be scanned for the crowdsourcing project, the student assistants in Special Collections and Archives had to think outside of themselves and consider what would be of interest to others, that is, to alumni, faculty, staff, and their 1,599 colleagues. Many campus events have multiple pictures taken at them, so choosing which of those photos to scan offered another challenge: how many images can, or should, be included in order to convey a narrative about the event?

In the case of the school's newspaper, the students were exposed to the conversations revolving around ownership of the newspaper and the question of copyright as it relates to every single article in the newspaper. There was also a discussion regarding the restricting of access to newspapers five years old or newer, which the students were also looped into so that they might become more familiar with ideas like rolling access walls, the purpose they serve, who would be affected, and the rationale of implementing such a policy. The students who helped select the issues of the College's newspaper to be scanned were kept abreast of the project planning so that they would be able to see how their contribution to the project fit into the larger picture. They also had the opportunity to learn about digital production and preservation, as they had to select the individual issues and bound volumes that would allow for the clearest scanning and result in the best image possible. It also provided an opportunity for the student assistants to think about project management from an outside perspective. While they did a lot of the selection and packing of materials, they did not interact with the vendor who did the actual digitization of the newspaper. As spectators, the students were provided a unique chance to witness a coordinated project from start to finish.

As part of the George Washington Cook letter donation agreement, Special Collections agreed to scan each of the letters and alter the images just enough to enhance the handwriting, as it was quite faded in many places throughout the correspondence. It wasn't so much the process of selecting the material that was edifying in this instance as much as the process of negotiating with the donor. While our students work with patrons daily via email, the phone, and in person, they are not usually exposed to the kinds of discussions that took place as the Special Collections librarian worked with the donor to help him understand

that this was a somewhat irregular request, and that it would affect our work priorities. In the end, it was agreed that unaltered versions would be posted online, and altered copies of the images would be sent to the donor and his family for their reference.

Digitization

When it came to the actual scanning of the photographs and documents to be used for the crowdsourcing project, the staff taught the students to use the flatbed scanner, gave them brief instruction regarding the best settings to use in order to create the best possible master files, and showed them how to enter metadata into the College's digital repository, Digital Grinnell. Then the staff stepped back and allowed the students to experiment with their own personal workflows in order to use their time the most efficiently. The students all happened to independently settle into a similar workflow, wherein they would scan between ten and 20 images, then switch to entering the metadata into Digital Grinnell and uploading the images, then return to scanning, and repeat the pattern. This allowed the students to put to the test what they had learned about workflows and material selection. Because the Special Collections staff took care not to hover over the students but to let them experiment with their workflows, the students gained confidence in the process and were able to become more personally invested.

As previously stated, part of the Cook letter donor agreement was that all of the letters would be scanned and returned to the donor. However, in this case, the scans then had to have derivatives created which were tailored to the donor's wishes. This was another good chance for the staff to discuss with their students the ins and outs of donor relations and mission priorities, and how each can strongly influence the other.

Publicity

As the crowdsourcing project approached its halfway point, the staff and students of Special Collections started to ramp up their publicity about it. They had partnered with the Grinnell's Development and Alumni Relations office, which was useful for reaching out to people who were off-campus. On-campus, the staff relied on the students to help them understand where students turned to for information about what was happening locally. In addition to the traditional news posts on the College's various webpages, the students coordinated a small postering campaign and worked together to spread the word to their friends and any staff they felt comfortable approaching. This effort was successful, both in exposing students to a different kind of writing style for use in the news items, but also from a public relations standpoint.

As with the crowdsourcing project, students were asked to assist the staff in getting the word out about the newspaper being scanned. While theirs was not a lead role, they did help to craft a news story for the on-campus news release, and have since been instrumental in directing staff and peers to the resource, both in their capacity as Student Assistants answering reference questions, and in regular day-to-day conversation.

As Digital Grinnell grows, the staff of the Grinnell College Libraries continue to look for new ways to highlight it. This frequently takes the form of campus news releases, but they've found other ways that are arguably as effective. For example, students' word-of-mouth conversations has been tremendously helpful to the Libraries, and has also been a good chance for students to practice being the face of a project or a community. It affords them an opportunity to think about how they communicate with various groups of people differently.

The Cook letters have only recently been digitized, and the Special Collections staff hasn't yet had an opportunity to publicize them much. However, they plan to involve students in the process, just as they have for the other projects herein discussed. What they have done, so far, is take student suggestions about highlighting the collection in one of Special Collections' Item of the Week articles, which are published on the Libraries' website. The students did use the collection for their Break Open the Vault event, which took place in late April.[1] This was encouraging to the staff because it suggests that the students not only recognized the personal interest and research value that this collection might have for others, but that the students are feeling more comfortable vocalizing these thoughts to their peers and other researchers.

Conclusion

The Grinnell College Libraries have made great strides toward both ensuring that all of its student assistants are exposed to skills in a wide variety of areas as well as being able to convey those skills in a resume or CV, and Special Collections and Archives is no exception. The staff of Special Collections takes pains to not only incorporate student assistants at every level of digital projects, but to also help them recognize when they are having experiences that are worthy of being included in a resume.

While incorporating students as integral contributors to digital projects has generally gone very well, the staff of Special Collections has learned two particularly useful lessons that merit consideration. One of the earliest lessons they encountered was that it is everyone's best interests to try to match the personal interests of the students in some way with the projects they are working on. By matching a student's interest with some aspect of a project, the entire project benefits. Students work more quickly, and the sense of personal investment is greatly increased. The result is usually a project that runs more smoothly, more quickly, and a student who is more enthusiastic about publicizing and more comfortable listing the project on their resume.

The second major lesson that the staff of Special Collections has learned and would encourage others to bear in mind is to try not to be a helicopter supervisor. In order to encourage students to be more confident in themselves, especially in what is frequently a complicated period of life, allowing students to feel free to ask questions and make mistakes is exceedingly important. Finding the right balance of hovering and a more relaxed state is very difficult, but will also result in a higher-quality completed project and students who are more likely to trust themselves and their supervisors in the future.

Note

1. Break Open the Vault (BotV) was the brainchild of Sam, who was mentioned earlier. A couple of years ago, while shelving a collection he'd just processed, he was looking around at all of the material that never sees the light of day that is housed in the Special Collections vault. He asked whether the staff ever considered having any kind of open house to share the material with others. They had never considered it, so they challenged Sam to put together such an event. For the very first BotV, Sam single-handedly chose all of the material, created the placards, created and hung the posters, and was present during the open house to meet and greet the attendees. It was such a success that Special Collections hosted their fourth annual Break Open the Vault event in late April of 2016, and all of their student assistants contributed time and energy to coordinating the event, choosing objects, writing placards and doing the publicity.

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Extreme Makeover: Information Literacy Edition

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Abstract

Using the model for instruction developed from popular Information Literacy librarian William Badke, we developed a 7 week course that would encourage students to follow the natural trajectory of inquiry, using topics that either double as research for other classes, or interest them in a more personal way. By mapping the course sections onto ACRL frameworks, we were able to ensure that we met those standards for excellence, and utilizing Kagan active learning structures and the game-based learning platform Kahoot, we developed a course that encouraged active participation and critical thinking about Information Literacy.

The course from the previous semester served as a template for the new course, developed by a graduate student doing her practicum in Information Literacy Instruction. With the help and guidance of the College's Information Literacy Librarian, she was able to gain experience in the field. The new course radically changed the tone of instruction, emphasizing humor and slang over organization and clarity, and the pros and cons of such an approach are discussed.

This session could be useful for any Instruction Librarians wishing to update their existing programs, or developing new ones from scratch. It can also be used to demonstrate the effectiveness of a practicum in one's library education.

Make it Beautiful, Make it Usable: DIY Design for Librarians

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Abstract

Beginning with the premise that what is beautiful is usable, the presenters of this workshop will provide participants with simple, quick-start guides to instructional and graphic design. Librarians are regularly required to produce learning objects, presentations, lesson plans, and activities for students or patrons without the benefit of training in educational practices or graphic design principles. By distilling common wisdom and good, free resources on both of these topics to their essentials parts, the workshop presenters demonstrate how librarians can use their existing skills and ingenuity to adapt, update, or evolve existing materials to better fit the needs of today's learners. Participants will use a Design Checklist and a variety of free tools and resources curated by the presenters to improve the teaching techniques present in their learning objects as well as the visual presentation. Instructional design steps include: identifying outcomes, planning for assessment, and audience analysis. Graphic design considerations include: balance and arrangement, color and contrast, use of templates, and typography. Together, application of these principles results in updated learning objects that will facilitate improved student learning through more carefully focused materials with sound pedagogical underpinnings, and aesthetically pleasing designs that increase usability, guide the learner, and allow students to engage with the information resource unimpeded by confusing visuals. View the workshop agenda and presentation and access the collection of tools and materials at theroughlyrightway.com/beautiful-usable.

Winning the Steelcase Education Active Learning Center Grant: Strategies for Successful Grant Writing

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Ashley Creek, Access and Learning Services Librarian
University of Saint Mary

Lindsay Schettler, Special Collections and Content Management Librarian
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Abstract

Learn how a small university's proposal for the 2016 Steelcase Education Active Learning Center grant beat out 790 other institutions to become one of six higher education institutions to receive the award. This presentation focuses on how to increase your grant writing skills to become a successful grant writer, regardless of institution size. The presenters reflect on the challenges, opportunities, and lessons learned in an engaging and participatory session. Participants are encouraged and invited to share strategies for successful grant writing, how to engage library staff in the process, and how to reach out to external stakeholders for feedback. Participants will leave the session with a toolkit of strategies for grant finding, planning the grant proposal writing process and timeline, and seeking external reviewers.

Confident Shifting for Complex Moves

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Abstract

When library changes happen, librarians often have to coordinate shifting book collections. The librarian can measure books and use mathematics to produce very accurate plans. Yet the implementers of those plans rarely carry it out flawlessly. Therefore, the librarian can also establish frequent waypoints to check if the shift is progressing as it should. The author presents math formulas that allow for frequent waypoints if that is what the librarian chooses to use.

Introduction

As long as librarians have been collecting books, they have been shifting books. Eventually librarians must move all collections. When someone desires to move a collection of books, there is the question of how to move the books into the new space. If the collection is large enough, misjudgments can lead to many extra hours of work. The following paragraphs explain how librarians can know where each book should belong after a shift, before anyone actually shifts a single book.

Aim

Due to renovations at Missouri State University's Duane G. Meyer Library, staff needed to rearrange the lower level book ranges. This involved taking books off of ranges, taking the ranges down, putting the ranges back up in their new locations, and then re-shelving the books. The number of shelves available for the collection would not be the same after the move. Library personnel needed to shift anyway so this was a good opportunity to start from scratch and shift the entirety of that part of the collection.

The aim of the shift was specific: determine which shelf each book should reside on after the shift, before anyone moved a single book. More books needed to go on some shelves than others, depending on future growth projections. The author completed the plans using math formulas and spreadsheets. The author wanted to put a call number at the beginning of every range to facilitate shelving. Carl Fortriede, in his book on library moving, calls these points "waypoints" (35).

Literature Review

This paper discusses the use of math formulas related to shifting books. Some of the first published literature related to moving books in the United States comes from the 1930s. The Yale University Library Gazette contained an article in 1930 that explained counting shelves, estimating growth, numbering ranges, measuring shelf sizes, and labelling boxes of books to move to specific shelves ("How the Books Were Moved" 31). Two years later, Sheetz described a similar process in what is probably the most entertaining and colorful account of book moving (133). The first mention of finding the average inches of books per shelf came from Ansell, whose measurements and calculations ran "into several hundreds of foolscap folio pages" (94). "Operation book shift" mentioned the expansion available per shelf ratio which later authors more commonly called "fill ratio" (Hammer 393). The first full book on moving a library that this author found is titled *Moving a Library*, by Kurth and Grim. It contains the mathematical ideas from the previous paragraph plus some more specific to their move but not used in this paper.

In 1983, Kurkul published an article with a page containing 7 mathematical formulas. Those formulas were not new at the time but Kurkul presented them in a more precise and understandable manner than previous publications. *Moving Library Collections: A Management Handbook* and *Library Relocations and Collection Shifts* are two more books related to moving libraries (Habich; Tucker).

Steven Carl Fortriede's book and accompanying spreadsheets provide both information and the tools needed to make a library move successful. His work identifies a waypoint as "a defined spot in a collection designated by the call number of the book to be filed immediately after the waypoint" (35). After Fortriede's book, the most useful sources of information have been websites of libraries who are familiar with book shifts and a select bibliography about moving libraries (Shirien, Chappel; Harvard Library Lab; Krack; Taylor).

Methods

First, library teams decided what books they needed to move to make room for a renovation. Then, they determined the future location for the books and how many shelves could fit in the space. The team decided to move the general collection books on the lower level.

The team needed to quantify the collection and the space to assure they could carry out their plans. Measuring books allows for a much closer accounting of reality than other methods. On paper, the team created tables that represented ranges and every shelf on them. Next, library staff and students measured how many inches of books were on each shelf and wrote those measurements in the printed tables. They also wrote down the call number of the first book on each range side. This call number helped them know where they were in the collection but it also played an important role later on.

It takes only three numbers to plan simple shifts and most librarians who have shifted books have used them:

1. The number of shelves
2. The length of the shelves
3. The linear space occupied by all the books

First, someone can walk down the library ranges and count shelves. Second, standard library shelves are about 35.5 inches long. This paper rounds that down to 35 inches. If shelves are of uniform length, the math formulas in this paper will work. If the shelving is not uniform, a person can adjust the math here without too much work but this paper does not cover that process. The third thing a person needs is the total linear space occupied by books on the shelves. A person can find this by finding the sum of all the shelf measurements.

The simplest shifts have the same number of shelves, the same number of books, and an equal distribution of books throughout the shift. A simple average indicates how many linear inches of books a person should place on each shelf. The following formula illustrates this.

$$average\ per\ shelf = \frac{linear\ inches\ of\ books\ in\ the\ shift}{number\ of\ shelves\ in\ the\ shift}$$

While it is nice to have such an easy formula to use, actually shifting the books is not so simple. To prevent inevitable mistakes from becoming too large, use waypoints (Fortriede 34). Waypoints are places in the shift where a person can check to verify he or she is doing in reality what plans say to do. Many shifts end with a large number of empty shelves or not enough shelves. Rather than get this unpleasant surprise at the end of a shift, waypoints divide the collection into small pieces and make discrepancies easy to deal with.

During the shift at MSU, the author wanted waypoints for the first book on the first shelf of each side of each range. Using this method, most discrepancies involved two shelves or fewer per range side. Small adjustments were quick and easy since each shelf had some extra space on it. If the library's collection is in circulation during the shift, nothing will be exact anyway.

To find the waypoint, find the sum of linear inches for all books up to the waypoint. Then, divide that number by the average inches of books per shelf. The result is the shelf on which the new book belongs.

$$future\ shelf\ number = \frac{sum\ of\ books\ up\ to\ the\ waypoint}{average\ per\ shelf}$$

For example, if there was an average of 25 inches of books per shelf and there was a waypoint at shelf 42 then 42 x 25 = 1050. The first book on shelf 42 should be 1050 inches into the measured collection before the shift. A person can write down the call number, write it on a piece of paper, and tape it to that future shelf.

The Reality of Most Book Shifts

Unfortunately, few book shifts are as simple as the scenario above. To find the average number of inches per shelf, there are only two variables. If library personnel add books to the collection you plan to shift, then "linear inches of books in the shift" will increase. If personnel add shelves, then "number of shelves in the shift" will increase. If you have the same books, shifting onto more shelves means there will be fewer books per shelf. Regarding waypoints, the formulas above work the same, but each shelf must be in consecutive order so someone can specify a shelf number for each waypoint.

It takes more thought and preparation to specify growth room for some book collections than others. First, library personnel need to determine which books belong in which set. Using the Library of Congress call number system, a person might want to leave more growth room in the Bs than the As. Library personnel need to assign every shelf in the shift to a set. Sets may change in the middle of shelves but assign the whole shelf to one set or the next and it won't make much difference in the end. The formulas above still apply but a person must extend them to account for sets and that is tricky.

Each set of books needs a fill ratio. The fill ratio is the percent of space on a shelf occupied by books and it should be the same for every shelf in that set. The average inches of books per shelf divided by the inches of books possible on that shelf gives the fill ratio. If there are 25 inches of books on a shelf that holds 35, then the fill ratio is 71.43%. If the measurement of all books is 25,000 inches and you have 35,000 inches of shelving, your fill ratio for the whole shift is still 71.43%.

$$fill\ ratio\ = \frac{average\ per\ shelf}{shelf\ length} = \frac{inches\ of\ books\ in\ set}{inches\ of\ shelf\ space\ in\ set}$$

Missouri State University personnel shifted the Library of Congress classified Q-Z books. The team wanted more growth room for Rs so those books needed a lower fill ratio. In these cases, personnel imposed a fill ratio on that set by estimating future growth needs. The process of determining the imposed fill ratio is outside the purview of this paper but always involves some level of guessing the future. To investigate such estimations, review Fortreide's book.

The formulas described in this paper work best if librarians leave ⅓ or more of the shift in sets that do not get imposed fill ratios. If you impose every part of the shift, then you have to do a lot of hand tweaking to make the fill ratios and total inches of books equal your shelf space. You can use Fortreide's excellent book and sample spreadsheets to do that kind of tweaking. The methods shown here let math determine the fill ratio for most of the collection while you deal only with the sets you do not want to be average.

If there are three sets to shift, then the linear inches of books in the shift are equal to the linear inches of books in set 1 plus the books in set 2 plus the books in set 3. Each set may have its own fill ratio but the linear inches of books someone needs to shelve stays the same.

If one of the three sets has an imposed fill ratio, it affects how many shelves are available to other non-imposed sets in the shift. If set one takes up 10,000 inches, set two takes up 10,000 inches, and set three takes up 5,000 inches, then the total space the books will take up is 25,000 inches. Say there are 1,000 shelves to put the books on. Also assume library personnel determined they wanted set 3 to be able to grow more and they imposed a fill ratio of 60% rather than the 71% average mentioned paragraphs above. Doing so will require more shelves and therefore decrease the number of shelves available to the rest of the collection.

To know how many inches of books to put on each shelf, the first step is to find how many shelves the imposed set requires. The formula below determines this.

$$Shelves\ needed\ for\ set\ 3 = \frac{inches\ of\ books\ in\ set\ 3}{fill\ ratio\ of\ set\ 3\ \times\ shelf\ length}$$

The fill ratio of set 3 is 60% and the shelves are 35 inches. Library personnel would place 21 inches of books on each shelf. There are 5,000 inches of books so at 21 inches per shelf, they need 238 shelves (rounded). Library staff should spread the remaining 20,000 inches evenly on the 762 remaining shelves. That means library personnel should place 26.25 inches of books on the rest of the shelves.

Remember, the goal is to shift books in a predictable fashion. If personnel fill the empty book cart with the first books in the shift and go to the beginning of the new shelving location, they have to know how many inches of books to place on those first shelves. That is the "average per shelf". For sets with an imposed fill ratio, the average per shelf is simply the fill ratio multiplied by the length of a shelf (35 inches). The following formula gives the average per shelf for all sets with non-imposed fill ratios.

$$\frac{total\ inches\ in\ shift\ -\ inches\ of\ books\ in\ imposed\ sets}{total\ shelves\ in\ shift\ -\ shelves\ in\ imposed\ sets}$$

That said, the goal is to determine which shelf each book should reside on after the shift, before anyone moves a single book. The process is:

1. Pick a shelf number in the future shift location as a waypoint.
2. Calculate how many inches of books come before that waypoint.
3. Using that number, determine what shelf number is an equal distance into the pre-shift collection.
4. Go to the shelf and write down the call number of the first book on that shelf.

Step one, the first waypoint after the shift could be at shelf 810. Step two creates a problem though because the waypoint formula above works fine for a simple shift but it doesn't work if personnel use imposed fill ratios because there may be more than one average per shift. But, set 1 has 10,000 inches of books and the average inches per shelf is 26.25. Therefore, set one needs approximately 381 shelves. That is not close to shelf 810 so a person needs to continue with set two. It also has 10,000 inches of books and needs 381 shelves. Adding 381

to 381 gives 762. Set three is the last set in the shift and will have 21 inches of books per shelf. Subtracting 762 from 810 gives 48 shelves. Multiplying 21 (inches per shelf in set 3) by 48 gives 1008 inches of books from set three. Add 10,000 from set one, 10,000 from set two, and 1008 from set three and the final sum is 21,008 inches.

Step three requires that library personnel use the book measurements to create a running summation from the pre-shift measurements. This is time consuming to do manually but is quick to do with a spreadsheet. After doing this, one can determine that the book at the $21{,}008^{th}$ inch is on shelf X. While the process is exact (assuming correct measurements) enough to tell you which specific book is at 21,008 inches, it is easier just to say it is the first book on the shelf. Step four says someone should find the book and record the call number. They should then place the call number on or around shelf 810 in the new shelving arrangement.

When personnel at Missouri State University planned the process, it was more complicated than the scenario above. There were not shelves already standing where books would end up. The ranges that the books started on had to be used after the shift so personnel shifted a range of books and then took the ranges down and put them back up in the new location. The author had to carefully plan and put up signs as people constructed shelving. Also, there was an unmeasured collection of books that personnel had to integrate into the collection soon after they finished the shifting and moving. The fill ratio of some sets of books was lower because of the anticipated influx. The author recorded measurements and performed calculations using Microsoft Excel. After setting up the spreadsheet, it was easy to create pivot tables that looked like shelf by shelf diagrams of the past and future ranges. These helped other library staff and students stay on track. In the end, the shift involved 3,864 shelves, 97,835 inches of books, and 12 sets of books, 8 of which used imposed fill ratios.

Math Formulas

The following formulas will help those who plan to shift books. Use the following numbers as an example. They are the same ones used above.

- 25,000 inches of books in the shift
- 1,000 shelves
- 10,000 inches in set 1
- 10,000 inches in set 2
- 5,000 inches in set 3
- 60% is the imposed fill ratio for set 3

Think of the shelf measurements before the shift as a mathematical sequence, which is an ordered list of numbers. {26, 21, 25 ...} This ordered list does not follow a pattern. Following is the sum of all terms in the sequence written in summation notation. In the formula, “k” represents the last shelf measured in the shift. One can also represent the set after the shift as a sequence and sum it:

Before shift: $A_n = \sum_{n=1}^{k} a_n$ After shift: $B_n = \sum_{n=1}^{j} b_n$

One presupposition of this process is that the books personnel measure before the shift will be the same books they have on the shelves after the shift. If there are more shelves after the shift, then k and j will not be equal, yet the sum of all books is still the same. Using the numbers from the example above one can know that the 25,000th inch of book before the shift will be on shelf number k while the 25,000th inch of book after the shift will be on shelf j.

$$\sum_{n=1}^{k} a_n = 25{,}000 = \sum_{n=1}^{j} b_n$$

Shifting into multiple sets with different fill ratios requires that a person split the sum into parts. In the first set of the three below, b_n is the same from n=1 to n=p. The same is true in set two from n=p+1 to n=q. That is what makes a set worth distinguishing, library personnel want to have the same fill ratio for all shelves in that set. Where "p" is the last shelf number in set 1, "q" is the last shelf number in set 2, and "j" is the last shelf number in set 3, the following is true.

$$\sum_{n=1}^{k} a_n = \sum_{n=1}^{p} a_n + \sum_{n=p+1}^{q} b_n + \sum_{n=q+1}^{j} b_n$$

25,000 = 10,000 + 10,000 + 5,000

If a librarians thought of waypoints in terms of inches in a set, then it would be adequate to set h at a certain number and solve for g. The librarian could then record the book call number g inches into the set before the shift and know that it belonged h inches into the set after. But, librarians and especially library student workers are more likely to think of shelves and call numbers. In the formulas above, k, j, g, h, are how many shelves are in a set. That is often the missing information, not sum of books in a set. Therefore, the following formula is useful.

$$shelves\ in\ a\ collection = \frac{sum\ of\ books\ in\ the\ collection}{average\ per\ shelf}$$

$$= \frac{sum\ of\ books\ in\ the\ collection}{fill\ ratio\ \times\ length\ of\ the\ shelves\ (35\ inches)}$$

Now finally, a person can get all the information needed to plan the shift. Start with sets that have imposed fill ratios.

Set 3:

$\sum_{n=q+1}^{j} b_n = 5{,}000$ And $1{,}000 - (q+1) = \frac{5000}{.60 \times 35}$

$$q = 1{,}000 - \frac{5000}{.60 \times 35} - 1 = 761$$

Set 3 facts: 5,000 inches

60% fill ratio
21 inches per shelf
238 shelves
762 is the first shelf for the set

A person can lump set 1 & 2 together because they have the same fill ratio.
$\sum_{n=1}^{q} b_n = 20{,}000$ $\quad\quad$ $inches\ per\ shelf = \frac{20{,}000}{761} = 26.25$

$$fill\ ratio = \frac{26.25}{35} = .75$$

Set 1 and 2 facts:
10,000 inches for each set
75% fill ratio
26.25 inches per shelf
380.5 shelves for each set
1 is the first shelf for set 1
381 is the first shelf for set 2

A librarian needs the previous information to determine waypoints. A person may choose to make waypoints based upon where things used to be or based on where they will be in the future. If the person chooses any inch between 1 and 25,000, he or she can compare the shelf number before and after the shift. Let "g" equal the shelf number of the 21,008th inch before the shift. Similarly let "h" equal the shelf number of the 21,008th inch after the shift.

$\sum_{n=1}^{g} a_n = \sum_{n=1}^{h} b_n$

Now create a running total of shelves before the shift and after the shift. One can look at the running sum and determine the position of a book before and after the shift.

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Lost in the Stacks: Helping Undergraduate Students Navigate the Library Labyrinth

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Abstract

Wayfinding, an architectural term, refers to the individual's experience of orienting and choosing a path within a physical space. Architects use this practice to make a space more navigable and useful. Reconsidering an existing academic library space through wayfinding presents the opportunity to improve undergraduate students' ability to not only navigate the library space, but also locate the resources and services.

A collaborative project at the University of Kansas Art and Architecture Library between a librarian and an undergraduate design class has demonstrated the usefulness of wayfinding. Rather than conduct a more traditional library orientation session, the librarian turned a request for instruction into an opportunity to use students' design knowledge to teach them information literacy and improve their library skills. The librarian and the public services staff hoped this exercise would come up with great solutions to eliminate two main obstacles for successful use of the library: locating materials on the shelf and the need to ask directional questions.

By collaborating with the undergraduate design students, the library ensures the environment is reflective of the physical information seeking behaviors of undergraduates in the arts while also teaching the student participants about the resources and services of the library.

Defining Wayfinding

Wayfinding encompasses the information-gathering and decision-making processes people use to orient themselves and navigate through space--- how people get from one location to another. Kevin Lynch coined the term "wayfinding," to describe his concept of environmental legibility or the process of using spatial and environmental information to navigate to a destination (4). The basic process of wayfinding involves four stages (Lidwell 260):

1. Orientation: determining one's location relative to nearby objects and the destination.
2. Route Decision: choosing a course of direction to get to the destination.
3. Route Monitoring: monitoring the chosen route to confirm that it is leading to the destination.
4. Destination Recognition: recognizing the destination.

Literature Review

The manner in which a library environment aids navigation and information seeking behavior can either add to or ease a user's anxiety. When a user enters a library, they are confronted by two information problems: the problem they hope to address and the spatial problem of trying to locate resources (Madel 1). Using wayfinding to consider how users orient and navigate through the library environment can ensure that the space is reflective of these behaviors, in turn easing library anxiety.

Literature covering the design of libraries has paid little attention to wayfinding. Pollet and Haskell's book on library design includes a discussion related to wayfinding, which is still relevant today. The authors consider user orientation needs focusing on how library sign systems aid in locating materials. In considering the academic library environment, Pollet and Haskell highlight the importance of marking service points and having uniform signage (150).

Few have written on wayfinding projects in academic libraries. Hahan and Zitron discuss first-year undergraduate students in relation to the concept of wayfinding within an academic library setting. The authors gave students a call number to uncover attributes of building layout that aided or failed navigation (28). Through observing and interviewing first-year students, they determined that library classification exists both as a navigation fail point, and at the same time is the major way in which students find navigation success (32). Based on their research, Hahan and Zitron recommend that libraries clearly identify service points, mark locations where call numbers began, provide sufficient signage where stacks flowed illogically, and make all of a library's signage uniform (34). Each of these recommendations aids the user in easily navigating the library environment. Further, the recommendations of Hahan and Zitron's mirror those of Pollet and Haskell.

KU's Collaborative Wayfinding Project

During the spring semester of 2016, a Professor of Design requested a library orientation session for two sections of a required 100 level course for first-year design students. The 100 level course focuses in large part on the concept of wayfinding. During a conversation between the professor and the Fine Arts Librarian about the intended outcomes for the session both agreed that an assignment using wayfinding to explore the library would benefit both parties. By employing the students' design skills, their introduction to the library would be more engaging and relate more specifically to their interests. For the librarian, participating in the project meant having the opportunity to promote the library and a reconsideration of space from the perspective of undergraduate students.

The Assignment

The first-year design students were placed into groups of three or four, with six groups total across two sections of classes. Each group had the same assignment, to design a cohesive and comprehensive wayfinding system for the KU Art and Architecture library based on the following objectives decided on mutually by the professor and librarian:

1. Learn that the user is important and should be part of the design process.
2. Learn that specific knowledge, literature and language helps you become a better designer.
3. Learn to work in teams, and learn leadership and communication skills.
4. Incorporate research from other disciplines in the design process.

The Professor of Design introduced the concept of wayfinding and the objectives of the assignment to the first-year design students prior to coming to the library. Following their introduction to wayfinding, both class sections visited the Art and Architecture Library, many of them for the first time. Upon arriving at the library, each group of students were given a call number and title of a book to locate on the shelves. Each group was able to locate the assigned book through varying degrees of difficulty. Following the exercise, the librarian gave a tour of the library highlighting areas that staff believed to present navigational obstacles. The librarian also shared frequently asked directional questions received at the desk, such as where are folio books are located and where the LC call number system begins in the stacks.

Following each tour the students, professor, and librarian discussed the students' first impressions navigating the library space and the obstacles highlighted on the tour. The issues the students mentioned were in line with what the librarian and public services staff had observed. These issues included:

1. The need to ask for directional questions stemming from the outdated floorplan map and general signage throughout the space.
2. Clearer directional signage for books in the library.
3. Difficulty locating material due to layout and unfamiliarity with the LC call number system.
4. That the LC call numbers, on the end panels presented an obstacle to browsing the stacks unless a user was familiar with the classification system.

The identification of these issues began a dialogue about library anxiety. For the first-year design students not having familiarity with the library's layout and organization left them confused and intimidated. Having an open discussion about library anxiety brought comradery amongst the students and highlighted the importance of the wayfinding assignment.

Following the introduction to wayfinding and the library, the students had three-weeks to create a project addressing the issues identified during their visit. During this period, the students participated in a mid-project critique, tested prototypes of their solutions in the actual library using real users, and created a portfolio using photographs and a floorplan of the library. The assignment concluded with each group of students giving a formal presentation highlighting their wayfinding solutions to the class, librarian, public services staff, and other interested staff from across the libraries.

Suggestions

Impressive suggestions emerged from each groups' wayfinding project. While each project reflected unique styles and suggestions, there were similarities. Common solutions included:

1. Clearer signage for where to check out/return books.
2. Clearer signage at the buildings entrance denoting the library's location in the shared building.
3. A large, updated, and color-coded map on the most visible wall when walking into the library. Color-coding on the maps to signify where specific subjects or sizes of items could be located.
4. Range end labels featuring infographics that represent the subjects found in each section. For example, the LC subclass ND (painting) represented by an icon of a paintbrush.
5. Color schemes on library walls to emphasize where to ask for help and directional paths.
6. Signage providing instruction to feature visuals over text.

The student participants emphasized that their solutions would ease library anxiety by making the space easier to navigate without having to ask for help. The students' solution to using infographics on end panels and color-coding on maps to note the location of particular subjects would make the library easier to navigate. Additionally, the stacks would be more accessible and easier to browse with simple and clear signage featuring infographics.

Many of the group presentations touched on the importance of signage as a communication tool. They noted several factors about the current signage in the library that hindered user navigation. First, the color scheme of signs in the library made them blend into the environment. Bold signage would stand out and make the existing environment less dull. The students also pointed out that all of the signage in the library is currently hung too high. Clear signage visible at eye level would make the library easier to navigate.

Challenges

Each group of students created a separate set of infographics to visually represent LC call number subject areas. Some of the designs were easier to interpret then others. Due to the difficulty of understanding, some subject symbols the library staff would pick and choose amongst the various group projects for the best option. Permission to do so would need to be obtained by each group.

Another challenge that arose from the projects was that often the color schemes chosen by students were to close in hue. Color schemes are important to consider because lack of differentiation in hues can make it difficult for those with color blindness to interpret.

Having the first-year design students create separate group projects made the assignment competitive. After the group presentations the students wanted library staff to select the work of one group in its entirety. Clarification about what the library would do with the

students' suggestions after the completion of the assignment should have been determined and shared from the onset.

Moving forward the library staff would like to enact some of the students' suggestions, but further time and library funding will be required to adopt the ideas. Also, before enacting suggestions the library would benefit from gathering feedback from other user groups.

Benefits

The first-year design students stated that they were more likely to use the library after completing the assignment. The wayfinding assignment allowed the students to become familiar with library resources and demonstrated how the library could assist in their academic growth. The participants noted that it was beneficial to have a client outside of the design department to pitch their ideas to for real world practice and feedback.

It is important to note that their initial library anxiety subsided as the project progressed. Many of the students were overwhelmed during the initial exercise of locating an item on the shelf. Thinking back to this experience, the student participants stated that icons representing the LC call number subjects would have helped them locate items on the shelf by providing an additional means of guidance.

For the librarian and public services staff the collaboration allowed them to observe and gain feedback about the library environment from the perspective of students relatively new to campus. These insights have allowed library staff to begin to envision how the library's environment could be more helpful and navigable for undergraduate students.

Conclusion

The first-year design students emphasized the importance of easily identifiable sources of help, marking call number starting points, and uniformity in signage. These factors mirror the findings of previous literature. While the library landscape changes, wayfinding remains relevant as a method to improve user navigation.

While this project utilized the environment of an art and architecture library, the results indicate current student perceptions. Supporting student skills and listening to student perceptions while actively engaging them in library orientation is worth considering in any academic library environment.

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Picking Favorites: Setting Up a Study Room Reservation System

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Abstract

McGoogan Library of medicine launched a self-service reservation system for open study rooms in spring 2016 to address the issues in the previous room key-check-out system. The 16 study rooms have always been a hot commodity for students. In the previous system, students would request their favorite room, check out the key for up to 8 hours, and then leave the library to grab food or head to a lab, which left the rooms empty but unusable by anyone else. Unfulfilled requests for room keys were tracked by Circulation Services. Under the suggestion of our library director, representatives from Circulation Services, Systems and Collection Development explored options to make the rooms more available for all students, and chose D!BS, an online reservation system. The Library anticipates the launch of D!BS to better track room usage and lead to overall user satisfaction. This presentation will discuss the steps taken to launch the self-service study room reservation system from choosing a platform, to training staff, to marketing, and finally responses from the McGoogan Library patrons.

Building Instructional Labs for Tomorrow: Do Trees and Tablets Work?

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Abstract

At a time when primary and secondary schools are spending tens of millions of dollars on new facilities and technology – why are many academic libraries hesitant to adopt new technology? In the 2 ½ years since it opened, the NHTI Instructional Lab remains in the forefront of innovative Instructional Lab design with an impressive track record of unparalleled instructional success: it has become "the place to be" on campus. Now, with several years of experience to interpret, this presentation examines why the Instructional Lab is so successful and what it means to student success, information literacy, secondary school partnerships, and careers and technology preparedness. The future is now: to sit on the sidelines and not to embrace the new technology – not to prepare for the arrival of a new generation of even more tech savvy learners - is a recipe for failure. Here's how disaster can be avoided and success achieved.

Introduction

In 2014 at the 14th Annual Brick & Click Academic Library Conference Stephen Ambra and Sarah Hébert presented *Marrying the Old and the New – Using Biophilic Design and Collaborative Learning to Create an Optimal Library Instruction Environment*. During the conference a number of questions were addressed ranging from the efficacy and wisdom of the then new NHTI Library Instructional Lab to the "nuts and bolts" of how to design, fund, and build such a facility.

In the years since the NHTI Library unveiled its innovative Instructional Lab – based on Biophilic Design, collaborative learning and tablet technology – more than 5,000 students have attended over 300 Bibliographic Instruction classes allowing for an examination and assessment of the effects and ramifications of the Instructional Lab on instruction, the Library, and the College. If our results are any indication, NHTI students thrive both in the environment of the Instructional Lab and the changes to the Library occasioned by the Instructional Lab. Almost 100% of all students polled who used the Instructional Lab were "extremely satisfied" (Ambra). Yet, when primary and secondary schools are expending tens of millions of dollars on new facilities and technology (Rosenberg A1) few academic libraries have kept pace – bright paint, new furniture and wireless keyboards are hardly the new school technologies that incoming students are already adept at using. To sit on the sidelines and not to embrace the new school technologies – not to prepare for the arrival of young learners – does a disservice to our incoming students while giving a competitive advantage to those academic libraries that do utilize the new school technologies.

Literature Review

While academic library design is an exciting specialty (Lee) much less attention is paid to the design of instructional space in academic libraries (Bell), especially those that incorporate the elements of biophilic design – drawing from Edward O. Wilson's 1984 *Biophilia* which first articulated the correlation between humans and nature -- collaborative learning and tablet technology (Ambra and Hébert 2). Relatively recent literature reviews assessing the design of instructional space, such as *Classroom Design – Literature Review* by Lawson Reed Wulsin, Jr. for Princeton University, are more the exception than the rule. Yet, with primary and secondary schools building for tomorrow, the need by academic libraries to address the new technologies in instruction cannot be avoided.

Anticipating the Future

Prognostication as an academic exercise has minimal risk; it's only when money is added to planning that there is little margin for error: yet, how do we determine what is in the best interests of our students and our institutions? Here are some of the principles which continue to guide our decisions:

1. Receptivity to new ideas
2. The ability to take risks and apply new ideas
3. Understanding and meeting the needs of students today and tomorrow
4. The importance of liaising and creating pathways with local and regional schools and understanding the technologies and experiences they are offering their students
5. Liaising with IT on developments and trends in technology – peering into the future
6. The impact on the Library as a whole and the will to restructure the delivery of services
7. The importance of continual assessment and examination

With more school systems spending large sums on high-tech learning and state-of-the-art facilities the onus is on academic libraries to be ready. At the NHTI Library the future is already here – and to borrow a phrase – it works.

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Implementing a Smartphone Scavenger Hunt at Mizzou Libraries

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Abstract

In the Fall Semester of 2015, the University of Missouri-Columbia Libraries (MU Libraries) Instruction Committee began offering students in first-year classes a web-based, smartphone-friendly library scavenger hunt as an alternative to traditional library tours. With time and budget constraints in mind, librarians used resources already available, Qualtrics software and Springshare Research Guides, to create and deliver the MU Libraries Scavenger Hunt. This paper will share how librarians adopted the guidelines in UC San Diego's presentation (Goldman and Rhodes, 2015) to suit MU Libraries' needs, challenges that occurred along the way, how the scavenger hunt was marketed and promoted, and a collage made from student work during the scavenger hunt.

Review of Literature

Scavenger Hunts and Technology

Scavenger hunts as a means to orient users in both public and academic libraries to library resources became popular during the 1980s and 1990s. In 1989, Randall McCutcheon published a how-to guide called Can You Find It? 25 Library Scavenger Hunts to Sharpen Your Skills, which one reviewer "recommended …for anyone who has just taught his/her 249th BI about the Reader's Guide and needs some fresh ideas" (Fair 140). McCutcheon later uses an arresting spatial metaphor to illustrate his belief that new users feel as if they are trapped inside some gigantic alien pinball machine--the ricochets are random, the flippers are frozen, the "tilt" is inevitable. The time they spend playing library, therefore, is largely wasted. To help students stop playing and start thinking, I have designed a scavenger hunt that is structured to capture the imagination of even the most intransigent "deskperado" ("Library Scavenger Hunts: A Way Out of the Bewilderness" 39).

This metaphor puts librarians and library users squarely inside the library's physical space and asks them to envision its print resources as part of a confusing game of pinball. Leading a user around the library by placing clues and hints inside the resources was meant to help users understand what a resource was and how to use them. This proved very popular, though it could occasionally backfire, as when in 1993 a staged photocopy of a crime scene was discovered by a library patron, who reported the photo to the police, which triggered an investigation of the wholly imaginary crime ("News in Brief" 119).

Of course as library resources migrated online scavenger hunts did likewise. In 2001 Mary Seamon argues persuasively for creating "guided tours" of library resources and the internet by creating a "hot list" of links for users to explore and use to answer questions (46). By 2012 Jessica Cerny and JoLynn Holcomb were integrating QR codes into scavenger hunts, with the codes serving as a kind of technological carrot: "Engaging teens via this fun, interactive platform seems like a great way to promote library services to them" (39). That same year, Kelly Jensen and Andrea Sowers used a QR code-based scavenger hunt in their libraries to "connect our teens to both the technological side of our services and to the less technological side" (562). According to Rugan and Nero, "academic librarians can and indeed, need to use emerging technologies to revamp scavenger hunts" (9). These and other librarians believe in the efficacy of the scavenger hunt as a way to introduce students to library spaces and resources, both by using technology as part of the activities themselves and by introducing students to technologies available in the library space.

Institutional Setting and Time Frame

The University of Missouri-Columbia experienced dramatic growth in enrollment over the last twenty years. In Fall 1995, total enrollment was 22, 313 students ("Fall 1995 Enrollment Summary" 1); by Fall 2015, enrollment had grown nearly 27% to 30,761 students ("Enrollment Summary, Fall 2015"). However, library staffing and budget did not

keep up with student enrollment. In 1995, the total number of MU Libraries staff serving Mizzou's learners was 246. Out of these, 59 were designated "professional staff," including librarians. In 2014, the total number of staff had fallen to 186, and the number of professional staff had fallen to 52. Over the last twenty years or so, while enrollment has increased by 27%, library staffing has decreased by 24% overall and by 12% in terms of professional positions.

Not surprisingly, librarians' duties included an increasing number of instruction sessions to an increasing number of students. In 1995, according to *ARL Statistics*, librarians did 615 group presentations for 6, 194 participants ("Personnel and Public Services 1995-1996" 40); by 2005, that number had risen to 857 sessions for 10, 390 participants (Personnel and Public Services 2005-2006" 55). In the year most recently available, 2014, the number of presentations rose slightly to 904 for 14, 278 participants ("Personnel and Public Services 2013-2014" 30). Thus the number of presentations, or instruction sessions, grew by 32% and the number of students in those sessions grew by 27%. Fewer librarians were doing more instruction for more students. The trend of losing staff did not seem to be ending; nor did the trend of increasing instructional offerings to undergraduates. It was time to consider how best to optimize librarians' instructional efforts without hurting the quality of their learning experiences.

This problem most affected librarians and students in one location—Ellis Library, the main library on the Mizzou campus, which serves as the *de facto* undergraduate library (http://libraryguides.missouri.edu/ historyofmulibraries) and where nearly three-quarters of instruction sessions take place. In 2011-2013, tours were included in twenty-percent of instruction sessions in Ellis Library (https://sharepoint. missouri.edu/sites/mulibraries/instruction/Lists/Instruction%20Form%202013/summary.aspx). In 2014, facing a flat budget and with librarian retirements in the offing, Goodie Bhullar, then Instructional Coordinator, began considering eliminating face-to-face tours for first-year classes at Ellis Library and replacing them with a smartphone-based scavenger hunt. Goodie Bhullar was inspired by a presentation about adding value to the first-year experience at the University of San Diego (Goldman and Rhodes, 2015) and thought the scavenger hunt portion would be adaptable to the MU Libraries instructional situation.

Building and Implementing the Scavenger Hunt

MU Libraries has a long-standing Instruction Committee with members from various departments and libraries, led by the Head of the Instructional Services Department at Ellis Library. This committee spearheads most undergraduate instruction-related initiatives, including tours, freshman composition library workshops, workshop series for faculty and graduate students, in-service training for librarians, and tutorials and assessment tools. It might be more accurate to call the committee a task force, because it is task-driven and action-oriented; thus, adapting a scavenger hunt from another institution to fit our own context was a good fit.

To begin the process, the committee reviewed the University of San Diego's scavenger hunt (http://www.edventurebuilder.com/UCSanDiego/), and MU Libraries' E-Learning Librarian, Nav Khanal, created a scavenger hunt mockup in Qualtrics since the University

of Missouri had a subscription. The committee noticed that the questions in UCSD's scavenger hunt focused on helping to familiarize themselves with the library's space and some of its resources (Goldman and Turnbow 86). The committee decided that a similar focus would be helpful in their scavenger hunt. The committee also decided that Qualtrics, rather than another utility, would be used to build and distribute the scavenger hunt rather than software specifically designed to create scavenger hunts, such as Edventure Builder (http://www.edventurebuilder.com/) the software used by the University of San Diego Library.

The committee decided to include some of the post popular places in the library for the Scavenger Hunt, as well as to include a few interactive learning experiences. For example, students are asked to visit the reference desk and ask for the name of the person on duty, which they input into the system. While there, they often ask directions to the next stop on the hunt, the KIC scanners, which are located a few feet away from the reference desk. At the KIC scanners, students both take a selfie, which they upload, as well as input a code posted by the scanners. As they visit different parts of the library, students are given a brief overview of the Library of Congress classification system, then take a short quiz in which they put a series of call numbers in the correct order. Eventually students travel from the main floor to the top floor, where Special Collections is located, in order to say hello to the librarians there and to input another code. By the end of their experience, students have both visited different parts of the library and learned a little bit about how it operates.

Once decisions about the content and format of the scavenger hunt were made its development proceeded swiftly. After the decision to create a scavenger hunt was made in May of 2015, the first version was essentially ready to roll out by early July 2015, with some significant additions. The first of these was including a print version of the scavenger hunt for students who did not have access to smart phones; several copies of this version were made available at the reference desk. It was also decided to create both a LibGuide and a short promotional video for Freshman Interest Group (FIG) instructors (http://libraryguides.missouri.edu/hunt), many of whom would be new to their positions. In mid- and early July, the MU Libraries Scavenger Hunt was introduced to instructors and peer advisers for FIGs, for SSC 1150, the University's first-year experience course; and for English 1000, the University's first-year writing course (MU Libraries Instruction Committee Meeting Minutes 2015).

Conclusion and Next Steps

As of this writing, the Scavenger Hunt has been taken by 1,027 participants with a seventy percent completion rate in three first-year courses: Freshman Interest Group (FIG) seminars, SSC 1150, Learning Strategies for College Students; and English 1000, or first-year writing. During the summer of 2016, the Instruction Committee revisited the Scavenger Hunt for the next year, focusing on weaknesses and trying to reinforce its strengths. One of these strengths, unexpectedly, was the high amount of participation from students in English 1000 courses. Nearly half of students who took the course listed "other" as their designated course, because English 1000 was not listed as a possible choice in the survey's drop-down menu. For the following year, it was decided to target students in that class more explicitly. Accordingly, a member of the committee has met extensively with the coordinator for that

course and instructors have already begun making inquiries about bringing their students to the library for the Scavenger Hunt. One weakness was the lack of a sign-in option for students; this has been remedied so that students who are required to take the Scavenger Hunt by their instructors can login via the Shibboleth platform used by across the University, making tracking participation much easier.

The Scavenger Hunt asked student participants to take and upload selfies and then give or deny permission to use them in future library promotions. The committee hoped to create a "selfies collage" constructed of the selfies taken by students who participated in the Scavenger Hunt, but some technical difficulties with tracking down participants who gave permission for their work to be used have slowed this process down. (This delay was another reason for implementing the Shibboleth system so that students can be contacted if their decision to share or not share a selfie is unclear).

As the library staff continues to shrink (Goodie Bhullar retired in late June 2016), the ability of librarians to leverage engaging, interactive technology to create learning experiences such as the Scavenger Hunt becomes more and more necessary to not only maintaining but increasing the quality of students' educational journey inside and outside the library's physical spaces. While scavenger hunts have traditionally been considered an unreliable way to provide a meaningful experience for students, in times of tight staffing and short budgets, careful planning and implementation of technology can be used to help students get started at their libraries in a richer and more substantial way than might have been thought possible.

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Keeping the Baby AND the Bathwater: Supplementing Traditional ILL with an On-Demand Document Delivery Service

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Abstract

This case study examines one university's implementation of Copyright Clearance Center's "Get It Now" rapid document delivery program to augment traditional Interlibrary Loan Service. Get It Now supplements traditional library journal collections by providing rapid on-request electronic access to a deep body of journal literature for a per article charge which is absorbed by the library. This University's pilot project provided the service to all constituencies within our university community: undergraduate, graduate student, staff and faculty. This differs from many implementations which are limited to certain populations e.g. faculty-only. With a full year of data, this university has assessed whether this broad availability of service is sustainable financially with current resources; whether it makes sense from a collections development standpoint; who the major users are when the service is available to all; and in what subject areas the requested articles predominate. The paper presents a discussion of the strengths and weaknesses of traditional ILL and commercial document delivery services, background data about the institution, and the empirical data used to monitor the levels of usage, user demographics, and cost-effectiveness. This data will assist those from other institutions in anticipating the possible outcomes of implementing similar programs.

Introduction

The sheer amount of information, coupled with fiscal and physical limitations of individual libraries, has precluded libraries from being able to provide on-site access to every information resource its individual users might wish to consult. Strategies such as remote storage facilities, consortial borrowing agreements with other libraries, and interlibrary loan have traditionally been used to overcome these limitations to provide library patrons with

access to materials. However, the 21st century has provided a new limitation that can stymie even these services.

Online services have enabled rapid and direct delivery of goods directly and rapidly to end users. With the rise of e-commerce services such as Amazon.com, internet users have been able to order a variety of goods, including information resources, which can be delivered directly to their homes. Options such as the direct download of ebooks, and the availability of services such as Amazon Prime, which promises delivery in under 24 hours, have further raised expectations of speedy delivery.

Feeling the need to respond to these expectations, Miami University began to investigate the possibility of using a commercial document delivery service to provide rapid delivery of articles when desired by its patrons. Following a review of literature about similar efforts, this paper outlines the initial decision-making process, results, adjustments to the process, and future directions the University will take with these efforts.

Background

Miami University is a public, selective-admissions institution that enrolls slightly more than 16,387 full undergraduate students and 2,520 graduate students at its main campus in Oxford, Ohio. Nearby regional campuses enroll 4,940 students. (*About Miami).* The central library and three branches support research and teaching on the main campus, with two branch libraries serving students and faculty enrolled primarily at classes on the regional campuses.

Although the Oxford campus is primarily residential, it is the 25th ranked school nationally for the number of students who participate in study abroad programs. Approximately 230 students enrolling at Miami's Luxembourg campus each year (*About Miami*), and 38% of the student body at the Oxford campus participates in some form of study abroad programs during their time at Miami (*Miami Ranks*).

In the most recent calendar year, the Miami University Libraries provided 1,913 articles through Interlibrary Loan. Average delivery time, including holidays and weekends, was 2.67 days. Users in many segments of the University voiced concern about delivery time. This was particularly true of users in the sciences and in fields which drew upon medical literature (e.g. Kinesiology and Health, Nursing, and Psychology). Because Miami does not have a medical school, many resources needed by persons in these areas had to be requested offsite, sometimes stymying even the most basic research on topics in these areas.

The number of students enrolled in study abroad courses and distance education courses was also a concern. Traditional interlibrary loan is traditionally a first shift-only enterprise, meaning that students studying in other time zones, particularly on other continents, can experience undue delays in obtaining materials in a timely manner if their requests are left unprocessed for hours after their submission due to time differences. Interlibrary loan statistics indicate that 2.5% of student requests originate from distance education/study abroad students.

Review of Literature

Supplementing traditional borrowing services with online fulfillment services is not a recent phenomenon, but dates back to the early years of the World Wide Web. Following a reduction in serials subscriptions in the late 1990's, the library at the University of Illinois at Urbana Champaign relied on the British Library Document Supply Centre (BLDSC) to offset the impact of these cuts. Unlike some other services, the BLDSC relied on a subscription as well as charges per article (Wiley 153-154). Initially, articles were delivered through Ariel, fax, or mail. In 2000, the BLDSC added electronic delivery as an option (Wiley 158) and planned to look into other rapid delivery options (Wiley 174).

CARL UNCOVER emerged as a popular option in the last decade of the 20th century. The University of Evansville compared two services in 1997. During this trial, there were concerns with the slow delivery time and costs from one source. However, CARL UNCOVER's impressive delivery time (48 hours via fax, their only method of delivering at the time), impressed the library at Evansville (Waltner 25). Requests came primarily from students, who were willing to pay charges for rush delivery (Waltner 26). In 1998, California State University noted that CARL UNCOVER could enhance services by offering rapid delivery of some content for reasonable fees (Hunt 53).

More recently, libraries have turned to unmediated services which allow users to directly request and receive articles within 24 hours. One example service is the Read Cube Web Reader, which includes electronic copies of articles from the Nature Publications Group to non-subscribing institutions. Based on a trial run, Auburn University reported that this service was a fiscally sustainable and satisfactory alternative to traditional interlibrary loan services (Grabowski 16).

Get It Now, an example of a larger-scale service, debuted in 2011. Initial users included the California State University System and SUNY – Geneseo (Kelly 17). It has received favorable reviews in library publications. One review, which is typical, notes its breadth of coverage, relatively low pricing, and lack of administrative fees (D'Amato 30). Southeast Missouri State University used Get It Now to provide access to articles from 99 titles. Although the library at Southeast Missouri State University experienced only minimal use, library staff who tested the service found it transparent and easy to use (Suhr 323).

Initial Questions and Decisions

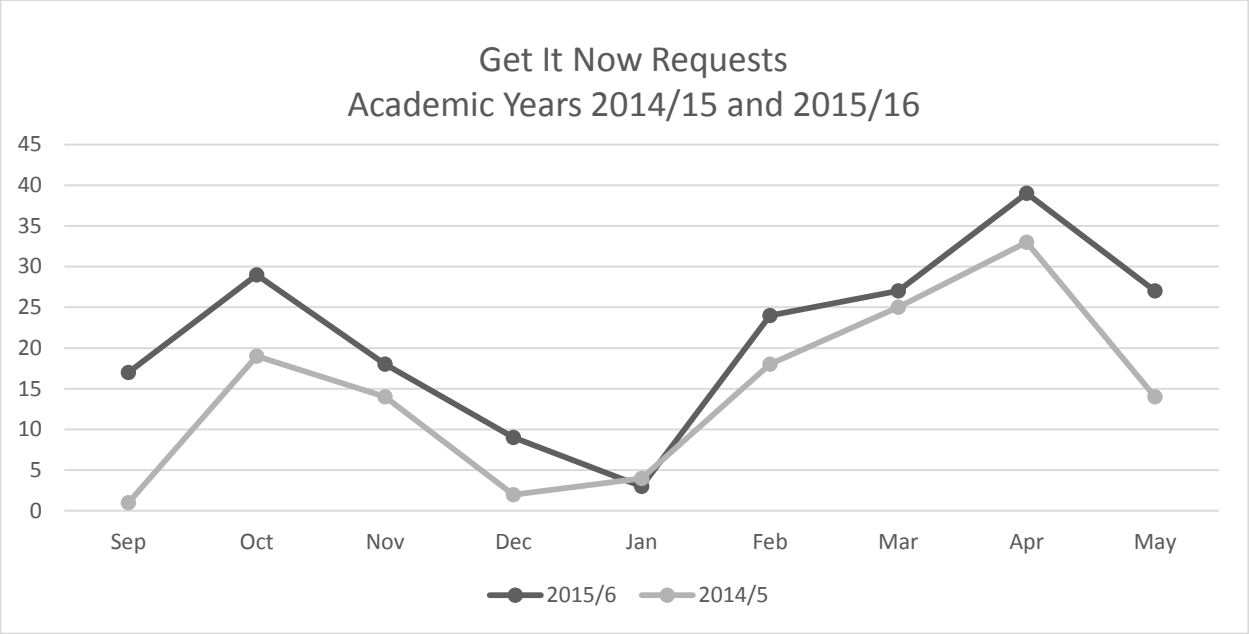
In 2013, a working group of the Libraries' Collection Development Cluster began to examine a number of options for rapid document delivery. Services such as RapidILL, which would have required the Libraries' small interlibrary loan staff (2 half-time positions) to provide a more rapid turnaround time) were not feasible. Following an examination of services including Read Cube, the working group decided to move forward with Get It Now as a rapid document fulfillment service. Features which made this service attractive included easy integration with the Libraries' existing link resolver (EBSCO) and interlibrary loan software (*ILLiad/Odyssey*), the selection of publishers participating in this service, and the advertised delivery time of eight hours or less.

Once the process of selecting a fulfillment service was complete, members of the group working on this project developed an estimated budget using available ILL statistics from the preceding year. Once a budget had been established, group members began to review available options and make decisions about how the service was initially to be offered. Options that were discussed and decided include:

1. **Scope of Individuals Served –** This discussion was informed by a concern for the budget. Librarians and library staff who work with the public are all too familiar with students who assume that instantaneous, or near-instantaneous access to information is available the night before an assignment is due. A review of interlibrary loan statistics indicated that while undergraduate students were less likely to place interlibrary loan requests than faculty and graduate students, many undergraduate students did in fact use the service, and that those who used this service understood that it wasn't a substitute for other information gathering strategies.

2. **Mediated vs. Un-mediated -** Interlibrary loan requests are mediated. From time to time, when an item is costlier than usual, or when a larger-than-expected number of items is requested (e.g., 100+ requests from a single journal), interlibrary loan staff can partner with subject specialists or technical services librarians to explore more focused requests or more fiscally-prudent ways of obtaining materials. Mediating the requests would have entailed slowing down delivery. To maintain speedy delivery times, but guard against excessively expensive requests, the group decided to limit the number of requests to three articles per individual, per 24 hour period (the Get It Now default is five articles).

3. **Delivery mechanism –** The Miami University Libraries had migrated to ILLiad only a few years before, and the related Odyssey delivery software has been well-received. The implementation group decided to deliver resources through this established and well-received resource, rather than use a different option for another method of delivery.



Launch and Overview of Results

The Get It Now service received a soft launch, with no prior publicity, in Fall 2014. Based on worst-case scenario projections a budget of $27,000 was established for this pilot. Most major databases to which the Miami University Libraries subscribe display a link to the ILLiad interlibrary loan request form for items not subscribed to by the Libraries, together with a message that reads "Request this item through Interlibrary Loan - most requests are filled by partner libraries within 3-5 days." When such items are also available through Get It Now, another link displays, with the message "Need it right away? Use Get It Now to receive the article within 8 hours (the Libraries pay more for this service - use only if rapid delivery is necessary)." Ideally, this message appears only for items not within the holdings of the Miami University Libraries. A few isolated exceptions will be discussed below.

During the first year of operations (fiscal year 2014/15), there were requests for 133 articles; during fiscal year 2015/16, there have been requests for 207. For the months of August – May of 2014/15 and 2015/16, for which direct comparison is available, requests have risen by 48%, from 130 to 193.

During fiscal year 2014/15, approximately 10% of requests were cancelled, with only 18 out of 207 requests (8.7%) being cancelled in fiscal year 2015/16. Charges totaled $8,302.60, for an average cost per item of $40.11 (The average cost per item in the previous fiscal year was $37.75.

Results by Patron Type

For fiscal year 2015/16, undergraduate students accounted for the majority (54.81%) of requests, followed by graduate students (31.73%), then faculty (11.06%). Because undergraduates place a small, but significant number of interlibrary loan requests, it wasn't surprising to find that they also used the Get It Now service. What was surprising is that the

breakdown of faculty / graduate / undergraduate users of Get It Now was almost a mirror image those using interlibrary loan: in fiscal year 2015/16, faculty accounted for the majority (47.81%) of interlibrary loan requests, followed by graduate students (34.48%) and undergraduates (13.89%).

Results by Subject Type

The subject matter of the articles requested was less of a surprise, given concerns voiced by users interested in scientific and medical topics. In fiscal year 2015/16 the majority of requests were made for articles from medical (34.78%) or scientific journals (22.22%). However, requests for articles came from outside of STEM-related journals, as well. Requests for articles from education (17.39%) and social sciences (12.56%) journals were most noticeable, with fewer requests for articles from business (6.28%), humanities (3.38%), interdisciplinary (2.90%), and arts (0.48%) titles.

Results by Publisher

Miami University students and faculty requested articles from 26 publishers. More than half of articles for which Miami users placed requests in fiscal year 2015/16 were published by Taylor and Francis (43%) or WolterKluwers (12%). Informa Healthcare, Nature Publications Group, SAGE, Elsevier and Springer (4% each) were followed by Emerald and Oxford University Press (3% each), then Karger and Future Medicine (2% each). Another 15 publishers accounted for 1-2 requests each (> 1% each).

Results by Journal Title

Heading into the Get It Now trial, one concern was that costs for requests from this service might me so numerous as to exceed the costs of subscriptions to individual titles. Happily, this turned out not to be the case. The Get It Now service received no more than 4 requests for any given title in fiscal year 2015/2016, with four articles requested from *Nature* Genetics and *Youth Theatre Journal.* Get It Now received three requests search for articles from six titles; and two requests each for sixteen titles; and only a single request from 147 titles.

Issues

Delivery Time

The majority of Get It Now articles were delivered in less than the promised eight hour delivery window (and sometimes in considerably less time). However, in some instances, articles have taken longer than the advertised 24 hours to arrive; such instances have typically involved articles requested over a weekend and not delivered until the following Monday or Tuesday. The Libraries have reviewed these instances with Get It Now, which is examining ways of enhancing delivery time so that items arrive within the eight hour delivery window.

Unnecessary Requests

As noted above, a link to Get It Now should appear only when an article is unavailable through the Miami University Libraries. However, in a small number of instances, requests have been made through Get It Now (and charges accrued) for items that were available within the Libraries' existing collections. Work on ensuring that Get It Now interacts as efficiently as possible with the Miami University Libraries' holdings information is underway.

Impact of Get It Now

In fiscal year 2013/14, prior to the introduction of Get It Now, there were 1,819 article requests filled through traditional Interlibrary Loan. In fiscal year 2014/15, when the number of article requests held steady at 1,815, and in the most recent fiscal year, the number of articles rose slightly to 1,915. During this same time period, Get It Now, with little publicity has attracted an initial audience and begun to grow. While Get It Now has attracted some faculty and graduate students who required timelier access to articles, particularly from scientific / medical journals, it has also attracted a much larger pool of undergraduate students than traditional interlibrary loan. This undergraduate-heavy body of Get It Now users, suggests that Get It Now, within the parameters set by the Miami University Library, is an additive technology that is attracting a previously untapped body of users interested in document delivery, but at a pace that can match other 21st century online delivery services.

Already, some institutions are adding rapid-delivery services for books, providing a service which vastly outstrips traditional delivery. Lehigh University has launched GIST, which enables interlibrary staff to transmit requests for rush items or items not otherwise available to their acquisitions unit, which can order these items through Amazon Prime (Huang). While not taking the place of traditional services, rapid delivery of scholarly content appears to be poised to become a regular feature of library services at many institutions.

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Innovating and Building New Things with Student Workers

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Abstract

Student workers have always been part of academic libraries doing myriad of tasks. Most of them are hired to shelve returned books, checking out library material, helping users at the information desk, and many chores necessary to keep the library running. However, students can also be of great help in more specialized tasks that align with their school curriculum by providing them a real-life learning experience while also helping libraries when there is manpower shortage.

At the University of Missouri - Kansas City School of Law, the librarians initiated a new experiment in which they hired students from the computer science department to help develop mobile and web applications that can benefit not only the law library but also the law school and the entire university. The students work on various projects designed to solve existing problems such as a library mobile application and a room schedule display system, while the students also get to work on experimental projects such as short story dispenser and close proximity notification system. In this presentation, the speaker shares the initial results of this on-going experiment as well as some tips for libraries interested in initiating similar programs.

Creating without Crunching: Library Interactive Map

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Abstract

In the past few decades, library print resources and human face-to-face services have declined. This is evident as most interactions with the library occur online, thanks to chat reference, eBooks, online articles/discovery services, decline in the budget for print materials, and so on. It is also evident from most of our libraries that books take up more than fifty percent of the library space. A common way of raising awareness is to display some of these books at strategic places within the library. As usage of library websites and online services increases, creating an interactive map of the library showing the location of books with respect to their subject areas seems to be a good idea.

An interactive map may contain some of the following: text, images, links, videos, categories, etc. This sounds great but its development and creation may not be an easy task to undertake. I used an affordable low-cost software to painlessly create an interactive map for the Harriett K. Hutchens Library at the Southwest Baptist Universities Libraries. I'll be showcasing the interactive map, its development, benefits, and usability studies.