Brick & Click Libraries

Proceedings of an Academic Library Symposium

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IMPACT

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What trends are IMPACTing academic libraries six years into the 21st Century? We scoured the library literature to identify the issues most often discussed since we last met in October 2005. The issues we chose comprise the acronym, IMPACT, and are described below.

I = Initiatives
"Collaborative initiatives in chat reference" are expanding according Buff Hirko, "Statewide Virtual Reference Project Coordinator, Washington State Library, Olympia." Hirko describes a reference transaction that appeared seamless to a university student using chat reference at the University of Washington, but actually involved the additional use of e-mail cooperative reference with Seattle Public Library to fully answer his question. What appeared to be a singular interaction was actually the work of two librarians collaborating behind the scenes.

M = Millenials
Diane Zabel reminds us to incorporate "active learning and team activities" into our library instruction activities because millennial students, born 1988 and after, respond best to these approaches. Roving reference is no longer about walking around and asking students if they need help. Roving reference entails using one's notebook or PDA to connect to the wireless network and access web forums where students congregate online (Zabel).

P = Place
In the 21st Century, our patrons browse, access, and use our resources online. Consequently, we must offer personal services in the online environment where our patrons are located. Janet Balas suggests we use Blogs, wikis, chat reference, as well as the more traditional online services such as virtual access to online databases and catalogs, and library Web sites to serve our virtual users.

A = Assignment of Employees
The demographics of library personnel are changing as "Academic libraries now hire an increasing number of individuals to fill professional librarian positions who do not have the master's degree in library science" (Neal). New employees are being recruited by libraries for the purpose of filling niche assignments such as human resource management, facilities coordination, instructional design, and technology maintenance. According to Neal, this influx of professional employees who do not share the common values and background transmitted via a library science education may alter the culture that has predominated in academic libraries of the past.

C = Collaboration
One of the challenges currently facing academic libraries is "the debate concerning ownership versus access", Beaubien et al maintain that "[i]t now seems clear that ownership of library

materials on the scale enjoyed twenty or thirty years ago is unlikely even at large research institutions, even though access to these materials is more critical than ever." These authors advocate that consortial agreements and "generous borrowing partners" who are willing to lend audiovisual materials "such as videos, compact discs, and DVDs"; keeping holdings records in shared databases current; and purchasing licenses for e-content that "allow the best possible resource sharing provisions" to enable interlibrary loan. These improvements will help libraries overcome many of the challenges 21st Century academic libraries face in the age of shrinking budgets and online access.

T = Tolerance

The global nature of today's society has necessitated that most of us develop sensitivity to the needs and concerns of international students. Many of us encounter students from a wide variety of cultures, with differing abilities to use and manipulate the terminology required by proprietary databases, library catalogs, and Web search engines. Hilary Hughes studied the research and technological skills and behavior "of 12 international students enrolled at the Brisbane International Campus of Central Queensland University." She found that "cultural and linguistic diversity" are often a handicap to international users of locally created Web pages, whose authors tend to assume local cultural literacy. Culturally embedded terminology (e.g., the word "commandment") is confusing to non-natives when found in the titles of articles and books and non-fluent speakers struggle with the nuances of the difference between similar terms such as "techniques" and "technology." Hughes suggests that as librarians we become aware of the need to define our terms clearly and remove colloquialisms from our speech and online resources. In the classroom, she advocates taking opportunities to incorporate diverse viewpoints rather than correcting what may seem to be "incorrect" from our viewpoint.

Many of these issues IMPACTing today's academic libraries are highlighted in this year's Symposium presentations. Others will be discussed around the table at lunch or break. All of them are on our minds and affect our work on a regular basis. When we began this symposium six years ago, issues were often about how the click resources were impacting brick resources and services. Today, brick and click are much more seamlessly integrated. The impact is no longer about how one affects the other, but how we use both types of services and resources to provide our patrons the best we can offer.

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Kinetic Instruction: Mobility and Flexibility with Tablet PCs

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Abstract

In Fall 2004, Dakota State University began its wireless mobile computing initiative. Freshmen and sophomore students were required to use a TabletPC (wireless laptop with digital inking functionality) in all their courses. In combination with WebCT, the initiative has moved students and faculty into a paperless learning environment. The transition to a paperless learning environment has given the Mundt Library faculty the opportunity to experiment with new approaches for the information literacy program and answering reference questions (e.g. flash demonstrations, wiki reference). The presenter will describe changes in instructional methods, changes in the physical library, and will discuss lessons learned. In doing so, others will learn specific techniques and consider some of the pedagogical and practical decisions that affect the use of these technologies.

By describing our experiences in a wireless mobile computing environment, which includes WebCT, the presenter will demonstrate innovative practices in librarianship that apply to others in higher education, and we will address the key issue of evaluating the appropriateness of specific technologies in relationship to student learning outcomes.

To Boldly Go: Implementing a Copyright Policy for Electronic Reserves

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Abstract

This session will present a practical approach to copyright and electronic reserves in a small/medium-sized academic library. This approach may not be feasible in a large academic library, but has worked well at the University of Redlands. Other libraries of similar size that are struggling with the copyright issues specific to electronic reserves will hopefully find this session useful.

In 2002, the University of Redlands Armacost Library began placing materials on electronic reserve, but copyright issues had not been addressed. As the electronic reserve service grew and faculty and students became increasingly enthusiastic, our library director realized that a policy on copyright for electronic reserves was needed. One of the librarians had previously held a position as media librarian and had experience with copyright policies and related issues and procedures. This librarian began the task of writing a copyright policy for electronic reserves in 2003. After researching and reviewing a number of electronic reserve copyright policies, a draft policy was submitted to the library director and on to the University administration. The draft policy is currently being used by the library reserve staff pending final approval.

The librarian who drafted the policy and the library reserve staff work closely together to review copyright compliance for each electronic reserve request. When it has been determined that copyright clearance is required, it is the librarian's responsibility to obtain copyright permission. This session will explain the steps taken to obtain copyright clearance from the initial request to the final permission.

The University of Redlands Armacost Library electronic reserve policy, a sample permission letter, and a list of recommended Web sites on copyright and electronic reserves will be distributed during the session.

Introduction

"From digitization projects to interlibrary loan and from electronic reserves to electronic books, copyright law is having an impact on librarianship…" (Dames 1). While many librarians would like to ignore this impact, it is here and we must somehow deal with the realities of the impact of copyright law in many areas of the library. This paper will attempt to shed some light on just one aspect: that of copyright and electronic reserves. A review of the recent literature shows that library practices regarding electronic reserves vary from one extreme to the other. Some libraries consider all electronic reserves to fall under fair use while others are very restrictive about the items that can be placed on e-reserve. This paper takes the middle ground and by examining an

example of one electronic reserve policy will assist other librarians in formulating their own copyright policy for their electronic reserve systems.

Review of Recent Literature

Rebecca Butler in the article "Copyright Law and Organizing the Internet" provides an excellent overview of current copyright law including the concepts of fair use, the Digital Millennium Copyright Act (DMCA), copyright term extension, public domain, and the Technology, Education, and Copyright Harmonization (TEACH) Act. This article also provides a helpful checklist for items to consider when placing materials on electronic reserve. Anna Pilston and Richard Hart present a discussion of the advantages and disadvantages of developing an electronic reserve system in their article "Student Response to a New Electronic Reserves System." As is true at the University of Redlands, the authors found through a survey of students at the Pennsylvania State University – Erie campus that "[t]he results were overwhelmingly in favor of electronic reserves…" (Pilston 149). A lengthy and informative article by Elizabeth Buchanan "Copyright Policies and the Deciphering of Fair Use in the Creation of Reserves at University Libraries" includes a thorough study of research library policy regarding the copyright law and electronic reserves. There have been several articles on the controversy over the University of California – San Diego's (UCSD) electronic reserve system. One article is by George Pike titled "Academics Test Copyright Law" and another is "Battle Brews Over E-Reserves" by Andrew Albanese in Library Journal.

To add to the complexity of this issue, there is a chapter in Off-Campus Library Services edited by Anne Marie Casey that discusses electronic reserves and copyright in regard to distance learners. As you can see, the issues surrounding electronic reserves and copyright are numerous. This paper will give one example of a small private university library's electronic reserve policy and how we are "Treading Carefully through the Murky Legalities of Electronic Reserves" as Judy Anderson and Lynne DeMont have so aptly titled their article.

Developing the Policy

The University of Redlands Armacost Library began using the Innovative Interfaces Millennium electronic reserve module in 2002. Once the staff was familiar with the module and the new equipment including a scanner, they began placing materials on electronic reserve. The procedures for placing materials on electronic reserve were in place, but the issue of copyright had not been addressed nor included in the procedures.

The electronic reserve service was embraced by the faculty and quickly grew. The dilemma was that there was still no copyright policy and the service continued to grow at a rapid rate. Both faculty and students were very enthusiastic about electronic reserves.

In August 2003, the new Off-Campus Services Librarian was hired who had experience with copyright issues, policies, and permissions. During the fall semester 2003, she drafted a copyright policy for electronic reserves and the policy was put into practice during the spring semester 2004. There are a number of factors to keep in mind regarding this policy. First, the University of Redlands is a small, private liberal arts university with a student body of

approximately 4,400 students (2,400 undergraduates and 2,000 graduate students) and a faculty of approximately 200. Second, electronic reserves is a fairly new service and to date we primarily place articles and book chapters on e-reserve and this is reflected in our policy. So far we have not had requests for streaming audio or video to be placed on e-reserve. As this begins to occur, the e-reserve copyright policy will be revised to accommodate the newer formats. Currently CDs and DVDs are placed on regular reserve, but not on electronic reserve. And third, while a number of our students are distance or off-campus students, we have not yet had requests from the School of Business or the School of Education faculty to place materials on e-reserve. Our system and our copyright policy can easily accommodate these requests, and the library staff expects this to be the next area for growth in electronic reserves.

Since the fall semester 2003, the electronic reserves copyright guidelines have been through several revisions. The policy consists of two pages of copyright guidelines with an additional summary page to be used as a faculty handout. Also the policy is in draft form as it is waiting for University administration approval. Several resources were used to develop the University of Redlands Library policy including the ALA Model Policy for Library Reserve Use, the CONFU guidelines (Driscoll 46-47), and guidelines from the University of Texas Crash Course on Copyright. The guidelines address several topics regarding electronic reserves: materials which do not need copyright permission, materials for which copyright permission should be requested, storage and reuse of electronic reserves, access to electronic reserves, and the copyright notice on electronic reserve items. The faculty handout is simply an abbreviated form of the guidelines.

Implementing the Policy—Semester by Semester

The current procedure for placing materials on electronic reserve now includes several steps for copyright. When the e-reserve request is received, it is reviewed by the reserve staff for copyright questions. If there is any question regarding the request, it is given to the Off-Campus Services Librarian for review. If there is no problem, the material is returned to the reserve staff for scanning into the system. One print copy is added to the regular reserve collection.

If there is a copyright question, for example, multiple articles from one journal issue, the Off-Campus Services Librarian requests permission first through the Copyright Clearance Center. If it is not available from the Copyright Clearance Center, then she sends a request for copyright permission to the copyright holder. The address information is usually provided in a link by the Copyright Clearance Center. There are several steps in receiving copyright clearance and while this is being done, the item is scanned and added to the e-reserve system. This is a controversial point and is treated differently in various libraries. Because the University of Redlands Library electronic reserves is a relatively small collection and the copyright permissions are closely monitored, we felt that for practical reasons we would post the material while permission was being sought. So far only once has permission been denied and then we immediately removed the item from electronic reserve and contacted the faculty member. The item was kept in the regular print reserve collection.

To give a clear idea of the number of items added to electronic reserves and the number of permissions requested, I will use spring semester 2006 as the example. There were 143 electronic reserves, 2,202 traditional reserves, and 45 copyright permissions requested for the spring

semester. It is currently the responsibility of the Off-Campus Services librarian to request permissions through the Copyright Clearance Center or to request permission in writing directly from the copyright holder.

The cost of copyright permissions is an additional consideration. Currently at the University of Redlands, the library is paying for copyright permissions. As the e-reserve numbers increase, the budgetary amount will become a greater issue. During the sample spring 2006 semester, the cost for copyright permissions was over $2,000. The library administrative assistant, who processes many of the library invoices, also processes the invoices for copyright permissions.

Things to Consider Regarding Copyright and E-Reserves

First, consider the faculty and their needs for electronic reserves. At the University of Redlands currently, it is the on-campus faculty who are using this service. Potential markets for electronic reserves are the School of Business and the School of Education. The two professional schools offer classes in the evenings and on weekends. The availability of electronic reserves would be a great benefit to these students. In fact, the Blackboard Course Management System is heavily used by both schools. Currently it is primarily through this online delivery system that faculty in the professional schools are making their course reserve materials available. With regard to Blackboard and copyright issues, the library staff acts more in an advisory capacity with the faculty member to assist with copyright clarification. We are currently paying for copyright permissions only for the library's electronic reserves. Also, given the library's staffing situation, perhaps it is fortunate that e-reserves and Blackboard are in some ways working in a complementary way to provide "course reserves" to the students. Recently, Blackboard has added a feature from the Copyright Clearance Center which assists the faculty member using Blackboard to request permissions (Carlson A44). At the University of Redlands we are currently looking into the utility of this feature.

A second consideration is that there must be a staff member who is willing to track copyright information for electronic reserves. Ideally, this should reside with the reserve staff. At the University of Redlands there are future plans to move the copyright responsibility to reserves with the Off-Campus Services librarian acting more as an advisor than the person tracking every copyright permission and payment.

Third is the question of who pays for copyright permissions. As mentioned earlier, even with the relatively few copyright requests during the spring 2006 semester, the amount was significant—over $2,000. There should be a place in the budget for copyright permissions and registration for the Copyright Clearance Center. Some institutions have the individual departments pay the copyright costs while others have a budget line in the library budget.

And the fourth, and final, consideration is the software and equipment. If a library does not already have a course reserve module in its online circulation system, the module or the software must be purchased. Also a reliable and easy-to-use scanner is a necessity. Training for the reserve staff in the use of the course reserve software and the scanning equipment is another necessity.

Conclusion

This description of one semester of electronic course reserves at the University of Redlands and the policy and the procedure developed for reviewing copyright compliance for each request may serve as an example to encourage libraries to no longer be fearful of copyright issues. With the information presented, the web sites recommended, and the resources cited, I hope that you will feel ready to develop your own electronic reserve copyright policy – to boldly go into the realm of copyright.

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Implementing a MARC Record Service: The Practical Challenges and Theoretical Implications

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Abstract

Usage studies indicate that a significant reason behind users' enduring dissatisfaction with the online catalog is their failed efforts to use this tool to locate materials for which no catalog record exists but which are indeed accessible through their library. Among the most effective resources that libraries now have to address this problem is MARC record services. Through these services, libraries have the ability to utilize the knowledge base of an e-serial listing service and/or OpenURL link resolver in order to automatically load and then regularly modify e-serial records in its online catalog.

Drawing upon Mississippi State University (MSU) Libraries' experiences implementing Ex Libris' product MARCit in late 2005 and early 2006, this paper explores the issues that a library must face when implementing a MARC record service. From initial decisions concerning what records to load in the online catalog to the subsequent difficulties of designing workflows for monitoring the regularly updating records, MARC record services unleash upon libraries a wide array of challenges. In addition to providing guidance concerning how libraries can overcome the practical challenges of implementing a MARC record service, this paper discusses the theoretical questions that are inextricably tied to these challenges. Indeed, while these services promise to make the online catalog a more comprehensive and robust information retrieval system, they also force information professionals to confront long-held views concerning the role and functionality of the online catalog. As MSU Libraries discovered, rethinking these views while simultaneously reconfiguring Library workflows and partnerships constitutes the great burden and opportunity of implementing a MARC record service.

Introduction

In the fall of 2005, MSU Library decided to implement MARCit, the MARC record service offered by Ex Libris. The reasons for the Library's decision to implement a MARC record service are easy to understand: by automatically loading and then regularly modifying e-serial records in its online catalog, a MARC record service would enable the Library to transform its catalog into a far more comprehensive database. In addition, this service would free librarians from the unhappy duty of attempting to enlighten baffled users as to why there are some serials only included in the Library's e-journal list, some that are only included in the online catalog, and some that are included in both databases. Reaping these benefits, however, meant that the Library must undergo an implementation process that is fraught with challenges, both practical and theoretical. At the foundation of these challenges are two basic questions: what records should be included in the online catalog and how should these records be structured. Drawing

upon MSU Libraries' experiences implementing MARCit, this paper explores the process of answering these questions.

Determining What Records to Include in the Online Catalog

In the days when print was the dominant format of serials, adding a serial record to the catalog constituted a significant investment. Doing so entailed a commitment on the Library's part to devote the resources and labor necessary to process the serial as both a bibliographic and physical entity (e.g., cataloging, check-in, shelving, binding, etc.). It was perhaps fortunate, then, that, because print was the dominant format, the Library existed in an environment of information scarcity and, accordingly, was not faced with the burden of deciding whether great numbers of serials were of enough value to be added to the catalog. Indeed, in such an environment, almost the only way in which the Library would receive a serial was through a subscription, an arrangement that left no doubt about a serial's value to the Library's user community. In the current environment, however, in which e-serials have come to dominate, the MSU Libraries have access—through subscriptions to individual titles, through aggregated packages, and free online—to a throng of serial content. While previously the burden of maintaining bibliographic control of this mass of e-serials made it unfeasible to add them to the online catalog—thereby providing the Library system with a temporary reprieve from making difficult decisions about what should go in the catalog—a MARC record service eliminates this excuse. Indeed, by implementing such a service, the MSU Library system was free to swing open the gates of its online catalog to the unwashed masses of e-serials to which its users have access. Here, the Library experienced the full brunt of what Rick Anderson has characterized as the "information glut"; in this environment, the challenge is not getting desired serials into the catalog, but making decisions about how to handle the glut of possibly undesired serials trying to elbow their way in.

In the meetings that the Library held concerning what to add to the catalog, two categories of possibly undesired e-serials emerged:

1. Those whose content is irrelevant or inappropriate given the needs of the Library's user community; and
2. Those whose content is difficult to access (e.g., the e-serial cannot readily be accessed on the title-level).

While the Library was comfortable allowing these categories of e-serials to be included on its A to Z list, there were some reservations about allowing such e-serials to be anointed with MARC tags and added to the catalog. Concerning the first category of possibly undesired e-serials, those whose content is irrelevant or inappropriate given the needs of the Library's user community, the Library was forced to contemplate the question of whether the online catalog should function as a gateway to a wide and—given its user community's limited information needs—often superfluous assortment of e-serials or a gateway to a select and carefully crafted collection of e-serials. The decision that was made about this category of e-serials—dictated by the Library's limited staff and resources—was that it was not feasible to evaluate every questionable e-serial on a title-by-title basis. Instead, the decision was made that the Library would allow all e-serials into its catalog except for those that are only provided through the SFX target (i.e., a grouping of

e-serials by SFX according to the means that access is achieved) known as "miscellaneous free e-journals." True to its name, this target consists of a menagerie of e-serials that are available free on the Internet, many of which are not scholarly in nature. The outcome of this decision was that the Library needed to establish a process for identifying e-serials under this target that already have catalog records with print holdings. For these records, a manual procedure was established to set up online access in the records.

Concerning the second category of possibly undesired e-serials, those whose content is difficult to access, focus centered on whether the Library should load records into the catalog for e-serials whose content is only accessible through LexisNexis, a database from which it is notoriously difficult to access content on a title level. There was concern among some that, because of the difficulties of searching on the title level within the LexisNexis database, it would confuse and frustrate users if the Library were to load records in the catalog in which LexisNexis was the only online access provider. Ultimately, however, the Library concluded that this was not a valid reason to exclude these titles from MARCit loads. Indeed, there would be no question whether the Library would have a catalog record if the serial were only available on microfilm, a format from which is equally if not more confusing for users to retrieve information. To address the difficulties of searching on the title level within LexisNexis, the Library created an intermediate page between the SFX menu and the LexisNexis database. On this page, there are instructions concerning how to search on the title level within LexisNexis.

Determining How to Structure Records in the Online Catalog

The question of whether a catalog should have single or separate records for titles that are held in different formats (e.g., print, electronic, microform) has be been debated for some time now. Although most agree that a single record is easier for users searching the catalog, the implementation of a MARC record service tests the lengths to which a library is willing to accommodate users' preferences.

Based on the public service librarians' strong preference for the single record approach and the indication of the Library's Systems Department that this approach would indeed be feasible, the Library ultimately decided to carry out its implementation of MARCit aiming for a single record for each serial title. In other words, instead of loading into the catalog records for the electronic versions of journals already held in print, the print records were modified to reflect the online access that users have to these titles. After the MARC record service had been implemented, however, the Library discovered that the single record approach is more problematic than it initially realized. Prior to each of the Library's monthly MARCit updates to its catalog records, the Library receives three reports generated by its Systems Department, dubbed the Add report, the Delete report, and the Change report. The Add report—listing the records that have been activated in the knowledge base during the previous month and, accordingly, that the service will add to the catalog during the next update—requires minimal attention by the Library. The Delete report, however, does require significant attention. It lists the records that have been deactivated in the knowledgebase during the previous month and, accordingly, that the service will delete from the catalog during the next update. For this report, the Library had to develop workflows through which a technical services staff member would search title by title through the list in order to determine which items on the list should indeed be deleted and which should

not. The Change report initially caused the most difficulties. It lists all activated titles that have had modifications made in their MARC records; these changes are to be made to the records in the catalog during the next update. Because even the slightest change in a record meant that a title would be listed, the Change report was far longer than the other two reports. Moreover, because there was no way of knowing what fields in the listed records had been modified, this report initially required great scrutiny. After having scrutinized several months' Change reports, however, the Library eventually determined that, although several scenarios could be envisioned in which the Library would want to prevent a record from changing in the way that MARCit wanted it to, preventing these changes was not worth the significant investment of time required to identify them. Because of this, the implementation of a MARC record service forces a library to alter its outlook concerning the online catalog. Whereas in the past, a mentality of perfectionism pervaded in which it was presumed that a library would go to whatever lengths are necessary to insure that a catalog record is correct in all respects, a MARC record service forces a library to take a more pragmatic stance in which some irregularities in catalog records are accepted.

Conclusion

There has been a growing chorus within the professional literature and blogosphere calling for the development of centralized metasearch tools that will topple enduring barriers between libraries' increasingly odd assortments of information retrieval systems (consisting of online catalogs, indexes and databases, A to Z lists of e-serials, institutional repositories, etc.). The implementation of a MARC record service represents one of the first tentative steps that a library can take towards achieving this outcome. As this paper suggested, taking this step is not easy. It requires that a library to rethink the role of the catalog and then develop workflows that reflect the catalog's evolving role.

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Issues and Trends in Collection Development: Where Do We Go from Here?

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Northwest Missouri State University

Abstract

The presenters report and analyze results from surveying previous Brick and Click attendees about current issues and trends in academic library collection development, providing demographics about the acquisitions budget and FTE of each survey responder. Questions on the survey include: In the Collection Development area, what is your library's biggest challenge? Are you buying duplicate copies of paper and electronic resources? Has your library purchased any electronic books or collections? What percentage of your current budget is spent on print books? How has this changed over the last five years? What percentage of your current budget is spent on audiovisual materials and how has this changed over the last five years? Has the size of your reference collection changed in the last five years? The presentation concludes with an active discussion among session attendees about current problems and collection building, with the goal of developing solutions to current problems and ideas for implementation.

Big Wings, No Bull: Do-it-Yourself Podcasts for the Distributed Course

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Abstract

Podcast was the word of the year in 2005! The basic process for developing podcasts as a learning support is relatively simple and inexpensive. Yet many instructors are still unfamiliar with podcast tools, technology, and practice.

This informational session provides orientation with the basic tools, processes, and uses for podcasts as a learning support. The session will provide attendees with the knowledge to rapidly implement a course podcast with a minimum amount of time, cost, and effort.

A case study of a university library course using podcasts to support learning is presented. Following this, the presenter will give a practical walk-through of the podcast development process for the online course. This includes a description of tools and procedures for podcasting audio and other file types, setting up distribution structures, and integrating the podcast into the courseware environment. The session concludes with an overview of methods for assessing the impact of the podcasts on learning.

Introduction

Hands-on experience with technology tools and practice helps empower educators to choose and plan distance support programs wisely. But this is not always an easy road. The good news is that it is possible to pilot podcasts in the online environment using free tools, entry-level skills, and a bit of time and thought. At a glance, the podcasting process is pretty simple (Meng 3).

1. Record some audio content, and save it as an MP3 (Motion Picture Experts Group, Audio Layer 3) file.
2. Upload the file to a web server, and post a hyperlink pointing to the file on an RSS equipped website.
3. Download files by copying the RSS feed to a content management player like iTunes or Juice.
4. Play content on content management player or download to an MP3 player.

A start up podcast service can be built in a few hours, with entry-level skills, and some basic computing resources. Given the fact that this can be done mostly with free tools really helps get things off the ground. Here is how to launch a pilot podcast for online learning.

Prepare to Launch

In my course, I create podcasts to supplement the syllabus, and provide verbal reinforcement for text lessons. I also create audio reviews for the final exam, including tips for multiple choice testing. These audio files have a PDF print component as well, so students can follow along with the narration. A broad spectrum of media can help reach diverse user groups. Still audiences have come to expect audio and video media to come in familiar packages. Podcast programs work best when organized in a familiar manner. Consumer media expert Eric Rice offers a succinct guide to developing engaging, manageable podcast programs (Rice).

Even on a small scale, podcasting is a high involvement innovation, so some pre-production is needed before diving into the process. This includes scheduling speakers, deciding program topic and length, determining the amount and type of equipment needed, and anticipating potential copyright issues. While there are currently no copyright guidelines for podcasts, you must get permission to use music or other copyright material in your podcast. The Collegiate Broadcasters, Inc. web site provides some useful guidelines regarding podcast copyright issues (Podcasting Music).

Wax and Wings: Audio Recording

Depending on your audience, recording quality can often determine whether people will use your podcast. Increasingly, audiences are beginning to except timely, high quality content. This begins with the recording space. A good recording environment will be free from noise, distraction, and echo. Also needed are a computer and Internet connection, and a noise canceling microphone. Entry-level headset microphones are inexpensive and offer good pickup of vocal content with little background noise. You can also record content using other digital devices such as: laptops, digital camcorders, and MP3 devices like the iPod and the Creative Zen. I did my first course recording in a small library conference room. I used a Dell PC, a $15 dollar headset microphone, and the open source Audacity recording software (Audacity).

Audacity is a free tool for capturing audio content. To save your recording in podcast format, you will also need to download and install the free LAME MP3 encoder. When installed, LAME converts the Audacity recording to a podcast friendly MP3 file (LAME). Not only is Audacity free, but it comes with a good set of features. The tool produces a good quality recording. Unlimited tracks allow for layered production and the straightforward interface is fairly easy to understand even for the novice. Not surprisingly, what I found perhaps most useful as a beginner was the “copy and paste” feature with unlimited “undo.”

Even so, there can be challenges to creating a good recording. One hurdle I had to overcome was finding the right recording level. When the level is too low, users must strain to hear; too high and the voice sounds like transmissions from orbit. Once the level is adjusted, make sure you note the setting. This can save time in future recordings. Another key to a usable recording is finding balance between recording quality and file

size. When you create a file with Audacity, you can set recording preferences to suit your project need. One important preference is the sample rate. For a quality recording in a manageable size, I set the Default Sample Rate to 44,100 Hz and the Default Sample Format to 16-bit. Audacity also lets you mark up meta-data fields called ID-3 tags. The tags contain information about the program title and artist, program genre, and comments. The media player uses these tags to arrange and categorize MP3 files. When the preferences are set and the tags are marked, it is time to record.

Click on the microphone icon on the Audacity Meter Toolbar to test the recording level. Talk into the microphone and you should see a red level indicator move to the right. Adjust the input level until it moves close to the red line without turning the right side completely red. To record, push the red Record button and speak into the microphone. Press the yellow square to end recording. Then save the project as an Audacity (.aup) file. This will create an Audacity file that will let you add tracks and change settings later if desired. Choose an identifiable title for your project. You might also want to consider a file naming convention for creating program segments or archives. Next, save again this time choosing "Export As MP3" from the file menu. Getting a good recording most often requires some trial and error. However there are some good resources on the Audacity recording process available to help speed things along. The How-To-Podcast-Tutorial provides detailed instruction on using the Audacity tool (Van Orden). Jake Ludington also offers a nice walkthrough of the recording process with screen captures on the MediaBlab website**.** There are also a number of other tutorials available on the Audacity project web site. Finally, you will also want to test your MP3 file in a media player. Some of the most popular include iTunes, Windows Media player, and Juice. I chose iTunes for my online course pilot because it lets me include Adobe PDF files with my podcasts (Download iTunes). Play the file and make sure the performance is clear and understandable; not too loud or distorted. Also check to see that your track information from the ID3 tags show up in your media player.

The Load Out

You need to upload the MP3 file to a web server for storage and access. The most common way to do this is by using an FTP (File Transfer Protocol) tool. Smart FTP is a popular program for transferring files and also provides good starter tutorials for using the tool (Smart FTP Client). To upload an MP3 file you need to know the FTP address, username and password, and the appropriate directory on your web site to put the file. Transfer the file in "binary" mode to preserve the digital content. Also important, you will want to know the URL of the file on the web, for example, http://www. server.edu/directory/podcast.MP3. The RSS feed will point to this location so users can access the file!

Proof is in the Podding

Two benefits of syndicated web content are single point distribution and automatic content updates. Podcasts typically use a blog tool like Blogger, TypePad, or WordPress, and an RSS 2.0 (Rich Site Summary) feed to accomplish this. The Blogger web tool takes

moments to set up, and is extremely easy to use and customize (Blogger). Once configured, Blogger can be used to post titles and text descriptions of podcast content files. Each posting also contains a hyperlink (URL) that points to the file on the web server. This content is reflected in the RSS feed, an XML (Extensible Markup Language) page that automatically corresponds to the site postings.

Podcasts require the RSS 2.0 feed to distribute content. There are a number of web feed "flavors" including Atom, RSS 1.0, and RSS 2.0. (Web Feed) Blogger comes with a built-in web feed, so the podcaster is spared the step of creating one. One minor drawback is that Blogger uses an "Atom" feed. Luckily for the fledging podcaster there is the FeedBurner tool. The basic FeedBurner service is free, and account sign-up is easy. Walk through the steps, and the tool creates a "Smart Cast" podcast feed from almost any web feed flavor. In the case of the Blogger Atom feed, "SmartCast" converts the "blueprint" of text information and hyperlinks into a RSS 2.0 podcast friendly format (FeedBurner Point your feed here).

To set up the FeedBurner service, type the URL of your Blogger or other site into the FeedBurner main page. Make sure you check the box declaring that you are a Podcaster. Enter some basic account information and click to activate. A complete feed is created with a podcast-ready RSS 2.0 enclosure. Basic statistics are activated for the feed. In addition, a custom web page is created to replace the unsightly xml code page found when the XML feed is viewed in the browser. This custom page becomes a user friendly web page access point to all of the podcast content. There are a number of file type that can be accommodated. For most purposes "All Media" works fine. Also useful is a tool to set data for enhanced Apple podcasts. This lets iTunes users see your podcasts with a custom thumbnail image, description, and keywords. When setup is completed confirmation page gives the site owner a URL for the new feed.

When setup is complete a startup screen displays tools for enhancing the web feed. Some tools and services are free and others fee-based. One recommendation is the "Chickletize" feature in the "Publicize" section. This tool generates a friendly graphic, like the orange XML icon found on many RSS feeds. This can be posted on the blog or other web location to alert people that a feed is available.

FeedBurner is useful in other ways too. For example, you can manage multiple feeds from a single point. This can be useful for instructors with separate courses, or for libraries with multiple distance programs and event functions. A feed might be created for the library lecture series and another for information literacy or reference instruction. Equally important, FeedBurner can give instructors and administrators usage statistics in charts and table form for individual feeds, so podcast traffic of distance patrons can be measured and assessed. For comprehensive information, there are tips on the FeedBurner web site for creating Podcasts feeds, and for use with a number of content management tools including Blogger, TypePad, and WordPress. In addition, the Podcasting News web site offers a clear walk-through with screen shots, for setting up a podcast using Blogger and FeedBurner (Making a Podcast).

Sound Checking

The podcast is almost complete, but no system is sound without testing. There are a couple of ways to do this. First, validate the feed code for correctness using the free tool at www.feedvalidator.org. But similar to evaluating the audio file, the best test is to subscribe to the feed in iTunes or other podcatcher. In iTunes there are two paths you can take to do this. One way is to access the iTunes “Advanced Menu” and select “Subscribe to Podcast.” Type or paste the URL of your feed into the text box. Then click OK, and you should see your files and text begin to download. When you get comfortable with the process, try experimenting with file types. The iTunes software lets you podcast audio, video, and PDF files in a single package and other players have similar but varying features. Ultimately though, users will be accessing the content on a player of their own choosing. Until features are more standardized, audio and video content is arguably the most acceptable format.

Spreading the Wealth

We now have a working podcast, but to unleash it to users there has to be an easy point of access. The FeedBurner service offers a handy Chicklet creation tool that makes this easy. Developers can choose from a variety of Chicklet icons. The tool automatically generates a snippet of code that can be placed in most any web page, including blogs, wikis, html pages or even a content management systems like WebCT or Blackboard. Here is the code I place in each of my WebCT individual course sections:

```
<a href="http://feeds.FeedBurner.com/CoursePodcasts" title="Subscribe to my feed" rel="alternate" type="application/rss+xml"><img src="http://www.FeedBurner.com/fb/images/pub/feed-icon32x32.png" alt="" style="border:0"/></a>
```

Students can copy and paste the URL from the RSS feed or drag the icon directly into the podcatcher. The code can be placed in any number of course sections so that students in all sections will receive the same content without having to travel outside the course environment. Creating a working podcast is one thing, creating a successful one is another matter. But how can instructors assess the impact of their efforts? FeedBurner offers statistics for hit counts and number of subscribers. In my WebCT course, I use a tracking page to see how many times the podcast page is accessed. But these numbers cannot tell if students are actually using the content, or if they found it useful. To address this instructors are recommended to include items about the podcast program in the course evaluation.

Conclusion

Podcasts can be an effective way to distribute rich content to the online course. As powerful, low cost technologies and tools emerge, distributed content will become a backbone for distance information and learning services. Users will become accustomed to these tools in everyday life and will come to expect them as part of normal service. It is critical to the future success of library service that librarians and the library institution

become fluent in the planning, process, and practice of these tools.

Low cost pilots for emerging distance technology practices, like podcasting, provide a development and evaluation environment for new technologies and tools. It also keeps librarians in the technical loop as information services are cast for the future. This empowers librarians to foster a best fit for the distance program that is both efficient and empowering for stakeholders and users.

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Piloting the ILT: Lessons Learned and Future Turns

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Abstract

Faculty from Northwest Missouri State University will share the experiences and statistical findings of a campus pilot of the James Madison University (JMU) Information Literacy Test (ILT). Dissatisfied with relying on surveys as the primary measure of the success of the library instruction program, librarians at Northwest Missouri State University sought an objective and meaningful way to determine students' information literacy competencies. Towards this end, librarians asked their University Assessment Center to sponsor a pilot of an information literacy test. Lead administrators, including the Library Director, who also wanted to document the effectiveness of information literacy instruction as an essential part of undergraduate education, agreed to fund a pilot test. After reviewing the Association of College and Research Libraries' (ACRL) Information Literacy Competency Standards for Higher Education and current library instruction literature, the librarians decided to adopt James Madison University's ILT. More than a year of negotiations was required to iron out testing details with JMU and University departments. At the end of the planning process, implementation was achieved in November and December of 2005 by selecting three sections of freshman level English Composition students and three sections of upper level Management Information Systems students from Northwest Missouri State University to participate in the pilot ILT.

The ILT is a multiple-choice, online, secure test consisting of 65 items. The test defines a student proficiency level of 65%, as set by a panel of academic librarians (Cameron, Wise, and Lottridge). The number of students achieving scores at or above the proficiency level was compared between courses. Composite scores for both groups were analyzed to determine differences when compared by ACT, overall GPA, and total credit hours completed.

The Center for Assessment and Research Studies at James Madison University, in conjunction with a panel of academic librarians, has developed the ILT to test undergraduate students' information literacy proficiency as defined by four of the ACRL Information Literacy Competency Standards for Higher Education (James Madison University). These standards measure students' ability to:

- Determine the extent of information needed;
- Access the needed information effectively and efficiently;
- Evaluate information and its sources critically;
- Understand the economic, legal, and social issues surrounding the use of information, and access and use information ethically and legally (Association of College and Research Libraries).

A review of literature on instructional evaluation in academic libraries will be linked to Owens Library's consideration of the ILT as a platform for their evaluation goals. In addition to statistical findings, the presenters will discuss the logistics of implementing the test; interdepartmental negotiations to develop the pilot program; communication, discussion, and contracting services with James Madison University; and the cost of the test. Interpretation of the findings and future plans for use of the test will conclude the presentation.

Introduction

It was once assumed that sources college students retrieved from library indexes and catalogs were credible and reliable, having been "filtered" by book and journal editors who assured readers of quality information. As students progressed through the curriculum, they learned to discern the difference between scholarly and popular sources.

According to Karen Macpherson, this traditional model of research instruction has "evolved into the broader concept of 'information literacy'" (226). She notes that "[e]lements of information literacy -- researching, analyzing, interpreting, disseminating – have always been integral to the development of the discipline that characterizes a successful graduate" (226). In the past, however, we were not so concerned with students' ability to analyze and interpret information because there was less information for them to access and synthesize.

Because today's students have never known a time when the Internet was not available, many of them have rarely opened a reference book or a periodical index to locate scholarly sources. Beginning in the 1990s, we have experienced an explosion of free online resources that challenges students to develop highly refined information seeking and evaluation skills. Macpherson proposes that the critical thinking required to sort and sift through the massive "information flood" students encounter requires problem solving skills that mirror the highest levels of Bloom's taxonomy—"analysis, synthesis, and evaluation" (227-228).

Whether or not one agrees with Macpherson's claim that the "information explosion" created by the Internet requires today's students to develop more refined information seeking and evaluation skills than were expected of students pre-Internet, it is evident that academic librarians feel increased pressure to provide better evidence that their reference and instruction efforts are improving student learning and performance. Certainly, increased sensitivity to the demands of

assessment in an academic environment has led to academic librarians becoming better at identifying and articulating the information literacy proficiencies they expect students to master and that librarians are keen to measure.

The Association of College and Research Libraries (ACRL) has developed Information Literacy Competency Standards for Higher Education defining areas in which students are expected to develop expertise, as shown in Figure 1 below:

1. The information literate student determines the nature and extent of the information needed.
2. The information literate student accesses needed information effectively and efficiently.
3. The information literate student evaluates information and its sources critically and incorporates selected information into his or her knowledge base and value system.
4. The information literate student, individually or as a member of a group, uses information effectively to accomplish a specific purpose.
5. The information literate student understands many of the economic, legal, and social issues surrounding the use of information and accesses and uses information ethically and legally.

Fig. 1. (Information Literacy Competency Standards for Higher Education).

In order to educate students about college level research methods and the appropriate use of information, librarians at Northwest Missouri State University (Northwest) have developed a robust information literacy instruction program, which they have embedded in general education courses. Students are taught to search for scholarly information in the context of class assignments. They identify relevant library databases, employ sophisticated search strategies, and evaluate the quality of sources retrieved in English Composition and Fundamentals of Oral Communication courses. Students in the Computers and Information Technology course learn to employ advanced Web search strategies and to evaluate the quality of Web pages.

After establishing instruction goals and the means to implement them, Northwest librarians determined that their next step would be to evaluate student information literacy performance. To accomplish this, we proposed that students be required to complete an information literacy competency test that measures student understanding and application of the ACRL Information Literacy Competency Standards for Higher Education.

Review of Literature

M. R. Flaspohler notes that while many libraries conduct summative assessments of library instruction, formative assessments documenting student skills are less common. Ilene F. Rockman postulates that the academy's move toward "outcomes-based assessment" has influenced the motivation of librarians to embrace assessment of competencies students develop during library instruction. According to Elizabeth Carter, "To be meaningful . . , assessment must collect hard data, and librarians must use that data to evaluate their programs and make changes necessary to improve those programs." Mark Emmons and Wanda Martin agree that the time is ripe for a change, noting, "Although formal assessment for program improvement is

increasingly prevalent in higher education, and increasing attention is paid to the 'assessment culture' of libraries, little research has been published that . . . measure[s] the effectiveness of library instruction."

Methods of assessment commonly used include surveys in which students provide an assessment of their own learning (Rockman); analysis of the quality of sources included in students' bibliographies; start/stop exercises in which students identify research behaviors they have learned and discontinued as a result of library instruction, and skills tests in which students are asked to demonstrate the ability to locate specific information (Flaspohler). The California State University system (CSU) assesses information literacy at multiple levels throughout a student's college career, thus tracking whether or not students' competencies are increasing over time as they are exposed to more library instruction. The researchers at CSU found that this method provided information about the structure of information literacy instruction and the format and sequence in which it is delivered. Many campuses have a less formal assessment structure in which students in selected courses take pretests and posttests documenting whether or not learning occurred during library instruction. The problem with these types of assessment is that they only take a snapshot of students' abilities at one point in time, often soon after instruction. They fail to measure how much knowledge is retained and used at later times in the students' academic and employment careers (Rockman).

Rockman documents that a wide variety of institutions require that students participate in information literacy instruction sessions embedded in their general education curriculum. Some institutions, such as the James Madison University (JMU), have required that all students pass an information literacy test during the freshman year (Cameron and Feind 213). This test

> is a web-based test of … multiple-choice items. Four content areas (Basic Reference, Database Searching, Internet Skills, Ethics) are crossed with two process areas (Knowledge, Application). Subscores are provided in each of these six areas. Application questions require students to apply knowledge by finding answers in catalogs and databases and by evaluating web sites. The computer screen is divided into two frames: one frame displays the test item, while the other frame is used for searching databases and evaluating web sites. The test takes an average of about 40 minutes; 95% of the students finish within one hour. (DeMars, Cameron, and Erwin 255)

Rationale for Test Selection

After reviewing literature describing several information literacy tests (Rockman & Smith, Clarke & Feind), librarians at Northwest, in collaboration with the Northwest Office of Assessment, Information & Analysis[1], chose to implement a pilot of the Information Literacy

[1] "The Office of Assessment, Information and Analysis is charged with developing and maintaining an integrated approach for the definition, collection, analysis, and use of information to meet the University's information and analysis needs. This includes assisting academic departments and service units in identifying and measuring Key Quality Indicators, coordinating institutional student outcomes assessment efforts, collecting and processing data

Test (ILT) from JMU. This test provides a performance standard, set and validated by a panel of academic librarians and faculty in the field of assessment. Students are rated as either proficient or below proficient. The standard of proficient performance was set at 65%. Institutions using the ILT may choose to use this performance standard or adjust it as they wish for their own student body (Wise et al. 11-13). Northwest hoped to use the pilot of the ILT as an initial assessment of information literacy instruction and a measure of students' ability to apply the skills outlined in the ACRL "Information Literacy Standards" 1, 2, 3, and 5 (Wise et al. 7).

The James Madison University Center for Assessment & Research Web site describes features of the current version of the ILT as including:

- A Web interface
- Software, test site, and scoring residing at James Madison University
- 60 to 65 items on the test
- A multimedia interface
- Password protection
- Reliability of 0.88 (Wise, Information Literacy Test)

Northwest administered the test to a pilot group of 62 students enrolled in a 100 level general education English Composition course and 80 students enrolled in a 300 level Management Information Systems course that is required for all business majors. We hoped the test results would provide us with data documenting whether students had grasped the concepts inherent in searching for, selecting, evaluating, and synthesizing information.

Technical Requirements

The Information Literacy Test (ILT), produced by the Center for Assessment and Research Studies (CARS) at James Madison University (JMU), is a Web-based, multiple-choice test consisting of 60 operational items plus five pilot items. The test is administrated on CARS's test server, and students taking the test need to have access to personal computers with the following configurations:

- Windows Operating System
- Internet Explorer 5.0 or higher browser
- 1028 x 768 or higher resolution
- A default web port (8080) and another port (8443) needs to be opened outbound to pass the Northwest firewalls
- All Pop-up blockers need to be turned off or https://carstest.jmu.edu must be allowed (Wise, Telephone conversation 3 Dec. 2004)

The test server preserves all process information even if test takers leave the test unexpectedly. Consequently, testers might resume the test at a later date in cases of technical difficulties such as unexpected power failure, network outage, etc. (Wise, Telephone conversation 3 Dec. 2004).

Northwest students were all able to complete the test in 50 minutes.

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relevant to decision-making, and providing timely, accurate, user-friendly information to decision-makers to assist their planning and review processes" (Assessment, Information & Analysis).

Implementation at Northwest

Prior to the decision to adopt the ILT, JMU agreed to allow Northwest library faculty to evaluate the test. The Automation Librarian tested all system requirements and found that a network port on the campus firewall needed to be opened. The network managers agreed to open the necessary port on the firewall. All library faculty participated in the trial. In April and August 2005, JMU allowed another trial period for English departmental faculty. Several of the English faculty tried the test and were favorably impressed with the level of difficulty.

Unlike JMU, which has a dedicated computer lab for the ILT, Northwest library faculty conducted the test in a multipurpose computer lab during the regularly scheduled class hour. All tests were administrated in the Electronic Lecture Room in Owens Library. The room consists of twenty-eight Windows XP computers in four rows of computers arranged like an amphitheatre. Because the computers are placed closely together, library faculty decided to have at least three proctors for each test in order to discourage students from seeking help from others.

The Internet Explorer settings were adjusted, and the screen resolution were set at 1028 x 768. While the screen resolution can be configured on each machine, the Internet Explorer settings must be entered after the user has logged on to the machine. One solution was to instruct students to log on to the machine and change the settings themselves at the beginning of the test. However, due to time constraints of the class, we created a special user account for the test and configured the account to meet the system requirements. Right before each test, librarians logged on to every computer with the special user account and configured the settings.

When a class started, every student was required to type their first name, last name, student ID number, and test password. JMU provided us with a single password for the entire test. We gave students brief instructions and the password right before each test. At the same time, students were also asked to write down their names and student ID numbers on an attendance sheet for the professor's attendance record. Students retrieved their test score as they finished the test and reported their scores to the proctors. We input the scores with ID numbers into an Excel spreadsheet after each test. Students received class credit for taking the test.

We had one incident in which an entire class lost network connectivity to the testing server at JMU for a few minutes during the test due to campus network problems. After resolving the network problems, students were able to continue the tests by re-logging into the test or refreshing their Internet Explorer.

Most students arrived for the test on time and all tests started promptly. There was only one incident where a student arrived at the testing lab after a third of the class time had elapsed. However, the student managed to complete the test within the allotted 50 minute class period. Northwest's students were all able to complete the test in 50 minutes.

Within a month we received the official test results from JMU. During the initial negotiations, Dr. Wise and the Northwest librarians agreed to compile the test results comprehensively and comparatively with the other higher education institutions using the test.

Statistical Analysis

Two distinct groups of students at Northwest Missouri State University completed the pilot ILT. A total of 80 MIS students and 62 English Composition students participated in this study. Table 1 provides group comparisons by average ACT, average GPA, and average credit hours completed.[2] Differences in average ACT ($F = 0.173$, $p > 0.05$), and average GPA ($F = 2.73$, $p > 0.05$) were not found to be statistically significant. The average MIS student had completed 100 credit hours (senior level) while the average English Composition student had completed 55 credit hours (sophomore level).

Table 1
Academic Information.

Category	MIS Students	English Composition Students
Avg. ACT Score	22.09	21.84
Avg. Overall GPA	3.0	2.7
Avg. Credit Hours Completed	100	55

SPSS version 11.5 was used to examine the data from the Northwest Missouri State University ILT Pilot. Table 2 illustrates that the Northwest students who took the ILT obtained an average score of 66%, which is above the established proficiency level and well above the National average of 63%, shown in Table 3.

Table 2
Information Literacy Test (Percent-Correct Scores) at Northwest Missouri State University

N	Minimum	Maximum	Mean	Std. Deviation
142	37	87	65.94	8.95

Table 3
Information Literacy Test (Percent-Correct Scores) All Institutions as of February 2006[a]

N	Minimum	Maximum	Mean	Std. Deviation
3289	18	98	62.90	13.48

[a]Data analyzed include testing data from multiple institutions as of February, 2006.

As shown in Table 4, the MIS group achieved a higher mean score (66.29%) than the English Composition students (65.48%). However, the ILT performance level difference was not statistically significant at the 95% confidence level ($F = 2.220$, $p > 0.05$). Table 5 shows a side-by-side frequency distribution of ILT scores within the two groups. This table illustrates that 58.1% of the English Composition students and 58.8% of the MIS students scored at or above the established 65% proficient range on the ILT. Considering all students who completed the ILT, 58.5% established scores considered to be in the proficient range.

[2] We wish to thank Jon Clayton of The Office of Assessment, Information and Analysis for his work in gathering and collating the data for ACT, GPA, and credit hours completed.

Table 4
Comparison of MIS Students' and English Composition Students' Overall Performance on the Information Literacy Test, Fall 2005

Course	N	Mean Score	Std. Deviation	F	Sig.
MIS	80	66.29	8.946	2.220	.138
English Composition	62	65.48	10.816		

Table 5
Side by Side comparison of MIS and English Composition scores

Score	MIS	English Composition	Total
37	0	1	1
42	1	0	1
43	0	1	1
45	1	2	3
47	0	2	2
48	1	1	2
50	2	0	2
52	0	1	1
53	2	2	4
55	2	0	2
57	3	2	5
58	3	4	7
60	5	3	8
62	6	2	8
63	7	5	12
65 *	**6**	**2**	**8**
67	**6**	**5**	**11**
68	**4**	**4**	**8**
70	**5**	**4**	**9**
72	**3**	**4**	**7**
73	**8**	**1**	**9**
75	**2**	**5**	**7**
77	**4**	**5**	**9**
78	**5**	**2**	**7**
80	**2**	**1**	**3**
82	**0**	**1**	**1**
83	**0**	**1**	**1**
85	**2**	**0**	**2**
87	**0**	**1**	**1**
Total	80	62	142

Table 6 shows the average ILT score compared by class standing (freshman through senior). It is interesting to note that the average ILT score increases with class standing from a freshman average score of 64% to a senior average score of 67%.

Table 6
ILT Score by Class

CLASS	N	ILT Score
Freshman	6	64 %
Sophomore	33	65 %
Juniors	39	66 %
Seniors	64	67 %
Total	142	

Limitations

This study employed a small sample of convenience in which certain classes were chosen to participate in the study based on the instructors' willingness to work with the librarians and dedicate a class period to taking the ILT. The level of performance on the ILT was not directly tied to student grades. Students were given credit for showing up for the exam, but their course grade was not affected by their performance on the exam.

Conclusions

Comparing overall GPA and composite ACT scores, all students were considered academically equivalent. There were no statistically significant differences between the two groups in these categories.

Average ILT scores for MIS (66.29%) and English Composition (65.48%) were statistically equivalent. There was no significant difference between the MIS students' performance and the English Composition students' performance. Proficiency level for the ILT was established to be 65%.

- 58.1 % of English Composition students scored in the proficient range.
- 58.8 % of MIS students scored in the proficient range.
- 58.5 % of all Northwest students scored in the proficient range.

There seems to be value added through the layered approach to information literacy instruction methods by Northwest Missouri State University Librarians. While not statistically significant, several consistent trends emerge:

- The average ILT score for upper level MIS students was slightly higher than the lower level English Composition students (MIS = 66%, English Composition = 65%)
- A slightly higher percentage of upper level MIS students than the lower level English Composition students scored above the proficiency level (MIS = 58.8%, English Composition = 58.1%)

- Average scores for MIS (std. deviation 8.95) were more tightly grouped around the average ILT score than the average scores for English Composition (std. deviation 10.82).[3]
- As students increase their class standing from freshman to senior, the average ILT score increases from a 64% average score for freshman to a 67% average score for seniors.

Recommendations for Further Study

There is room for improvement in Northwest students' performance as only 58% of our students performed in the proficient range. Northwest librarians are exploring the following issues:

- How can librarians be reasonably certain that their reference and instruction efforts are responsible for student performance measured by proficiency tests like ILT just because the proficiencies measured by the test match up with the learning objectives set out by the reference and instruction program? (Or will the library have to live with the type of ambiguity in this regard that academic departments must accept when relying on proficiency test data to measure their students' performance gains?)
- How can we increase student ILT proficiency scores both at the freshman and upper levels? Does library instruction need to be more rigorous? More detailed? Embedded in more courses?
- How can we increase the range proficiency score improvement from sophomore (55 hours) to senior (100 hours) level? Is more in-depth instruction at the junior level in major courses required?
- Is the ILT appropriate for benchmarking with other institutions in line with university assessment practices in other academic departments? In the case of the ILT, the other institutions are not scientifically selected, rather they are only those other institutions that have elected to purchase the test. The test was not designed to be a comparative instrument among institutions. Instead, the proficiency score was meant to be a benchmark for each student/institution using the test. In January 2006, Connie Ury asked Dr. Wise for the overall average score of all students taking the test in order to compare the Northwest average score with that of other institutions. We then compared our students' average score with the average score of all other students taking the test prior to February 2006 (Wise, Telephone conversation 18 Jan. 2006).
- Although Northwest students received credit for showing up to take the test, they did not receive credit based upon how well they performed on the test. Each student received equal credit only for participating in the pilot test. In the future, we recommend that the students' performance on the test be tied to a grade they receive on an assignment or in the class in order to study whether this adjustment increases their score on the test.

[3] NOTE: Standard deviation measures dispersion or variation from the average. In a normal distribution 70% of the individual scores should be found between plus or minus one standard deviation from the average, 95% between plus or minus two standard deviations from the average, and 99.9% at plus or minus three standard deviations from the average.

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Putting it All Together: Designing a Library Website Using Project Management Techniques

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Abstract

Librarians are consistently asked to wear many hats and tackle responsibilities which fall outside usual library work. One such role many librarians take on in addition to regular job duties is that of project manager. This new role is increasingly being incorporated into many librarians' workflow. In such a climate, many librarians may not be prepared to handle increasingly complex projects without guidance. When you add in projects like website creation or redesign, the job gets tougher. How do libraries and librarians manage large-scale website projects as only part of their job assignment? One way is to incorporate project management techniques into the organization and planning of complex projects. Using these techniques, librarians will be better equipped to handle project planning, workflow, scheduling, budgeting issues, managing deliverables, designing usability testing, and effectively using project teams. Using the example of one academic library's recent redesign of their entire website, learn how project management techniques can be used to implement a wholesale redesign of a website, including project definition, planning, design, content delivery, implementation, and launch.

How to Be a Depository Library without Being a Depository Library: Adding Records for Electronic Government Documents to the Library Catalog

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Abstract

Judith Russell, the U.S. Superintendent of Documents, remarked at the ACRL National Conference in 2005 that "with 95% of the new titles added to the Federal Depository Library Program (FDLP) available online, every library now has the ability to access a wide array of government information for its patrons at no charge." The addition of catalog records which link patrons to online documents works well for providing such access. A library may contract with a vendor such as Marcive to acquire records, but this is not necessary because the FDLP's New Electronic Titles service provides a convenient way to select appropriate records. Direct selection also brings the advantage of acquiring only those records most pertinent to the interests of a library's user community. Electronic government publications reside in the public domain, so libraries need not proxy such links in the catalog. Adding catalog records for electronic government publications requires an investment of time, but it requires no additional money. As a catalog becomes a gateway to government publications, it places the information they contain within the full continuum of resources a library provides.

Electronic Distribution of Government Documents

Judith Russell, the Superintendent of Documents of the U.S. Government Printing Office, remarked at the ACRL National Conference in March 2005:

> With 95% of the new titles added to the Federal Depository Library Program available online, every library now has the ability to access a wide array of government information for its patrons at no charge. Understanding what is already available--and what is coming soon--can help each library plan for the integration of electronic government information into its reference and public services (Assuring Access).

Electronic distribution of government documents has opened more avenues for access to government information, but libraries must address--in very practical terms--what they can actually do to take advantage of the situation. Non-depository libraries, in particular, may discover that they can provide cost-effective access to electronic government documents and thus incorporate government information within their resources to an unprecedented extent.

The Catalog as Gateway to Electronic Government Documents

For several years, the catalogers at the U.S. Government Printing Office have created MARC records for electronic government documents and placed them in the OCLC WorldCat database.

These records describe the documents in familiar MARC fashion, and they include links to the documents as they exist on the Internet. Libraries with Web-based catalogs that support such links can easily export the records, and researchers who view them can connect to the online documents with a single click. The catalog thus becomes a gateway to electronic government documents.

United States government documents reside in the public domain, so libraries do not need to proxy the links to restrict access to authorized users. Libraries which have purchased electronic books from vendors like NetLibrary, eLibrary, or Safari TechBooks have already discovered that many readers--especially distance education students--appreciate remote access to books. They should also appreciate similar access to Congressional hearings, reports of the Government Accountability Office, the Census Bureau, and many other government agencies.

Perhaps the best way to assess the potential for cataloging electronic documents is to view actual records in a catalog. For our purposes today, I will resort to the catalog I work in and know best, that of the University of Nebraska at Omaha: **http://catalog.lib.unomaha.edu**.

Keyword search: *no child left behind*

This search retrieves a substantial list of titles to browse, and one quickly notices a mix of locations: 1) records for books shelved in our Third Floor general collection; 2) records for items kept in our depository Government Documents Collection; and 3) records with a location of Internet. The Internet records describe electronic government documents for which we have no physical copy, but instead we link to them from the catalog. For example:

Author	United States. Government Accountability Office
Title	**No Child Left Behind Act [electronic resource] : Education could do more to help states better define graduation rates and improve knowledge about intervention strategies : report to congressional requesters**
Lib. has	INTERNET ACCESS ONLY
Publisher	[Washington, D.C.] : U.S. Government Accountability Office, [2005]

Click on the following to:
View report online

Descript	ii, 62 p. : digital, PDF file
Subject	High schools -- United States -- Graduation requirements
	Educational accountability -- United States
	School improvement programs -- United States
	United States. No Child Left Behind Act of 2001
Note	"September 2005."
	Includes bibliographical references
	"GAO-05-879."
	Mode of access: Internet from GPO Access web site. Address as of 1/12/2006: http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=gao&docid=f:d05879.pdf

Fig. 1. Public display of a catalog record for an electronic government document.

Here is the same record in MARC format showing the 856 field, which contains the URL link:

```
LEADER 00000cam  2200349 a 4500
001    62355087
006    m        d f
007    cr mn---------
008    051128s2005    dcuab   s    f000 0 eng c
040    GPO|cGPO|dGPO
042    pcc
043    n-us---
049    NBUG
074    0546-D
086 0  GA 1.13:GAO-05-879
110 1  United States.|bGovernment Accountability Office
245 10 No Child Left Behind Act|h[electronic resource] :
       |bEducation could do more to help states better define
       graduation rates and improve knowledge about intervention
       strategies : report to congressional requesters
260    [Washington, D.C.] :|bU.S. Government Accountability
       Office,|c[2005]
300    ii, 62 p. :|bdigital, PDF file
500    "September 2005."
500    "GAO-05-879."
504    Includes bibliographical references
538    Mode of access: Internet from GPO Access web site. Address
       as of 1/12/2006: http://frwebgate.access.gpo.gov/cgi-bin/
       getdoc.cgi?dbname=gao&docid=f:d05879.pdf
610 10 United States.|tNo Child Left Behind Act of 2001
650  0 High schools|zUnited States|xGraduation requirements
650  0 Educational accountability|zUnited States
650  0 School improvement programs|zUnited States
850    INTERNET ACCESS ONLY
856 41 |uhttp://frwebgate.access.gpo.gov/cgi-bin/
       getdoc.cgi?dbname=gao&docid=f:d05879.pdf|zView report
       online
```

Fig. 2. MARC display of catalog record for an electronic government document.

Note that the MARC 245 field includes the general material designator *electronic resource*, which helps distinguish the titles of electronic documents on the title browse screen. The MARC 300, 538, 850, and 856 fields also help distinguish the record from that of a printed document. The electronic document is described as a PDF file in the 300 field; the URL and date of confirmed access appears in the 538 field; the 850 summary holdings field tells the reader that we have only Internet access to the document; and the 856 field contains the active link.

This record required little editing before I exported it from OCLC WorldCat. I added |*zView report online* to the 856 field, because *View report online* just looks better than a cryptic, database-driven URL in the middle of our public display. I also changed the date of confirmed access in the 538 field to reflect the date that I confirmed that the URL was correct. I do not attach item records to electronic documents, because I see no reason to display a call number when we have no physical item in the library. However, the call number in the MARC 086 field remains searchable.

Cataloging electronic government documents using the GPO records in OCLC WorldCat requires an investment of time, but the process itself amounts to boilerplate copy cataloging. I suspect that experiences may vary somewhat according to the vagaries of local catalogs, but the process should not prove technically burdensome.

Before leaving the UNO Library catalog, I would like to enter two more searches which retrieve many records for electronic government documents. The strongest reasons for cataloging them rest with the wide-ranging topics and high-quality content they provide. For example:

Author search:	*united states government accountability office*
Keyword search:	*strategic studies institute*

We now have records for thousands of electronic government documents in the UNO Library catalog, and in our estimation they have proven very useful to researchers. As our receipts of physical depository documents decline, records for electronic documents help keep our collection current and provide convenient access to topical, high-quality government publications.

Selecting Records for Electronic Government Documents

There are two basic ways to select records for electronic government documents: 1) batch loading records using Marcive's *Documents Without Shelves* service; and 2) selecting them directly using the *New Electronic Titles* files provided by the U.S. Government Printing Office.

Marcive is a well-known and long-established vendor of services to libraries, and *Documents Without Shelves* provides GPO records which can be loaded into a library catalog without the need to edit and export them individually. Experiences will vary according the workings of local catalogs, but contracting with Marcive has proven relatively inexpensive and effective. At the time of this writing, Marcive charges $1525 for an annual subscription to *Documents Without Shelves*. One can find more information about *Documents Without Shelves* at **http://www.marcive.com/homepage/dwsl.pdf**.

However, I select records directly by reviewing *New Electronic Titles*, which is linked under *Locator Tools & Services* at **http://www.access.gpo.gov/su_docs/fdlp/index.html**. These monthly lists provide call numbers, titles, and links to electronic documents; and I use this information to identify electronic documents which should be represented in our catalog. The call numbers are easily searchable in the OCLC WorldCat database, so finding the records takes little time or effort.

Direct selection using *New Electronic Titles* assures that we only acquire records which truly match our local interests. Batch loading records may offer a time advantage in processing, but the tradeoff is sometimes taking records which may not fit a library's typical subject parameters. Anyone may freely examine *New Electronic Titles*, so there is no cost associated with direct selection other than the investment of time to do it.

Maintenance of URLs in Records for Electronic Government Documents

I am sure that by now some have spotted a potential Achilles' Heel in my scheme: how does one manage the maintenance of broken links? Fortunately, the U.S. Government Printing Office has largely resolved the issue by installing PURL addresses in their catalog records and assuming responsibility for link maintenance.

A PURL is a *Persistent Uniform Resource Locator*, and it serves to redirect a link to the actual target URL (OCLC Office of Research). The concept is simple, in that the PURL in the MARC 856 field should be forever stable, and the GPO staff will correct the actual target URL on the GPO PURL server. No system is entirely foolproof, but GPO staff conduct regular tests of target URLs, and they have done very well in making corrections. Here is a MARC record which incorporates a GPO PURL:

```
001    66278882
008    060411s2006    dcu          f000 0 eng c
020    0160758939
040    GPO|cGPO|dGPO
042    pcc
043    a-iq---|an-us---
049    NBUG
074    1017-A-01
074    1017-A-01 (online)
074    1017-B-01 (MF)
074    1017-B-01 (online)
086 0  Y 4.IN 8/16:IR 1/20
110 1  United States.|bCongress.|bHouse.|bCommittee on
       International Relations.|bSubcommittee on the Middle East
       and Central Asia
245 10 Iraq's transition to democracy :|bhearing before the
       Subcommittee on the Middle East and Central Asia of the
       Committee on International Relations, House of
       Representatives, One Hundred Ninth Congress, first session,
       June 29, 2005
260    Washington :|bU.S. G.P.O. :|c2006
300    iii, 52 p. ;|c24 cm
500    Distributed to some depository libraries in microfiche
500    Shipping list no.: 2006-0168-P
500    "Serial no. 109-118."
530    Also available via Internet from the Committee web site
650  0 Democratization|zIraq
650  0 Postwar reconstruction|zIraq
651  0 Iraq|xPolitics and government|y2003-
651  0 United States|xForeign relations|zIraq
651  0 Iraq|xForeign relations|zUnited States
856 41 |uhttp://purl.access.gpo.gov/GPO/LPS68695|zView online
       version
```

Fig. 3. MARC record with a PURL in the 856 field.

In this example, the PURL in the 856 field redirects the connection to the document as it resides (according to the 530 field) on the Committee web site. This record describes a government document for which we have an actual paper copy, so it did not incorporate all the fields and

subfields associated with a record for an electronic document. Should the target URL change on the Committee web site, the GPO staff will correct it on the PURL server.

We have an Innovative Interfaces catalog, and it includes a link checking utility which we schedule to run once each week. Because I am both the Government Documents Librarian and a staffer who tends to link maintenance, I sometimes replace GPO PURLs with the actual target URLs. This can create extra work for me, but when our local link checker returns a cluster of errors from a Federal web site, I know that I should take a close look not only to correct the links, but also to see what other things may have changed. In this manner I have turned our local link checker into a current awareness tool which helps me monitor developments at government Internet sites. Abandoning a PURL definitely falls into the category of "your mileage may vary," but I have found the information I gain to be worth the risk.

Answering the "Why Bother?" Question

Several months ago, when I met with a library science class to address government information resources, a student commented that cataloging electronic government documents may not be worth the trouble, given that Google (**http://www.google.com**) or even better, Google Uncle Sam (**http://www.google.com/unclesam**) can easily retrieve links to government publications. The question is reasonable, and I search Google Uncle Sam almost daily; even so, I see two strong justifications for cataloging electronic government documents.

Cataloging electronic government documents places government information within the full continuum of a library's resources. Government documents address a myriad of topics, and many provide high-quality information intelligible to both experts and laypeople. Depository libraries have long taken advantage of this, and many have made large investments to catalog their local collections and make them as accessible as possible. The advent of electronic government documents makes it possible for any library to incorporate government information among its resources. Status as a depository, while not irrelevant, is no longer necessary.

The second justification rests with the chief benefit of selection. When we do a good job of selecting materials for our libraries, we create a more favorable signal-to-noise ratio for library users. While Internet search engines are astonishingly good at times, they still cannot consistently provide the focus provided by a well-stocked library and its catalog. A library catalog will normally retrieve a shorter results list than an Internet search engine, but the quality and relevance of the results will often be higher. This harks to the storied tradeoff between precision and recall, but the ramifications of the tradeoff remain significant even today.

Cataloging electronic government documents requires an investment of time to select the documents and to install the records, but it need not incur new financial costs. OCLC libraries have already paid for their access to WorldCat, and GPO's *New Electronic Titles* is free. In no way do I mean to belittle the commitment of time, but I think the provision of convenient access to government information merits serious consideration in most libraries. Non-depository libraries, in particular, may find that they can incorporate government documents among their resources to an unprecedented extent. GPO's PURL system makes link maintenance far more manageable, so there are few technical concerns to hinder the process. In my estimation, the

decision to catalog electronic government documents should ultimately rest on how well they address a library's collection parameters and users' needs.

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Fast, Cheap and Out of (Our) Control: IM Service in the Library

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Abstract

Over the past few years, reference librarians have gotten into the business of purchasing, implementing, and maintaining large, complex systems that allow us to communicate with our patrons via the Web. Virtual reference software is now often a foregone conclusion in the academic library, but the use of these systems is not necessarily always as great as we might like, nor as well-liked by our patrons. Maybe this is because many of them, particularly our undergraduates, have already found an online communication medium that is free, fast, and easy to use: walk into almost any computing lab on campus and it is plain to see that our users have fallen in love with IM (Instant Messaging). This is not to say that we should abandon those systems that offer us so much in other ways – question tracking, knowledgebasing, searching and referring – but just that we need to listen the siren song of IM and open up to this service. And that turns out to be startlingly easy, incredibly cheap, and even fun.

At New York University, we initiated an IM virtual reference pilot project in mid-September, 2005, as a way to reach those patrons who are users of this popular communication method. Because there are currently a number of competing chat platforms – Yahoo !, MSN, and AOL being the major players – part of the design of the NYU project was to utilize an open source, free, third-party software that could send and receive IMs via any of these platforms, thereby minimizing user confusion as to preferred platform. This third-party software, Trillian, allows NYU to have a single point of contact, or screen name (AskBobst), which patrons can add to their buddy list and then use to chat with the on-duty librarian, regardless of their own chat platform choice.

Because this was an added service, and an unknown one at that, we also designed the pilot project to be as low impact as the technology itself. Rather than offering an iron-clad guarantee of service hours, we would assume that the average IM user is perfectly comfortable with finding a "buddy" away from their computer and trying again later, thus freeing up the hours of the service to better fit with librarians' availability. Rather than trying to maintain a rigorous, centrally mandated schedule, librarians would "self-schedule" on a communally accessible schedule sheet. Lastly, rather than trying to force all our virtual librarians into signing onto the service, we would pilot it with a core group of librarians and let the service expand organically.

The results have been good, and as the service moves into its second semester, growth continues to be steady. Moreover, satisfaction with the service by the core librarians has been high, with some of the initially skeptical embracing and enjoying the service. Though with IM service we sacrifice some of the control we might have with our legacy VR system, we may very well make up for it with the high use and good will that IM service generates.

Introduction

Over the past few years, reference librarians have gotten into the business of purchasing, implementing, and maintaining large, complex systems that allow us to communicate with our patrons via the Web in ways both synchronous and asynchronous. Virtual reference software is now often a foregone conclusion in the academic library, and though the email management systems seem to be an unmitigated success, the use of the synchronous components of the systems is not necessarily always as great as we might like, nor as well-liked by our patrons (see for example Coffman & Arret, 2004).

Long before robust web-based chat systems were available, however, librarians experimented with using synchronous "instant messaging" programs like IRC and ICQ to deliver their reference services (Meola and Stormont 1999; Ricketts 1997), and it is interesting to note that in the past two years we have seen a resurgence in the use of these tools (Abram 2004; Houghton and Schmidt 2005; Schmidt and Stephens 2005). While we were busy constructing our fancy online chat environments, our users – particularly the so-called "digital natives" among them – met and fell in love with their own online communication medium; one need only walk into any computing lab on campus to understand how central the use of IM has become to our students' lives.

This realization need not be disruptive to our current environment, and we should not necessarily abandon those web-based systems that offer us so much in other ways (like question tracking, co-browsing, and statistics gathering). We should, however, open ourselves up to the siren song of IM and join our users in their great conversation. The good news is doing so turns out to be startlingly easy, incredibly cheap, and even fun.

Background

New York University is a sprawling institution of 50,000 students, based in the Greenwich Village neighborhood in Manhattan. Many of the traditional benefits and challenges of the urban university are visited upon NYU, including an extremely mobile and distributed student body, a fairly fast pace of living and learning, and a sometimes difficult adjustment period for incoming students. This combination of factors translates into the need to consider thoughtfully the impact a given user service might have in this environment, and to adjust accordingly to meet users' needs.

At around the same time that most academic libraries were experimenting with virtual reference service, the NYU Bobst Library implemented an email and web-chat service, but after about a year of somewhat disappointing results with the chat service, Bobst moved to email-only service.

Having no synchronous online reference service started to seem a little underpowered, and it was increasingly apparent that our local users were quite enamored of online communication methods.

In the fall of 2005, a small group of interested librarians met and hatched a plan to restart a synchronous service, but do it in a small scale, ground-up fashion that would eschew complicated systems and instead focus on reaching users on their own terms. We had been following with interest the resurgence in using IM technology to deliver reference, and upon discovering a third-party IM aggregator, we set about quickly prototyping and implementing the service.

Implementation Process

During our speedy prototyping of the service, we wanted to avoid requiring users to select from a list of different services to match their choice of IM program – no mean feat, considering there are currently several heavily adopted IM software platforms. To work around this issue, we decided on a product called *Trillian* that allows users to connect from any of the three major services, AIM, Yahoo!, and MSN. Open source and free for download, *Trillian* simply acts as a portal that creates conduits to the major services, thereby allowing patrons to add the NYU service to their buddy list regardless of their own choice of software. Anyone serving as the IM librarian at a given time uses the same account (called "AskBobst") and recognizable NYU torch logo; as far as patrons are concerned, once they have added us to their buddy list, AskBobst is stored like any other contact, ready to help when the need arose.

The basics taken care of, we needed to find librarians who would be willing to staff the service. We approached both those who we knew were familiar with the technology and those who simply showed an interest in learning more about it. In a number of cases, those recruited were looking for a framework to explore the technology, and sometimes even had preconceived ideas about how they thought they would like using it. The important difference with our recruiting was that we tried to make it organic, voluntary, and horizontal: no mandates, no one forced to serve, just those who wanted to try it. Simultaneously, we churned out some simple (and short) documentation about how to install the software and staff the service, and made that available to the recruits. In a short period, we found eleven people to serve, and as the service has grown, our numbers have swelled to 19.

Program Details

In order to get the program up and running quickly, we needed to strike a balance with the training we provided. We needed to provide enough information so that our novice IM users felt comfortable participating in the project but not so much that our veteran IMers were bored. Also, we did not want to get bogged down in training – instead of thinking this project to death, we wanted to get started as soon as we could and see what we might learn from it. In the end, we decided to provide brief how-to sessions on IM for those who felt they needed it, as well as one-on-one installation help for those who encountered problems. In our how-to sessions, we discussed IM etiquette and what types of questions we might be answering via IM, and played around with the system, taking turns sending IMs to one another. These were fun sessions, but they went a long way to making IM seem less intimidating to our librarians.
The next issue we needed to tackle was how to schedule librarians to cover IM service. We wanted to make scheduling a simple process, avoiding the need for someone to act as

"scheduler." We decided just to create a weekly schedule, post it to a shared network drive that all of us could access, and allow librarians to schedule themselves for a couple of hours each week. Deciding which hours to offer the service was a little more involved, but in the end we decided to use a combination of the times we were most easily available and when we see the most traffic at the reference desk. We knew that we would be keeping statistics and could revisit the hours we offered at any time, so we settled on 12:00pm to 6:00pm. We also knew that users were used to IMing their friends and finding them not available, so we didn't worry too much about them finding us "not at home" for IM.

We wanted to keep track of the number and type of questions we were getting each hour, and we also wanted to track the reactions that our students and librarians had about the IM service. Again, this needed to be a flexible, do-it-yourself process to avoid administrative headaches. Our first attempt at capturing this information was an Excel spreadsheet posted on the network drive. We asked each librarian to post the number of reference and directional questions they answered each hour (along with some other data), and any reactions they or the users had about the transactions. We later streamlined the process by using a web form to track our statistics, and it has led easier data entry and compilation.

Now that we had our guidelines for the IM service in place, it was time to dive in and start offering it. IM reference was just a pilot project for us, so we did not want to advertise too strongly about a service that might not survive the semester. That meant that we confined out initial marketing simply to adding IM to our Ask-A-Librarian webpage (see figure 1).

Later, we began to plug the service in our instruction sessions, mentioning our AskBobst screen name and highlighting the speed and convenience of the service. We also added it to our library news banner at the top of our homepage. Last, we wanted to make sure all of our librarians – even those who were not participating in our pilot project – knew about the service, so we highlighted it during a reference open house, allowing attendees to send IM questions to a librarian and experience the service firsthand. This was a great way to get more librarian buy-in—they had a great time playing around with the service and left with positive feelings about the interaction.

Use Results

So what do our users think of the service? After all, the major impetus for the service was to get to users at their "point of need" rather than requiring them to use library-centric methods. Ideally, we hoped that our users would vote with their clicks and make AskBobst a success. Through the statistics we gathered via the web form we have been able to get a good preliminary picture of users' adoption of the service.

One of the first things we noticed was that uptake of the AskBobst service was relatively fast. We quickly went to about 15 questions in the second week, with no advertising and only a small mention on the second-level Ask-A-Librarian page. As the semesters continued, growth was very apparent, and it became common to receive 25-30 sessions in a week. It was also interesting how closely the statistics corresponded with milestones in the semester, with slight upswings during term paper season and final paper time, and precipitous downturns during thanksgiving and spring breaks (see table 1).

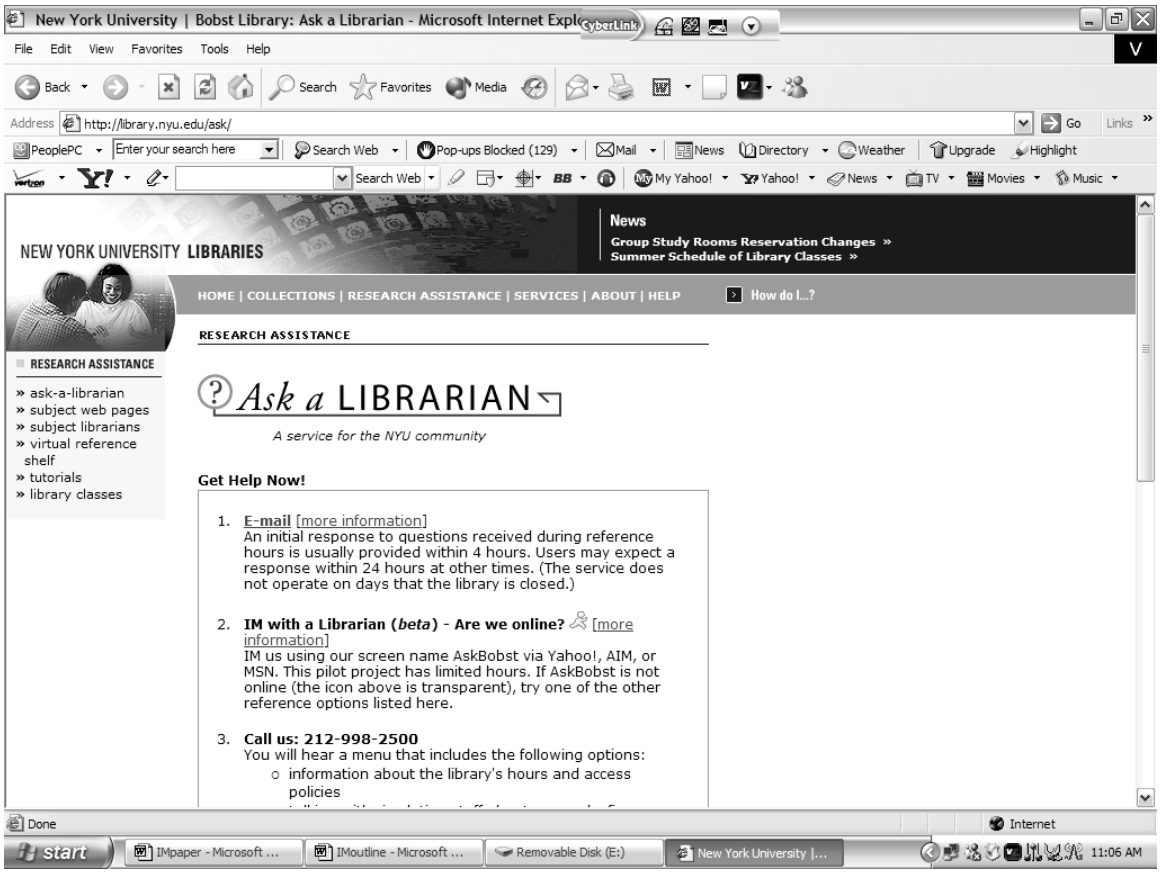
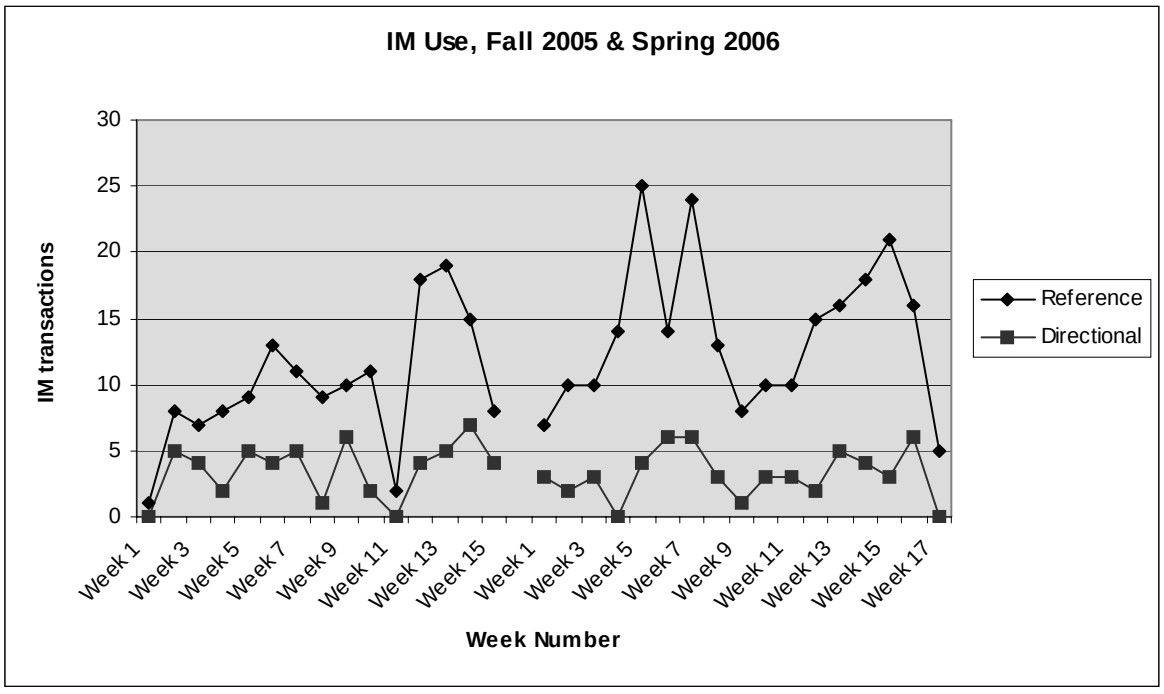


Fig. 1. Entry point for IM service.

Table 1
IM use, fall 2005 and spring 2006



25-30 questions per week is not a massive number, to be sure, but it is enough that over the two semesters of activity, it accounts for slightly over 500 reference transactions. There is no clear way to know how likely these users would have been to use another form of contact with us, but we assume that at least some of them were drawn to the service because of the medium. Indeed, users' comments collected on the stats form seem to bear this out, with comments like "by the way, I think this is a great system. really convenient," "it's actually really cool that NYU has this service," and "so nifty…this is great, thanks!" Further cementing this impression is the high number of repeat customers; librarians have reported receiving multiple queries from patrons over the course of a semester, and because they have added us to their own "buddy" lists, users appear to be enjoying the ease with which they can return to us for help at another time. Analogous to the tech-help buddy that comes preinstalled in many IM programs, AskBobst gives them a go-to resource for research help.

Librarian Attitudes

Because we envisioned the service as an easy, low-impact way to extend our virtual presence, we also wanted to know if it was indeed simple for the IM librarians. The flexibility in scheduling, staffing, and participating was meant to alleviate some of the problems associated with more rigorously defined virtual services, so we deployed an internal survey of librarians to measure our success on that front.

Of the 14 respondents to the survey, most (11) agreed that the amount of time they spent on the service was "about right," and almost all (12) answered that they felt the amount of use probably justified offering the service. 13 of respondents replied that they thought it was a good way to reach users, and there was consensus that we may be reaching different users than we would with other forms of reference.

On another note, 12 librarians also agreed for the most part that they could "often" or "always" offer quality service through this medium, and that it compared favorably with other virtual reference media. Twelve librarians also indicated that they felt that it had been personally or professionally valuable to be part of the service, and that they generally liked it, even though a number of them had not been expecting to. There was unanimity among respondents that the service should continue, and none of our 19 librarians have elected to stop serving.

Lastly, of the flexible and voluntary scheduling and staffing model, all respondents indicated that it was either "OK" or "good," and 2 respondents made additional comments indicating they "loved" the open method. Indeed, at our end of year wrap-up meeting, we expected that there might be some desire for a more formalized staffing and scheduling system to be implemented, but instead found exactly the opposite; librarians not only wanted to continue with the flexible method, but wanted to be able to expand the scheduling into other times of the day, and even try serving from home.

Lessons Learned

There were a number of surprising things that we learned over the course of the semester, and those thinking about initiating a service might want to consider some of these during their own implementation. The most salient thing is that the questions that we receive via the IM service – and the nature of the service provided during the transaction – is different than we expected. We had thought that IM queries would tend toward fast questions with discrete answers, akin to

those questions that we generally label “directional.” What we found instead is that the amount of users asking fairly in-depth “reference” questions is actually very high, in fact always the majority of questions (see table 1). This might make the service sound more daunting, but along with this fact we also found that doing more in-depth reference is actually easier in the IM environment than we expected. The instantaneity of the interaction (compared with the relatively slow back and forth of web-based chat) seems to create a more cogent, conversation-like interaction, and allow librarians to better use their reference interviewing skills.

Another thing that we learned from the first year is that our students would like access to the service for a greater range of hours than we thought. Part of this might have to do with the stay-up-late NYU community, but it could be much more universal than that. One of our librarians frequently kept the service “open” while she served evening hours at a less-busy reference desk, and it was eye opening to see that the statistics from these hours consistently had the third or fourth highest usage per week.

Because of this high level of evening use, we are investigating ways to extend our service hours. We will undoubtedly think about continuing to “double up” at less busy service points, but there is another solution that we will also look into: serving from outside of the library. We have already had patrons ask during transactions if we “were really in the library,” so there is not necessarily an expectation that we are. Obviously, doing reference in one’s pajamas is a long-hoped-for dream, but it has been our own users who have pointed to another way this might emerge. The icon next to an ever-increasing number of our users’ names in the AskBobst buddy list indicates that they are connecting with the service via wireless phones and devices that often come preinstalled with IM programs. Perhaps we should again take a cue from our users and open up to a truly new service method.

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Administrative Metadata for Electronic Resources Management

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Abstract

What is Electronic Resources Management? Why is it important? How are libraries handling administrative metadata for continuing electronic resources? What ILS vendors have products available? This presentation describes solutions developed by four academic libraries to manage administrative metadata and provide enhanced access to their electronic resources. Pennsylvania State University Libraries developed the ERLIC system in Microsoft Access, and the Massachusetts Institute of Technology Libraries developed the VERA system in FileMaker Pro. Both systems track the electronic resource acquisitions process and also manage access to each institution's e-resources. Stanford University Libraries focused at first on providing access to electronic resources, but is implementing Innovative Interfaces' ERM module. The Tri-College Consortium (Bryn Mawr, Haverford, and Swarthmore Colleges in Pennsylvania) created a database in FileMaker Pro to track just the licensing aspect of the acquisitions process. The presentation also describes efforts currently underway by the DLF to develop standards and best practices for tracking and managing electronic resources.

Electronic Serials and Options for Access at Two Universities

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Abstract

A simple solution to providing access to electronic serials continues to elude many libraries. A-to-Z lists, MARC record loads, and separate record cataloging approaches have been implemented in a variety of incarnations. At the same time new products and services are continuing to emerge. OCLC's eHoldings service offers an additional method of providing access by setting holdings information in WorldCat. From June 2005 to April 2006 the University of Missouri--Columbia (MU) Libraries and Creighton University Libraries participated in the OCLC eHoldings pilot project. OCLC worked with Serials Solutions, TDNet, Ex Libris, and EBSCO to load participating libraries' holdings from A-to-Z lists into WorldCat. The holdings were updated on a monthly basis and required no maintenance by the library. Some project participants, including the MU Libraries, received MARC records as part of the project.

For Creighton and the MU Libraries, the OCLC eHoldings pilot project was an opportunity to strategize the next phrase in electronic serials management. The presenters will discuss their experiences with this project, and the impact of the project on their users and on library processes such as cataloging and interlibrary loan. They will also describe the state of access to electronic serials at their libraries before and after the project.

Government Information as a Knowledge Management Resource for Library Instruction to the Millennial Generation

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Abstract

How can we adapt our information literacy instruction to prepare students for tomorrow? Current library instruction, based on the information cycle concept, may not be founded explicitly on the principles of knowledge management that students will apply as they collect, evaluate, store and transmit information in their work and private lives. Library instruction often fails to address sources of information that will be essential for students and for future citizens. Such information is often unpublished, and does not appear in library catalogs or databases.

Instruction needs to move away from a focus on library collections in which the internet, viewed as the bad guy, serves up information of questionable quality. Rather, the Web should be showcased as an additional source for elusive yet essential information. How do we instruction librarians do this?

We have long recognized government information as a key source for meeting research needs. Primary sources such as unpublished technical reports, raw data, statistics, and laws often do not appear in the library catalog but are located in depository libraries. Similarly, consumer information on health, travel, weather and disasters are also the provenance of government agencies. In the current electronic environment, every library becomes a depository. The challenge is to teach students how to access and interpret this wealth of information beyond the library collections. Using business information as an example, this presentation will demonstrate how to utilize government information sources to expand the information cycle framework to make it a useful tool for teaching knowledge management.

Introduction

Academic librarians are responding to rapid changes in the evolution of bibliographic instruction, but we haven't caught up to the needs of today's students. Today's millennial students were born about the time that personal computers became widespread and have attended school during the florescence of the Internet (Lippincott). They are preparing to participate in a global economy that is driven by the need for knowledge, fueled by information, and that employs computer-assisted technologies to foster all fields of endeavor (Mackey and Ho). As today's students become tomorrow's citizen-workers, they will be expected to integrate constantly changing

information from multiple sources into their personal and business activities. Accessing and manipulating this information often unpublished and beyond the scope of library OPACs or databases is known as *knowledge management*. Understanding the concepts behind knowledge management is *knowledge literacy*. Librarians need to step up instruction to move from information literacy, which focuses mainly on information accessed through rigidly structured library OPACs and databases, to knowledge literacy, which focuses on all kinds of information, often digital, and on how to evaluate it, manipulate it, add it to one's own personal (tacit) knowledge, and collaborate with others to create new knowledge.

The Internet is MESSY. Its content is constantly changing, varying in reliability and searched in different ways. But it *is* the way information is to be stored in the future, and students need to be taught to use *all* of it to succeed. While they are now peripheral to books and articles, statistics, testimony, speeches, newsletters, laws and consumer tips will gain importance as different information for different purposes becomes the focus. With format less important than content, print will become a complement to electronic sources, and digital materials will no longer look like paper sources digitized. Students need to learn Internet search techniques beyond the heavily used Yahoo and Google (Martin). In an environment where information flows freely, they must convert it into usable forms and share it to evolve. Librarians must teach them how to evaluate, analyze, combine and share it to help them succeed. As librarians navigate this information maze, seeking examples to illustrate these knowledge management concepts, government information leaps to the forefront. The structure, variety and free availability of this information make it ideal to illustrate knowledge management principles.

What is Knowledge Management?

A key difference between managing information and managing knowledge is that the latter involves addition of implicit, or tacit, knowledge to the mix of external information and the sharing of this new mix of information to create new knowledge. In the business world this information is often the tacit knowledge of employees. For students, it is often their own personal strengths added to a group project. Al-Hawamdeh provides a concise definition of knowledge management:

> Knowledge embodied in books and journals does not necessarily translate into useful and usable knowledge unless it is read, manipulated and communicated from one person to another. In other words, knowledge can only reside in the minds of people and the minute it leaves the human mind, it is information. However, not all types of knowledge can be codified and captured. Knowledge in the form of skills and competencies can be transferred from one person to another through interaction. Information management on the other hand deals (only) with knowledge that can be captured, processed and managed. (2002 2)

This process is thus more complex than merely accessing information. Knowledge management pushes the range of information literacy skills to the limit, because it takes into account the social structures and functions of the group in which knowledge is created and shared—a college class, a faculty research team, or a government agency.

The Internet is a key tool of knowledge management because it facilitates the transfer of knowledge and collaboration, allowing people to interact through channels such as web pages, intranets, listservs, blogs, and wikis. This complexity of resources available on the web also requires librarians to change the way they think of information cycles. Knowledge literacy requires cycles of change in dynamics of information development and cycles of collection, analysis, evaluation, organization and sharing of information, which in turn creates new knowledge.

Gandhi discusses these cycles, noting that wisdom is created in four phases. First comes the raw data--the facts, figures, and observations. In the second phase, people logically organize data into a meaningful context and it becomes information. Next comes the stage of knowledge, in which people make inferences, spot trends, and note exceptions as they analyze the information and place it in perspective. Finally, in the stage of wisdom, people apply their prior experience and understanding to decide on the value of the new knowledge (369). On the Internet, the millennial generation can complete this cycle in a matter of minutes (Notess).

Librarians' Roles in Knowledge Management

As noted, it is not enough for librarians to promote the ACRL Information Literacy Standards (ACRL). To be effective managers of knowledge, students must learn to translate facts into information, and to use information as a basis for further action. They cannot merely use pre-packaged information found in books and journal articles, but must integrate raw data and other information bits into their own knowledge package. How do we teach this? As traditional information and knowledge managers, librarians possess tacit knowledge of the content of various sources, and the know-how to locate, evaluate and use them. We are already able to help patrons realize which information is true and reliable within today's complex economic and social context (Budd 362-366). We can use this tacit knowledge, gained by years of reference desk experience, to help students go beyond the highly organized information found through OPACS and article databases as they struggle to find the right combinations of search strategies for the Internet (Martin; Notess).

We must stress to our students the importance of seeing how all types of information fit together and combine with their existing knowledge. To fulfill the ACRL requirements, we must also collaborate with faculty to help students become aware of the ethical issues of copyright observance and of plagiarism, relating these issues to the special conditions of the Internet. As discussed above, in teaching information literacy we have primarily focused on an information cycle that springs from current events and shows how the formats of information evolve through time, a cycle compatible with writing term papers but little else. At first glance, the knowledge literacy cycle looks very similar to the steps we have taught as the research process. But there are some key differences. This new cycle also showcases turning data into information by placing it in context, mixing it with personal knowledge, and turning it into explicit knowledge by sharing and reorganizing it. This is the collaborative or Wikipedia aspect of the Internet. In addition, millennial students often absorb and use information by working as part of a team, coming together to solve a particular business or

social problem. The knowledge management cycle, as Al-Hawamdeh (81-99) and Bouthillier and Shearer (2002) have pointed out emphasizes *evaluation*, *sharing* and *communication* of information and is more compatible with the way many of today's students work.

Adding Government Information to the Mix

In order to turn the information they acquire into knowledge, students must above all learn to think critically about it. They must understand who produces information and for what purpose, how information is structured, what points of view it embodies, and who is the intended audience. As students look for trustworthy sources and evaluate and combine information, they will be, as Gandhi says, using their prior experience, "making inferences and recognizing unusual patterns, hidden trends and exceptions in the data and information." Students will be "creating a mental model of the pattern or trend that can be applied with a degree of reliability" (369). In their research, faculty think critically all the time. We encourage our students to think critically, but compared to faculty students have much less tacit knowledge to combine with new information. Now that they can retrieve masses of information almost instantly from the Internet, we need to help them sort out the sources that will best serve to help them develop reliable tacit knowledge (and wisdom) over time. We also know that much Internet content serves commercial purposes, and that sometimes the producer's commercial or ideological goals outweigh the purpose of providing accurate information. We can use government sources to pass a cautious approach on to students, helping them to distinguish the purpose and use of all information they find.

We know that government information is often highly reliable (look for the .gov on each piece!), but we also know that there are constant changes in the social and political context in which it is created, and that it is not immune from manipulation. However, since government documents are produced in structured ways, they can make ideal sources for evaluation in a knowledge management framework. Librarians' expertise can be most useful to students in helping them understand how government information is structured—which groups create it, for what purposes, and with what points of view, and how that information changes through time. Librarians are also schooled in identifying primary sources: raw data, facts, statistics, and original correspondence, all of which are prominent among government documents. Librarians can use tacit knowledge of government structure and formats as a base to show parallel structures in other Internet content. Documents librarians, especially, can provide tacit knowledge to help students ferret out a source that has lain dormant because it is unpublished, not indexed, or has gone through an agency change. Students could also compare government and non-government sources to show how differently two perspectives speak on the same topic. Thus we see several ways to use government information to teach knowledge literacy, incorporating our own tacit knowledge and that of other reference and documents librarians.

For the past several years, the trend in libraries has been to combine government documents and general reference services. Documents librarians have correspondingly begun to work at general reference desks, with government information as a specialty. Following this trend, documents librarians have written about ways to incorporate government information sources

into information literacy instruction. These same methods can be applied to incorporate government resources into knowledge management instruction.

Downie (2005) points out that government documents lend themselves to teaching the ACRL Information Literacy Standards because they exist in many formats - raw data, testimony, unpublished reports, legislation, laws, and statistics. Because of this, they provide opportunities for students to compare resources to find those best fitting their information needs. Many agencies now make most of their publications and research results available online. Using government information search engines such as *GPO Access*, *FirstGov*, and *Google U.S. Government Search* facilitates access to documents in all subject areas. Many libraries already include these government search engines in their federated searching programs. Knowing that there are guides to these high quality resources should help reluctant faculty accept the Internet as a reliable research tool. Using government search engines can also demonstrate to students that information on a particular topic is available from many different agencies working in various fields.

Hollens suggests that, since government publications are unfamiliar sources to many students, a teachable time is before freshmen have selected research and paper topics. For knowledge management instruction, librarians would also choose this time to introduce a variety of types of information, as again these would not necessarily be familiar to students. She also encourages students to choose topics that they may want to research more than once, as their interest, knowledge and careers develop. This promotes development of tacit information on their topic. She suggests selecting as examples agency reports on topics that have been in the news, including local and regional news, in recent months. Current hot topics in the news often are not covered in traditional books and journal articles, and government information is the information of choice to illustrate this type of knowledge management resource.

Documents are invaluable when addressing ACRL Standards requiring students to evaluate and use information, doing so ethically and legally. As documents are in the public domain, they normally are not restricted by copyright. Hogenboom points out, “students cannot succeed in college or in life unless they can determine which of the sources they find are trustworthy and appropriate for their purposes” (455). She uses a variety of government sources, encouraging students to analyze the sources carefully to “demonstrate how audience, purpose and point of view affect communication, so that students can see below the surface of the information” (457). She suggests using transcripts from hearings of the U.S. House and Senate to show how different experts can have different points of view. To foster critical thinking about the purpose and intended audience for information, Hogenboom advocates using documents created in the course of writing legislation, such as bill versions and analyses, testimony and congressional remarks (459-462). These examples can also be used to illustrate knowledge management principles of analyzing and evaluating different types of information.

Documents also lend themselves to the sharing aspect of knowledge management. Discussing the use of government information in a technical writing class designed for upper division students, Drees and the librarians who assisted him have used technical reports,

Congressional hearings and agency handbooks to illustrate resources useful to students working in groups to solve problems such as design of traffic flow in campus dining facilities. These government sources help students understand the range of information available from various agencies to help solve their design problems (Drees, Ta, and Clements).

Summary

When designing a course in knowledge literacy, librarians must switch gears from traditional information literacy classes that focus on static information resources. A knowledge literacy class, while designed around the accepted ACRL standards for Information Literacy (access, evaluate, organize, and disseminate information), must go beyond this to examine all types of information resources, often available only on the Internet. It will teach students how to retrieve and evaluate this information, to combine it with the information and knowledge they already possess, to organize it, assess it for usefulness and share it with others. This class will include many types of information from raw data to knowledge, and teach students to absorb data from all these resources. It will emphasize the concepts of bias, points of view, reliability, intended audience, and tacit knowledge. It will present a cycle of literacy that shows a continuum from all types of data being absorbed into information, combined with tacit knowledge and shared with others to create new knowledge. It will also take into consideration the knowledge-seeking behavior of the millennial student, who works in groups and exchanges information. Sources of government information, ideal for illustrating these concepts, will of course vary depending upon the subject. In the current cooperative atmosphere, instruction librarians can consult with documents librarians for specific examples of resources used to illustrate the various concepts of knowledge management in their subject area. While helping students, librarians will also add to their own tacit knowledge of Internet resources used for knowledge management.

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The Times They Are a'Changing: Advancing the Academic Library through Collaborative Initiatives

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Abstract

Faced with myriad challenges ranging from changing resources options to changing patron information-seeking habits, academic library administrators must consider strategies for positioning their libraries for ongoing success.

Information resources options are changing, as are the means of delivering information to the user. Distance users; competition, real or perceived, from Internet sources; and the internationalization of higher education, exemplify but a few of the issues that challenge academic libraries.

By actively seeking out and pursuing mutually productive collaborations with traditional and potential constituent groups, academic libraries can raise their visibility, identify new funding sources, and develop effective strategies for maintaining and advancing their role as the preferred source for leadership in information resources.

This presentation will examine the increasing involvement of academic libraries in collaborative initiatives, as evidenced in professional literature and in the recent experiences of some large academic libraries.

Beyond Scanning: Collaborating to Create Community Resources from Digital Collections

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Abstract

As institutions rush to digitize their special collections they must stop and see how they can do more than just improve access to materials. This session will talk about creating digital collections that are more than just items in a database. Digital collection creation, promotion, and management will all be covered. In particular, designing collections that reach out to the community and foster collaboration between cultural and educational institutions will be addressed. Drake University's digital collections will be highlighted as examples of the integration of special collections, display spaces, speaking events, and tools such as Google Maps to create an interactive educational resource for the community. Drake's digital contributions to the Iowa Heritage Digital Collections project, a statewide digitization collaborative focused on all Iowa-related digital collections will also be addressed. We will discuss some of the trials and tribulations of working together with multi-type libraries, as well as negotiating policies, setting standards, and dealing with varying levels of skill sets.

Enhancing Service Desk Management with ScheduleSource

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Abstract

Imagine this scenario: you are a circulation manager with a medium or large academic library and you are responsible for scheduling the coverage of three circulation stations that demand a total of 300 hours from your limited staff resources. You are heavily dependent on student employees, especially work-study employees who can only work about 10-15 hours a week based on their hectic class-schedules and school activities. They often call in asking to change or make adjustment to their schedule. When that happens you find yourself thumbing through your phone list desperately trying to find possible substitutes. If this happens during a weekend and you get a call to your home, you find yourself frantically searching for your spreadsheet that has the latest updates of the schedule and wondering who you can call on to come in and fill the gaps. By the end of the month when your wage budget payment reports come in, you notice that those who work as substitutes have worked over their allocated hours, eating into your monthly hourly salary budget. The headache of scheduling never ends and could burn you out over time.

The continued decline in number of book circulation and reference transactions is documented by Association of Research Libraries' (ARL's) annual reports on annual service trends (Kyrillidou and Young). However, many libraries have experienced dramatic increase of the gate count numbers indicating more and more library users come to use the library as a place for study, research, computing, or group meetings. Demands for libraries to extend their hours of operation have driven many to stay open 24 hours. In the meantime, the stories of struggling library budgets continue to compel library managers to assess the cost-effectiveness of staffing and service activities. If reducing service hours is not an option, how can a circulation or a reference desk manager cope with these challenges? How can technology help us to improve efficiency and effectiveness in assigning employees with the right skills to the right tasks?

The solution at the Mullins Library is found in ScheduleSource, software developed by the ScheduleSource Corporation. By using this software we are able to accomplish the following:

1. Allow employees and managers to access the real-time scheduling at anytime, from anywhere through any computer with an Internet connection.
2. Enable timely communication between manager and employees about schedule changes or adjustments
3. Enable a "one copy, one place" schedule source and total elimination of paper files
4. Apply pre-defined schedule templates to a weekly schedule in a matter of minutes.
5. Assign employees to stations based on their level of skills and the required skills set of the tasks

6. Allow employees to make leave requests and post hours for swap and solicit co-workers for possible substitutions
7. Allow managers to immediately generate reports to analyze the staffing needs
8. Allow better control of hourly wage cost and saving of unnecessary overlapping or double scheduling.

This presentation will document how we have saved thousands of dollars on hourly wages after using ScheduleSource.

Present a Business Case

Imagine that you manage a circulation department in a medium or large academic library and part of your job is to schedule a work force of 25-30 individuals consisting of full-time employees with various skill sets and a student work force that come and go at all the hours throughout the day. You are to build shifts to cover three service stations that demand at least a total of 350 hours per week. You cannot afford to let your experienced senior employees sit at a desk for four hours a day while watching other daily behind-the-science processing jobs piling up. You are thus largely dependent on the hiring of part-time student employees to perform routine circulation activities. However, they can only work a limited 11 to 20 hours based on their work study award as well as their availability in a given day. In the morning, for example, most of them are in classes and very few are available to work. In the afternoon, and early evening, however, more than enough of them want to fill up your shifts. Their availability may change through the semester as they add or drop classes or go home for holidays or breaks. To schedule them where they are most needed becomes a true task. You don't want to over-staff a shift simply because more people are available to work the hours, and you do have to give them enough hours to work so they can work their 11 to 15 hours each week and get paid for it. If they call in sick or suddenly become unavailable, you need to find a substitute immediately. If this happens during a weekend and you get called at home, you find yourself frantically searching for your spreadsheet that has the latest updates of the schedule and wondering whom you can call on to come in and fill the gaps. By the end of the month when your wage expense reports come in, you notice that those who worked as substitutes have worked over their allocated hours, eating into your monthly hourly salary budget. The headache of scheduling never ends and could burn you out over time.

Perhaps you have thought about requesting to increase your budget to hire more student employees just in case. You run the risk of overstaffing the service desk leaving some workers to sit idly at the desk. Perhaps you could add a few more full-time employees but the continuing decline in circulation statistics and the shift from using the print resources to online digital resources do not give you much rationale for doing so (Kyrillidou and Young). However, you know you cannot afford being understaffed because your gate statistics have increased steadily and your shifts are always essential to keep the library open during hours of operation. You are fully aware that many students want the library to open 24 hours a day, and you have already extended your hours of operation during the finals weeks. Moreover, if the library is to decide to adapt to a 24/5 hours of operation, your schedule will become even more of a challenge. Additionally, you've read the stories about struggling library budgets nationally, and you also need to assess the cost-effectiveness of your staffing strategy. You know very well that you need

to optimize your available staff first before you can think about additional staff and budget. You need a tool that can save you time and help you address your issues.

The scenario described above is actually the kind of challenges we face at Mullins Library. How can technology help us to achieve work efficiency and cost-effectiveness in assigning employees with the right skills to the right tasks and to the right shifts? This paper discusses the selection, implementation, and assessment of schedule software in the Access Services Department of the University of Arkansas Libraries. It will also address the possible application and benefits to managing other types of service desks.

Background

Results from the latest ARL survey on Access Service published in 2005 suggest three trends in the organization of services. The first trend is consolidation of services points. Traditionally, Access Services encompasses all activities that support circulation services, including the checking in and out of materials, course reserves, fines and billing, stacks maintenance/management, and entrance/exit control. Today, a circulation desk usually handles electronic reserves, ILL items, offsite storage retrieval, laptop loan, and/or information desk. In most cases, these tasks are accomplished through consolidation of service points and cross training without increasing funding for additional staff. The second trend is to adopt activity-based budgeting and realign resources to the load-bearing activities and decrease funding for services where demand has declined. The third trend is the increased pressure from students for a library to open for longer hours. Several of the libraries surveyed reported that they have begun to open 24/5 or 24/7. Those new and value-added services require managers to be more creative in organizing training and staffing to best meet the service demand. The ARL 2005 survey also indicates that, on average, staffed service desk hours increased across the board between 1995 and 2005. More and more circulation/access services departments absorbed other traditional library units and took on responsibility for new services, such as current periodicals (+19%), microforms (+28%), the information desk (+38%) and interlibrary loan (+39%). The survey also reported increasing numbers of these departments offering on-campus document delivery (+100%), circulation of laptops (+200%), and electronic reserves (+269%) (Dawes 11-12).

Mullins Library faces the same challenge. Reorganization was planned in 2004 and took place in early 2005 to consolidate separate service departments into one Access Services Department that encompasses circulation, reserves, stack management, current periodicals, and interlibrary loan. Cross training, resource sharing, and staffing optimization were established as our priority and objectives. It was then that we began to search for an effective tool to automate our desk schedule.

What Do We Want?

The Access Services Department manages four public services desks at Mullins Library: (1) main circulation desk, (2) west entrance desk, (3) east entrance desk and (4) a current periodical service desk. While we truly understand the benefit of consolidated service points, we also accept the fact that the placement of the service desks was determined by the building design rather than well-thought-out, user-oriented needs. The placement of service desks has imposed

challenges and issues that will not be easily resolved without some major renovations. However, we also recognize that our objectives and priorities define our philosophy and approach in organizing our service activities which indeed are what Peter Drunker called the "load-bearing" activities. Peter Drucker, in defining what he calls the load-bearing parts of an organizational structure as the *key activities,* suggests that we answer such questions as: "In what area is excellence required to obtain the company's objective? In what areas would lack of performance endanger the results, if not the survival, of the enterprise? …and What are the *values* that are truly important to us in this company?" These three questions will identify the load-bearing activities. (Drucker 530-31)

Making schedules for multi-service desks and a tiered staff is an intriguing and complex process. It is very time-consuming. Presently the most common tool a scheduler uses for planning service-desk shifts is a fill-in graphic table which is usually created with Excel, or draft work schedules on a monthly or weekly calendar table. This approach costs the library nothing except a lot of time on the part of the scheduler. If the scheduling involves one service desk, with a small number of employees who work a straight 8-hour day, the schedule is relatively simple and easy. Using the graphic table allows you to visualize where all your shifts are and fill them based on you and your employees' preference until there is no more blank shift unit. The job is done. But if you are making schedules for multiple stations that require workers to have specific skills and training, the one-dimensional graphic table becomes less helpful. Many schedule constraints have to be determined, like a puzzle, in your head before you can illustrate your configuration visually. Our schedule process was no different. The three desks and a large group of student employees made the schedule process long and frustrating. Students complained when revised schedules were not posted on time. One master copy of the schedules was posted at the main desk, and copies of individual schedules were distributed to employees. When changes are made, you have to post and distribute the again.

The following list includes some of our issues. We hoped that technology would help us find answers and solutions:

- Track the rotation of employees among the three service desks
- Build schedules based on staff's skills level and work priority
- Release staff from the desks for break and building rounds
- Monitor unnecessary double assignments or occasional under-staffing
- Project our need for student workers and be able to maximize their contribution
- Effectively communicate with employees about work schedules and any changes made in response to absences, leave requests, or changes made to the existing schedules.
- Enable employees to access a real-time work schedule 24/7 from anywhere at anytime.

Why ScheduleSource?

We first learned about the ScheduleSource software from our Web Services Librarian who previously evaluated the software. Later we learned that the University Computing Services had licensed the software and used it to schedule lab operators for multiple locations. We also learned that the schedule applications were used largely by call centers, department stores, and hospitals. Hardly any literature on the use of schedule application software existed. So we invited the manager of Computing Services to the library for a presentation to circulation supervisors. At

the same time, we contacted the company for a free trial, and the company willingly offered it to us for a period of three weeks. The trial module includes a Forecasting Pack, a Scheduling Pack, a Reporting Pack, and an Employee Access Pack. Several staff members were involved in the test and evaluation of the application. Some advantages of it we immediately liked were: (1) maintenance-free operation, (2) web-based online access, (3) logical and easy-to-follow page design, (4) centralized employee profile management, (5) customizable views of schedules using a filter, and (6) automatic selection and assignment of employees to shifts based on their skills and availability.

When we discussed the project with our systems librarian, her initial concern was the amount of server space it required and technical support it offered. ScheduleSource, however, is mainly a service through subscription, so no installation and system configuration is involved. This fact met our need because we were looking for a product only for the Access Services Department, and we did not want to burden the Systems Department with additional work, nor did we want circulation staff to be responsible for system backup or troubleshooting. If we decided to go with the product, all we needed to do was to request a budget and a purchase order from the library administration and tell the company a date to turn it on; we could then start using it immediately. During the three-weeks trial, we never experienced any down time. It was basically trouble-free.

How Does ScheduleSource Work?

The design and display of the application follows the logic of the workflow, so it is very easy to learn and operate. When you log in as a scheduler, the steps to work through the schedule process are displayed on the tool bar on top of the screen as shown in Figure 1. The process starts with defining a site, establishing work stations, setting up employee profiles, designing schedule templates, and building schedules based on a selected template. A report function allows you to extract schedule data and present them in the form of your choice.

Fig. 1. Schedule workflow.
[Screen print reproduced with permission from ScheduleSource.]

A *site* is defined as one administrative or business unit that uses the application. A unit can be just the Access Services Department or the entire library. However, the fee is charged based on the numbers of employees using this application within this unit. In our case, the Access Services Department is the subscribing unit. The University Computing Services is a separate subscriber and therefore is not viewable from our login. Under the Site function, as a scheduler you can set up the holidays where schedule will be avoided, define your crews, define your shift-groups, and rank the days of the week based on your schedule priority. A *station* is defined as a work position. Each site must have at least one station to be scheduled. The display of work-shifts in template and the actual schedules are grouped by station. You can use a station as a physical location or a virtual space to which you assign employees. You can also use a station as a place to track where the employees are if multi-station rotation is involved. You can also set a station as Break, Lunch, Shelving, or Office work to release an employee from a real desk shift, or to assign an employee to other tasks between the shifts. Most organizations require employees to

take a break every four hours and a lunch break. A manager can use this function to ensure that the lunches and breaks are included in or excluded from the shift. If your library has only one consolidated service desk but needs to be covered by several tiered employees, you can divide them into two or more separate stations, allowing you to ensure that you have a right mix of staff who have the skill levels and experience to handle various desk activities.

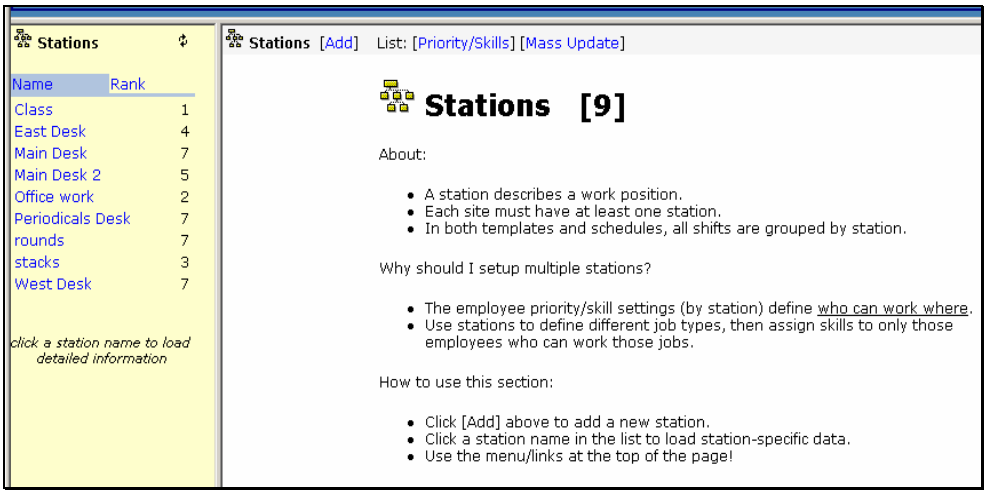


Fig. 2. Stations.
[Screen print reproduced with permission from ScheduleSource.]

Employees refer to any or all the employees of a "site." Employees must be entered into the system in order to be scheduled. A profile is created for each employee and saved into the system, and the system selects the employee who best fits into the shift based on profile. For example, the system will not suggest John Doe for a second shift if he has already been scheduled for 5 hours for the day.

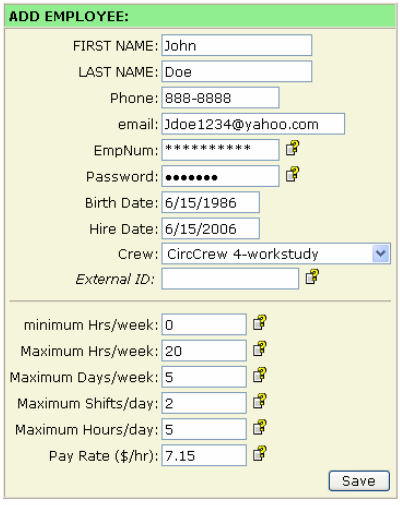


Fig. 3. Employee information.
[Screen print reproduced with permission from ScheduleSource.]

An employee's availability is also saved in the system as additional schedule constraints. In the example of the following default profile, the system will only consider assigning the employee to

shifts that fall in the available ranges. The system will not assign the employee for any afternoon, evening, or weekend shifts. The total available time each week for the following employee is 13.5 hours.

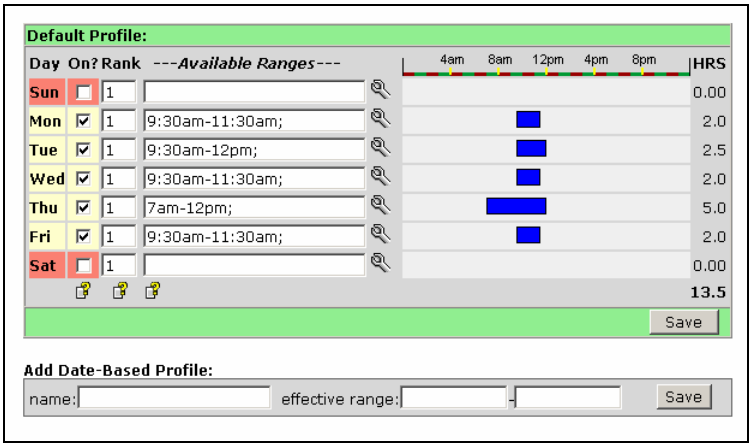


Fig. 4. Employee profile.
[Screen print reproduced with permission from ScheduleSource.]

A ***template*** is a set of shifts that a manager develops to cover one or more stations. Designing and developing a template is the most essential step to build a schedule. First, you have to decide a shift by denoting *start* and *end* time. You must choose a day and station for the shift. You may either assign an employee to a shift (it becomes therefore a fixed shift) or let the system assign an employee to the open shifts in the template based on the schedule constraints and employee's profile when you use the "Auto Assign" feature in the schedule function. However you must define the duration, day, and station of a shift before you let the system build a work schedule for you. The template becomes a framework within which a schedule is built. Figure 5 is an example of how to create or edit a shift and the elements required to create a shift.

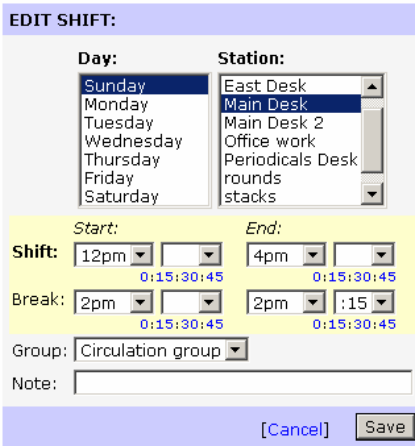
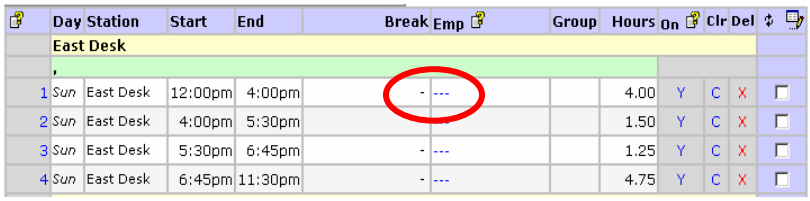


Fig. 5. Create a template.
[Screen print reproduced with permission from ScheduleSource.]

Figure 6 is an example of the template created for the East Desk for Sunday. It consists of 4 shifts. To revise and edit a shift, you can click on the numeric number at the beginning of each

row. Under the Employee (Emp) column, you can click on the blue dotted line to open a window of an assignment form which allows you to select who best fits for this shift based on the set schedule constraints and the employee availability profile. If you leave it as it is, when you choose to use the "auto assign" function to build a schedule, the system will fill the shift for you. You may click "Y" to turn the particular shift in the template off. The letter Y will be changed into N, meaning the shift is disabled. When you build a schedule, a disable shift is ignored unless it is enabled again. You can also click on "C" to clear this shift if an employee has already been assigned to this shift. Clicking on the red "X" will delete the shift.



	Day	Station	Start	End	Break	Emp	Group	Hours	On	Clr	Del	
	East Desk											
	,											
1	Sun	East Desk	12:00pm	4:00pm	-	---		4.00	Y	C	X	
2	Sun	East Desk	4:00pm	5:30pm				1.50	Y	C	X	
3	Sun	East Desk	5:30pm	6:45pm	-	---		1.25	Y	C	X	
4	Sun	East Desk	6:45pm	11:30pm	-	---		4.75	Y	C	X	

Fig. 6. View or edit a template.
[Screen print reproduced with permission from ScheduleSource.]

Schedules are built from the template. The system will build one schedule per week for each station. When you are ready to build a schedule for a week, you select a template from the standard template list, select a start date of a week, and either accept "Auto-Assign" or reject it, and then click on "Build Schedule." A schedule is created. Any temporary change should be made on a particular schedule, not on the template, unless the change is considered long-term or permanent.

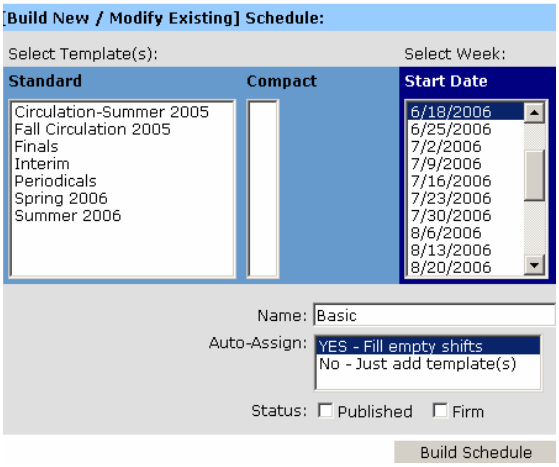


Fig. 7. Build schedules.
[Screen print reproduced with permission from ScheduleSource.]

Can We Afford It?

Technology is not free. Once you are hooked up to it, it becomes another item of fixed cost. We also have to be aware of the likelihood of fee increase due to the system upgrade, service repackaging, or additional new features. One way for us to look at it is that if the schedule application could help us to better manage our overstaffing and understaffing, we can save the

scheduler time as well as lower the student wage expenses. The vendor on their web page hit a big selling point as cutting cost by reducing time wasted on tackling paper trails, labor intensive scheduling processes, and effective management of overstaffing and understaffing (Getting Lean and Mean in Hard Times). There was little in the literature with data that we could cite to support or reject their claim. But our evaluation of the software led us to believe that this application is the closest to what we had wanted. We determined that a subscription of this software is a worthy investment. Our proposal was given a blessing by the library administration. A six-month period lease was signed in May to allow us to have enough time to use this application and properly assess it. When we signed the lease contract, we chose not to include the Forecasting Pact to save our expense. We renewed the lease with a one-year term in November 2006.

One-Year Assessment

There was a learning curve for everyone in the department as we became familiar with. ScheduleSource. It changed our way of organizing our work and changed our way of communicating with each other in the department. An announcement was posted on the ScheduleSource message board to inform all the employees of the date of change. All employees were assigned a password for accessing the system. On May 23, 2005, all circulation desk schedules became available at www.schedulesource.com and the big Excel sheet posted on the main circulation desk was removed. At first, supervisors could not help referring back to the spreadsheet which was no longer available. Since we chose not to use the "auto-assignment" feature because of the fragmental increment of our shift unit, we decided to assign most shifts when we built the template, which took us more time than we expected an automated application should.

As we became more proficient with the software, we were able to utilize it more to our benefit. The advantage we like most is that all the information we need for building a schedule is now in one place, in one copy and under our fingertips. This has enabled us to speed up the decision process and has eliminated the time to search, organize, and file the paper forms that each student employee submits. ScheduleSource allows student employees to enter and modify their availability information online. Based on a complete employee profile, we can use the system to easily monitor employees' desk assignments using Employee Hours Over/Under Report or Utilization Summary.

The most rewarding result of automating the scheduling process is that it allows us to forecast our workforce need based on the reports we generate. While there are always variances from the template, the ScheduleSource provides us with a viable tool with which we are able to gain control over the fine balance between under-staffing and over-staffing. Between July 2005 and May 2006, we were able to save a total of 3,138 desk hours resulting in $10,648 of savings in our wage expenses. We should not contribute these savings entirely to the use of ScheduleSource because our budget also includes stacks employees. But with the ScheduleSource, we were able to look at the staff needs of the two units together and implement a very effective cross-training program for stacks employees. The schedule responsibility has been assigned to a very capable stacks manager who has overall management of the schedules of the two sets of employees. Cross-training of the stacks employees to work at the services desks was instituted soon after the implementation of the ScheduleSource. Since shelving and shelf-reading workflows are usually

cyclic through a semester, to schedule stacks workers occasionally at the service desks enriched their work experience and gave us more staffing flexibility. It also gave them a sense of ownership when they were called upon to work at a desk. Moreover, if a stacks employee is interested in filling a vacant position in the circulation unit, he/she has already been trained.

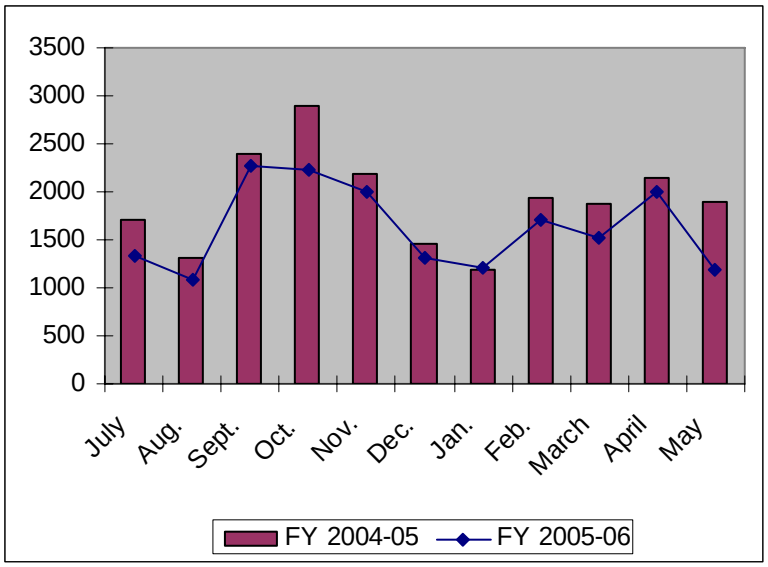


Fig. 8. Total hours worked and saved.

Conclusion and Further Considerations

Our experience with ScheduleSource proves that it is a viable tool for achieving cost-effective service desk management. It enables a manager to match employee skills set with work assignments. It is especially useful when handling complex scheduling with a large number of tiered employees to multiple locations. It is also a great tool for organizing the tasks according to employees' skills set. Although our application of this software has been limited to Access Services, it should be equally applicable to other service desk environments. Indeed, it would be even more valuable for a large operation that requires complex scheduling and has at least 20 plus employees. A small library can use the application to handle all the public services points in a centralized management and at the same time allow supervisors at each service point to control their own schedules.

We can think of a few scenarios where the environments are similar to ours but involve other service departments and several layers of staff expertise. For example, think about a service desk staffed by a team of reference librarians and catalogers, or a team of reference librarians, paraprofessionals, and graduate students. At Auburn University, reference services are offered by an Information Desk staffed with professional staff from both public services and technical services. This model is not uncommon because in some smaller libraries it has always been necessary to work in several areas. However, research has indicated that "such collaboration may become a necessity in order for larger libraries to survive." (Olivas 82) In this scenario, cross training is required and cross-functional collaboration is essential.

Another possibility of application is an environment of mobile library services in which librarians rotate to set up service points outside of the library several hours per week, in order to reach out to students and faculty. These mobile service hours are schedules in addition to regular reference desk assignments. Lastly, think about the environment of an Information Common (IC) which is regarded by many as "the academic library of the future" (MacWhinnie 252) The expectations for an Information Common is to assist students to access resources in a variety of formats, including print, electronic, and multimedia, as well as to provide technological expertise for information specialists. Again, staffing and training are critical issues. MacWhinnie's research on 20 academic libraries in the US confirms the complexity of the staffing for this service environment. An Information Common usually requires tiered reference services provided by a staff that increasingly includes paraprofessionals, graduate assistants, and computer hardware/software specialists, or a technician. Although it is highly desirable to have a combination of professional reference librarians with highly trained technology staff to cover all the shifts, in reality, the cost of such mode of double staffing often is too great for a library to consider. Consequently most of the ICs "either combine some level of professional staffing with student workers or limit the amount of professional staffing to hours of peak use" (MacWhinnie 252). Along with the tiered reference, many ICs maintain longer hours. Furthermore, some libraries have more than one IC located on different floors of the library building; and some have maintained the traditional service desks when they created an IC in the library. These scenarios all increase the complexity of scheduling management. ScheduleSource, therefore, might be something to consider as a solution.

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Jupiter: A Tool for Cataloging Web Resources

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Abstract

Since some open access Web resources complement licensed library electronic resources, library subject specialists at the University of Kansas wanted a way to direct library patrons to resources of scholarly value. The Libraries at University of Kansas developed an easy-to-use tool for subject specialists to catalog freely available Web resources without the need to learn complex cataloging rules or to interact with overly technical systems.

The utility and process for creation of descriptive records for Web resources was developed as a collection development tool. "Jupiter" is a database driven application for subject specialists to assign metadata for open access resources of scholarly value to programs at the University.

The records described in Jupiter can be browsed by a locally developed subject taxonomy and are searchable through the Libraries' Information Gateway. Licensed electronic resources and freely available Web resources are organized by subject and are available through the Information Gateway for one-stop access to quality research material. Jupiter also stores records with metadata describing the subject. Specialists and library patrons can refer to this information to get assistance in a specific subject area.

The selection of Web resources to catalog is based on the same criteria for selecting print and licensed electronic resources. Since the implementation of Jupiter, subject specialists have learned to incorporate the evaluation and cataloging of Web sites into their collection development activities. The simple Jupiter entry form eases the cataloging task.

Introduction

A favorite choice of students for discovering information is searching freely available sites on the World Wide Web. According to a recent OCLC study, a high percentage (89%) of college students start with search engines in their studies. Students trust the information obtained through search engines “almost equally” as the “information they get from libraries” (OCLC 6-4). To

assist students in selecting quality sites, academic libraries have struggled with various ways of providing some kind of access to freely available Web resources through their home pages. A common principle among libraries is that scholarly Web sites complement existing library collections and careful selection of those Web sites has become a collection development activity (e.g., Librarians' Internet Index, http://www.lii.org). In the process of "collecting" Web sites, supplemental metadata adds value to records describing the resources.

One option for organizing descriptive data for scholarly sites is the creation of Web-based subject bibliographies. The bibliographies are inclusive of all formats including print, licensed resources, and quality Web sites. As to the more traditional routes of bibliographic description, the literature includes arguments against cataloging Web sites using MARC format, which is more appropriate for print, while Dublin Core is "grounded in the internet" (Hunt 4). OCLC's CORC (Cooperative Online Resource Catalog) is a resource-sharing product for electronic resources utilizing MARC or Dublin Core metadata elements.

When a library decides to catalog freely available Internet resources, who is responsible for cataloging and where do the records reside? A survey conducted by Boydston and Leysen included questions that assumed only cataloging staff participated in this task, although practices vary. Responding libraries "offer patrons a Web-clickable list by both title and subject, in addition to creating MARC bibliographic records" for their catalogs (137). Baruth asks if future generations of search engines will have the sophisticated capability of refining search results and adding the value that libraries currently attempt to create. She raises a valid point about inundating library catalogs with records to Web sites (Baruth 2).

The University of Kansas (KU) Libraries decided to take a somewhat different approach to cataloging freely available Internet sites. Subject specialists would select and catalog the resources through a locally developed database, "Jupiter." The resources would be stored and accessed through a separate repository linked through the Libraries' Information Gateway. After two years of cataloging Web sites, the subject specialists were surveyed to indicate how they use Jupiter in their collection development activities.

Rationale and Requirements

In 2003, the Dean of Libraries charged the Managing Electronic Resources (MER) working party with examining some of the issues surrounding the provision of electronic resources for the KU community. Licensed electronic resources were the primary focus for the group, but subject specialists often identified freely available scholarly resources for inclusion on the Libraries Web site and online catalog. The library administration preferred a consistent treatment of resources whenever possible, so MER investigated methods to identify and catalog scholarly open access electronic resources. MER recommended that librarians select and describe open access resources for their assigned subject areas. The Head of Collection Development and the Assistant Dean for Scholarly Communication, in conjunction with MER, created a document titled "Guidelines for Selecting and Processing Open Access Electronic Resources" (University of Kansas Libraries). The document "provides guidelines to selectors on the best mechanism for identifying open-access resources for cataloging." It outlines what types of electronic open access resources are suitable for inclusion in library collections, who is responsible for

cataloging them, and where they will be made available on the Libraries Web site. A team from KU Libraries and Information Technology designed and built Jupiter, an easy-to-use tool for subject specialists to catalog freely available Web resources of scholarly value, which are then available to patrons through the Libraries' Information Gateway.

This paper does not address the public interface (http://infogateway.ku.edu) for Web resources cataloged by subject specialists in Jupiter. However, the digital library system in use at the time, Endeavor Information System's ENCompass product, influenced many of the initial decisions. KU used the Endeavor products ENCompass for Resource Access and ENCompass for Digital Collections. The ENCompass cataloging interface did not meet the Libraries' requirements for usability out-of-the-box, and would have required labor-intensive customization. Further, ENCompass lacked bulk metadata export functionality. KU wanted an application that would provide both a simple, intuitive cataloging interface and a method for exporting records from what would become the database of record for Web resource metadata records.

KU had other considerations when designing its system to capture metadata about scholarly Web resources. KU used qualified Dublin Core in XML format for descriptive metadata within ENCompass, and therefore wished to use Dublin Core for metadata in the new application. The Libraries wanted a Web-based input form so software installation would be unnecessary. Another requirement was to use some type of authentication to limit access to the system to authorized users only.

Subject specialists required an easy-to-use interface that would not complicate the process of applying metadata. Most subject specialists at KU do not have cataloging experience, and learning complex cataloging rules and metadata schemes are not part of their assigned responsibilities. At least initially, we did not want a sophisticated system. Jupiter was seen as a temporary solution until the ENCompass cataloging tool improved. As the application evolved, it was evident that Jupiter was better suited to the local needs of the KU Libraries. Subject specialists needed to know what resources had been cataloged previously, whether by themselves or by others, so Jupiter includes some simple reporting features. These include who created or last modified a record, records associated with a specific subject specialist, all resources cataloged under each subject term, and all resources cataloged under each genre term.

Dublin Core is a widely used, interoperable metadata standard. The elements and element refinements of "qualified" Dublin Core provide for simple description of networked resources. The display order of the fields is reproduced in Table 1.

The Subject fields require subject specialists to select from a controlled list of values. The subject terms used to describe resources cataloged in Jupiter are part of two-level subject taxonomy, and include the same terms assigned to licensed electronic resources. Within the Libraries' Information Gateway, the terms present a browse-by-subject approach for locating relevant resources. There are 124 terms arranged under nine broad subject headings. MER selected the broader terms during the first stages of the electronic resources public interface redesign in 2003. The narrower terms were selected from the terms used by the University for the Schools, departments, programs, and study areas within the University. Subject specialists were involved in each phase of subject taxonomy development.

Table 1
Metadata Fields in Jupiter Resource Record

Dublin Core	*Jupiter Label*	*Required Field*	*Repeatable Field*
title	Title	✓	
identifier	URL	✓	
title.alternative	Other Title		✓
creator	Creator		✓
publisher	Publisher	✓	✓
subject	Subject	✓	✓
description.abstract	Abstract		✓
resource type	Resource Type/Genre		✓
description	Notes		
description	Evaluation		
(not exported from Jupiter)	Last Viewed Date	✓	
(not exported from Jupiter)	Subject Specialist	✓	✓

Initially, subject specialists could request additions and modifications to the subject taxonomy; MER would review requests twice a year and implement the approved revisions. Currently, the Information Gateway and the subject taxonomy are under review. Jupiter will be updated to reflect resulting decisions.

Little training is required to use Jupiter. Subject specialists can add new resource records, as well as view, modify, or delete existing resources. Each metadata element on the resource input form includes an information icon; a popup box with a definition or usage examples appears when a user clicks on it. From the Jupiter update form (Figure 1), users can modify any existing record, whether entered by them or someone else. They can also choose to "expire" a resource, which will prevent it from being displayed in Jupiter, and from being exported to the Information Gateway. Jupiter also includes administrative forms for maintaining the subject and genre terms, and a feedback form for subject specialists to ask questions or suggest changes. There is also a Subject Specialist form to add or update contact and descriptive information about subject specialists. Other items linked from Jupiter include the list of subject terms, genre terms with definitions, and the "Guidelines" document.

Development Process

The Libraries chose to use ColdFusion and a Microsoft Access database to build Jupiter. Access is easy to use, and is readily available at KU. ColdFusion simplifies the creation of database driven Web pages and forms, and was already available on the main library Web server. The same functionality could be achieved using any database and Web programming language.

Records in the Jupiter database are extracted in XML format, the metadata "massaged" into the necessary format, imported into ENCompass, and made available to our patrons through the Information Gateway. A form in Jupiter allows us to choose new resources added since a specified date, resources modified since a specified date, or all resources for export. The same options are available for exporting subject specialist records, which are also imported into ENCompass. Since Endeavor has discontinued the ENCompass product, the Libraries will build

an interface for licensed databases, Web resources, and subject specialist information using a SQL Server database and ColdFusion. This will make it possible to update Jupiter records and have those updates immediately available in the public interface, without any export or import process.

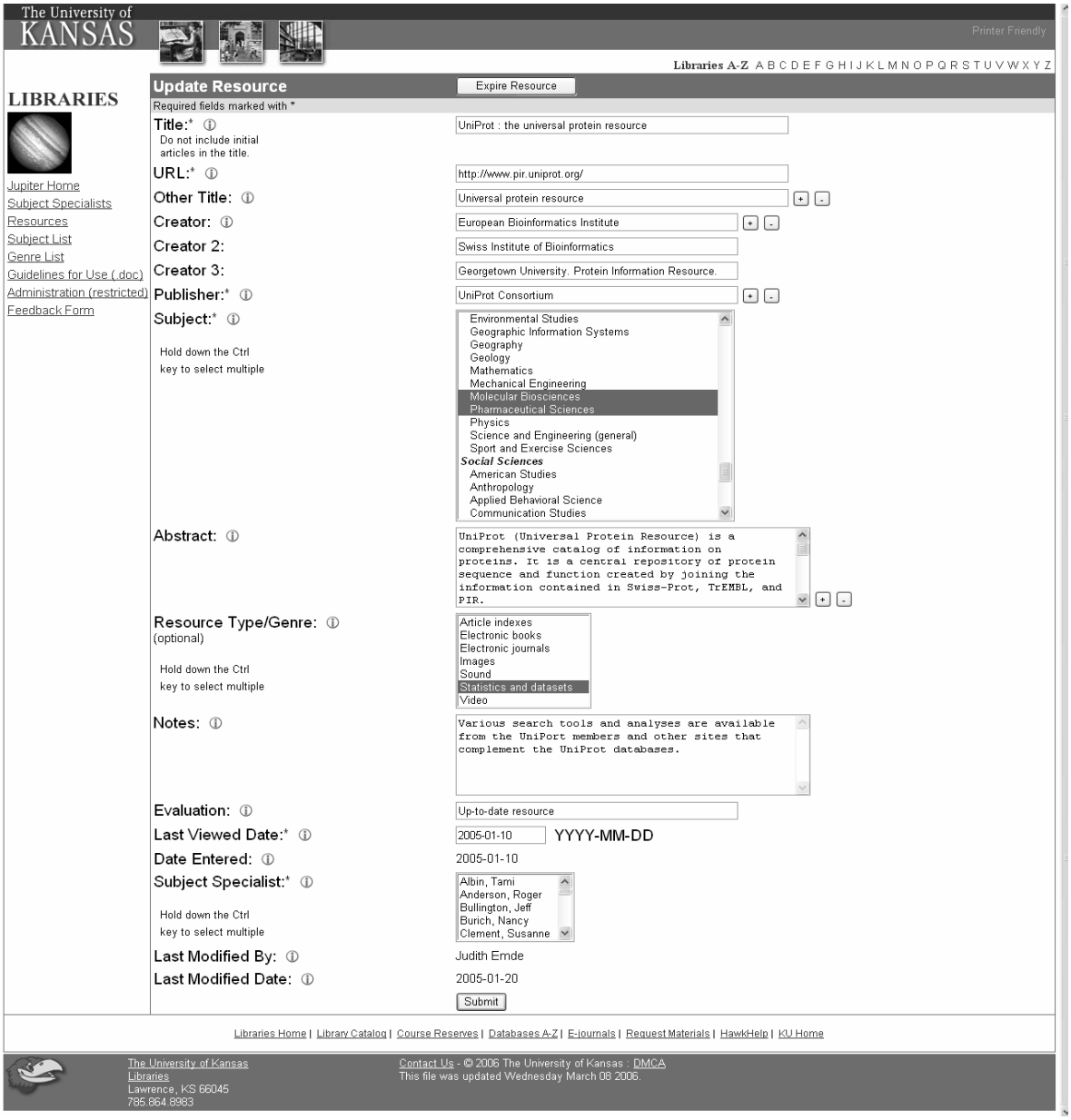

Fig. 1. Update Resource Form in Jupiter.

ColdFusion generates a page listing the Web resources from Jupiter. Then Xenu's Link Sleuth free link checking software performs a URL link check on the page. The page listing all resources is also a form used to generate a spreadsheet listing the URL, Title, and Subject Specialist associated with each record with a broken link. The information is saved for tracking purposes. The same form is used to generate automated emails to the subject specialists to let them know they need to correct the links.

Findings

In May 2006, there were 732 resources described in Jupiter. The average number of subjects associated with each resource was 2.5, and the maximum, thirty-six. On average, each subject had 14.6 resources associated with it; the largest number associated with a subject was 101. Two subject terms had no resources associated with them.

Anecdotal evidence pointed to mixed reactions to the Jupiter tool, the practice of subject specialists cataloging Web resources, and the Libraries' presentation of freely available Web resources alongside licensed electronic resources in the Information Gateway. Some subject specialists opposed the added workload, or did not wish to perform "cataloging" tasks. However, others said the process was easy, but resource selection was both time consuming and challenging. Subject specialists apply very different criteria for selecting scholarly Web resources and for choosing the subjects with which to associate them. The authors decided to survey the subject specialists to ascertain what they think of Jupiter in terms of its usability and as a collection development tool.

A survey (http://www.lib.ku.edu/jupiter/survey) was distributed to the thirty-one subject specialists at KU. To create and deliver a simple and attractive survey, a three-month subscription to Zoomerang, an Internet based survey instrument, was purchased. Subject specialists were contacted via e-mail to participate in the Web survey.

Twenty of thirty-one potential participants (64%) completed the survey with a good representation across the four discipline groups: humanities, international programs and cultures, science/technology, and social sciences. Statistically, there was little difference in the survey responses across the four groups. An overwhelming majority (95%) agreed that the identification and cataloging of scholarly Web sites is an important collection development activity, yet only 40% actively search for resources to add. Methods for identifying Web resources include finding in journals, on discussion lists, and by chance. The top three criteria for selecting sites were scholarly content, quality of work, and authoritativeness. Other criteria included meeting programmatic needs, updating frequency, and lack of advertisements. Most subject specialists have been selective in the number of sites cataloged in the subject areas for which they are responsible. Since the adoption of Jupiter in early 2004, 45% have cataloged five or fewer sites in each subject; 40% have cataloged between six and twenty sites, and only 15% have cataloged twenty-one or more. When selecting which subject terms to assign, some limit selections to their assigned subject areas. Others select the two or three subjects most closely related to the resource. Still others try to assign all the subject terms that may be related to the resource. This has caused some confusion, as subject specialists are neither prevented from nor encouraged to assign terms outside their bibliographic assignments. One survey respondent noted, "[Jupiter] is becoming unwieldy as hundreds of sites are added. Subject liaisons feel they have lost control of Jupiter since many others are adding sites that liaisons have no knowledge of or interest in." Only 40% review the cataloged Web resources for updates monthly or quarterly with 40% reviewing annually. The remaining 20% never review the sites. As to Jupiter's ease of use, 20% of the participants found the tool difficult to varying degrees while 55% find it at least somewhat easy to use. Importantly, is the Web Resources "collection" promoted in instructional sessions or in reference interviews? Sixty percent of the subject specialists refer to Web resources in outreach activities, but many qualified their response. Time and relevance for the particular class were cited as factors.

Conclusion

Most of the issues raised by subject specialists had to do with the public interface and the subject taxonomy. Respondents indicate they cannot adequately classify resources with the current subject taxonomy. The 124 subject terms in the subject taxonomy were too limiting, and they would prefer both more terms and more than two levels in the taxonomy. Many subject specialists expressed concern with the lack of control they have over the resources listed in their assigned subject areas. The current policy leaves decisions up to each subject specialist about which subject terms to apply to resources. Resolution will require subject specialists to work toward a common understanding about assigning subject terms to resources.

There was also a desire for closer integration of Web and other resources. Nineteen percent of respondents would prefer to have freely available scholarly Web resources integrated with licensed databases. The current interface presents databases on one page and Web resources on another. Other comments indicated a preference for integrating all electronic and print resources into the online catalog. Still other respondents were in favor of Web-based subject bibliographies in place of the current Information Gateway. Closer integration of all relevant resources might raise awareness of the Web resources and make it easier for subject specialists to include sites in instruction sessions.

Several respondents indicated they would like to have usage statistics for the Web resources section of the Information Gateway to know whether their efforts to catalog these resources are benefiting those conducting library research.

Subject specialists at KU consider the identification and cataloging of scholarly Web sites to be an important collection development activity, and find Jupiter an acceptable tool for this endeavor. Survey respondents suggested some changes to the functionality and interface, but generally found Jupiter easy to use. The findings of the Jupiter survey will inform future development of Jupiter and the Information Gateway, as the KU Libraries strive to assist college students in their search for information.

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Take the Library with You on the Web: A Mozilla Firefox Toolbar

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Abstract

Mozilla Firefox, a popular Open Source web browser, has made it possible for developers to have a great deal of control over the interface and its functions. As a way to make library resources easier to use and more visible to the user, the University of North Carolina (UNCG) has developed a toolbar for the Firefox browser. This toolbar utilizes JavaScript to provide a much greater degree of integration of library resources into patrons' web browsing.

The toolbar allows one-click access to subject guides and other library pages such as hours, staff, and contact information. There are also links to university resources such as Blackboard, and a small selection of databases. The toolbar has a search box which offers the capability to perform searches in the library catalog, Google Scholar, or some general subscription databases. In addition, the toolbar offers the ability to look up staff or students in the university's online directory, or to find definitions or synonyms. The toolbar also places links to the library's catalog through small library logos on websites such as Amazon and Barnes and Noble. This makes it possible for patrons to run a search through the library catalog for the book that they are currently viewing in these online bookstores by clicking the library logo.

Future improvements of the toolbar might include a login for various library and university resources and user customization, allowing users to choose the look of the toolbar or choose the databases that may be searched. Future plans also include installing the toolbar on public computers within the library, to assist patrons who are browsing the web.

The Mozilla Firefox Toolbar for UNCG, along with instructions for installation, is located at http://library.uncg.edu/de/toolbar.asp.

Introduction

Mozilla Firefox is an Open Source browser freely available for download on the web. As an Open Source software package and due to its design, a great deal of configurability and extensibility is possible. There is a thriving development community that produces add-ons to the browser to change its functionality. There are also a large number of themes that have been created to change the look of the browser. "Extensions" is the term for the small programs and widgets that have been created to extend the capabilities of the browser.

About Firefox Extensions

Firefox extensions cover a wide range of functions, many of which are not available within any other web browsing software. A small sampling of extensions would include capabilities, such as:

- Greater control over the tabbed browsing environment of Firefox, allowing one to save tabs over sessions, clone tabs, color tabs, or allow the opening of multiple links in tabs simultaneously
- Greater control over downloads, such as managing multiple downloads, controlling PDF downloads, or downloading all the images linked from a web page with one click
- Miscellaneous functions such as the ability to zoom in and out on images, block ads on a page, provide real-time weather forecasts, speed up the browser, etc.

One extension stands out as worthy of mention. It is called Greasemonkey, and it vastly simplifies a certain class of extensions that make changes to specific web pages. The extension allows someone to create a JavaScript program to perform the desired functionality, and then handles the rest of the messy business of working with the browser to make it happen. All of these extensions are available for free on the web.

Also available are themes which allow the user to entirely change the look of any part or the whole of the browser. Buttons, dialogs, and menus, as well as default colors and fonts can all be changed by the use of themes. There are themes constructed around cats, nature, sports, and retro looks, among many others.

Creating themes and extensions has been made fairly unproblematic due to the number of tutorials and information on the subject available online. The Mozillazine (http://www.mozillazine.org/) website includes many tutorials as well as a forum to get support and guidance from other developers, both beginners and advanced. Online tutorials often illustrate by building a simple extension as an example. Many of the configuration files from these tutorials can be cut and pasted, because much of the information does not change from extension to extension. Another useful tactic for creating your own themes and extensions is to simply take apart current themes and extensions that you wish to emulate.

Extensions require several steps to create. First, it is necessary to create a couple of configuration files in a language known as XUL, which closely resembles XML. JavaScript files are written to perform the actual functions of the toolbar. Any images will need to be created and any formatting should be done in CSS files. After all these files have been created, they all need to be compressed into a file with a .jar extension. This jar file and a few more configuration files are then compressed into a file with an .xpi extension. This is the file that Firefox users will open in order to install the extension.

Jackson Library Toolbar

Previous attempts to improve access to library resources included the creation of several bookmarklets which are snippets of JavaScript code that can be used in browsers similar to bookmarks. They were created so that students might be able to search databases and the catalog

by using one click, rather than navigating the library's website for each potential usage. If a patron sees a book he or she wants on the Amazon website, he or she just needs to select the title on the page and click the bookmarklet. The user is taken straight to a catalog search of the item.

The drawback of bookmarklets is that for each database or catalog or other function desired, a separate bookmarklet needs to be set up and installed. While this is easy to do, for those patrons that use many different library resources this might be time-consuming to get all the functionality desired. The toolbar brings a number of these resources as well as other functions together into one package. The patron can have access to a full range of library web pages, services, and other functions in one place while at the same time being able to browse anywhere on the web.

The UNCG toolbar has a number of capabilities:

- The toolbar has direct links to a small number of library databases, and allows the user to either go directly to that database, or perform a search right from the toolbar.
- Links to a number of important library pages are included on the toolbar, including:
    - contact information for library staff
    - ways to get research assistance
    - hours, department and staff listings, etc.
- When the user is at one of the three online bookstores (Amazon, Barnes & Noble, or Borders) a library logo is placed next to the results page of books. Clicking on the library logo provides a search of the catalog for the item in question (amazon, bn, borders).
- The "Find" button on the toolbar will allow the user to do several different searches from a dropdown menu. The user can choose from searching the catalog, Journal Finder, an online dictionary, an online thesaurus, and the UNCG student/staff directory. The button searches for any text highlighted by the user on the webpage. If no text is found, a popup box asks for the terms of the search.
- When the user performs searches in Google Scholar and Google Print., a small library logo is placed with each search result. Clicking on this logo does a search of Journal Finder
- Links to UNCG pages, such as Blackboard, webmail, and the student directory are also provided.

Future Toolbar Plans

Future plans for improvements to the toolbar may include the addition of choices for the appearance of the toolbar. Different images could be provided as well as an alternate color scheme, enabling them to choose the look of the toolbar that he or she likes best. This addition might also be made with the introduction of a Jackson Library theme for Firefox.

In addition to choices of appearances, it would also be beneficial to allow different users to select different databases for either the direct link buttons or the search box. Patrons in different programs could choose those databases that they use most, and discard unneeded databases. It might be possible to allow a package configuration. For instance, someone in the Philosophy program might be able to select the "Philosophy" or "General Humanities" option (or both) and

be provided with those databases that have been chosen by the library liaison to be useful for that department.

Also, for the benefit of off-campus users, working with proxy software would allow streamlining of the authentication process. If a user knew when they were authenticated or not, or perhaps even authenticated automatically by the toolbar, this might be very beneficial to off-campus patrons.

Finally, to further publicize the toolbar, future plans include installing it on public access computers within the library. If the toolbar were set up and ready to go as part of the default configuration of the browsers on the public computers, patrons would certainly be more likely to be introduced to it and want it to be implemented on their own computers. The toolbar is already advertised as one of many rotating news items on the front page of the library web site, but it may benefit from being advertised prominently on other University web pages.

Saddling the Whirlwind: Exploring the Organizational Culture of a Hybrid Library

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Abstract

Catalogers at the Wichita State University Libraries never complained about a lack of work. Their working lives have been always full with daily tasks and projects waiting for attention. Since 2000, the cataloging department has absorbed the selection and implementation of a new integrated library system, implemented an authority outsourcing project, cataloged e-journals (and decided outsourcing e-journal control was the better choice), and responded to personnel changes. Still, all of this was within the limits of traditional cataloging production and was directed by a hierarchical organizational culture. Now the work environment has changed! A library-wide reorganization has introduced "employee empowerment." Empowerment has emerged as a method of customer service improvement in the business community, and has relevance for the library environment as well.

Being a "brick and click" hybrid library that offers clients a large variety of printed and digital services, the Wichita State University cataloging unit employs a "hybrid staff" that combines traditional librarianship knowledge and skills with formation of technology skills. The empowerment initiative, however, affected the professional catalogers and cataloging staff in different ways. Professional librarians received the previously unthinkable freedom to initiate projects, to build teams for the implementation of new and enhanced services, and even to choose their coordinators and middle management. Catalogers/faculty, as members of the newly formed Library Faculty Council, became participants in a library-wide decision-making process. Together with expanded freedom, faculty also received new responsibility for decisions they made. New freedoms and responsibilities did not involve all staff members, however. Entry level/routine copy cataloging positions and student assistants continued to be organized in a more traditional hierarchical structure where copy catalogers were supervised by professionals or cataloging managers, and student assistants were supervised by experienced paraprofessional staff. The split "hybrid organizational culture" was formed!

Observing the performance of hybrid organizational culture in the cataloging unit for less than a year, one can make some preliminary conclusions. "Team" culture allowed hidden talents to emerge and opened opportunities for people who embrace innovation and exploration. In a short time, a number of new projects and initiatives were initiated, developed, implemented, and offered to cataloging clients. All three professional catalogers became heavily involved in new

metadata and other departmental and library-wide projects. Professional cataloger involvement allowed new services to be introduced without additional personnel or expense. Staff members, especially senior copy catalogers, undertook additional assignments previously performed by cataloger-professionals. Traditional strengths of the hierarchical organizational culture (discipline and structure) helped staff cope with increased workloads and kept routine cataloging activities in good shape. Major tasks of processing the "brick" collections now are performed by the hierarchically organized support staff. Observation suggests a hybrid organizational culture in a cataloging environment can be used in the development of new services, but to play it safe, a more flexible "team" culture should be complemented by traditional "hierarchical" one.

Hybrid Library

When the term "hybrid library" first appeared in England in the end of 90's, electronic library developers used this term to describe the new concept of the library. "A hybrid library is not just a traditional library (only containing paper-based resources) or just a virtual library (only containing electronic resources), but somewhere between the two. It is a library which brings together a range of different information sources, printed and electronic, local and remote, in a seamless way" (Pinfield). A hybrid library, according to this concept, is first of all an access provider, and only after that a collection owner. It directs printed as well as electronic resources to appropriate groups of users led by users' preferences. Some users may want to read books and browse the shelves. The other users prefer electronic methods of communications, multimedia products, and chats. A hybrid library serves users whether they are in-house or in remote location and provides to them appropriate services. To become a "hybrid library," the new information environment should be built; the new environment should consist of a seamless mix of printed and electronic resources.

The University Libraries

The Wichita State University Libraries is on its way to becoming a hybrid library. Currently, it provides its clientele with a variety of electronic and printed services available on campus and off-site. The Libraries offer access to its 1.3 million monographs, approximately 3000 printed serials, 550,000 government documents, 155 databases and e-journal packages with over 13,000 e-journals, and more than 25,000 eBooks from the library website, catalog, electronic delivery services, ILL, circulation and reserve. But to build the new information environment, printed and electronic resources must be blended seamlessly, more services, both new and value-added, should be offered to users; diverse groups of users should be reached in more precise and direct ways; new technology must be implemented in all areas of the library; the library as a space should be enriched and become a more attractive place with regards to the needs of the diverse library clientele.

Library Reorganization

It was noticed from the beginning of the development of hybrid libraries that:

> [F]or universities, a range of key management, organizational, personnel and training issues are involved. There are significant implications for the roles of

> support staff, which are bound to change even further, and for ways to organize, locate and develop relevant support staff. In addition, structures and procedures are needed to manage the process of change itself from the current structure of library service provision to the new hybrid environment. (Pinfield et al.)

For the last two years, the Wichita State University Libraries have been in a reorganization period with the goal of transforming the Libraries into a flexible, dynamic organization driven by empowered employees, "an adaptive enterprise." This goal is hard to reach within the limits of the traditional library organizational culture. Traditional values: productivity and quality, stability and predictability support operational activities very well, but are not so active in initiation of new services. The dynamic organization needs to reward creativity and initiative and to support employees in their efforts to find the solutions to new problems brought by the changing environment. Employees must be confident that they will be given support to take risks and make significant decisions. The organizational structure should be flexible and allow the free flow of information and improved communication between units. The organizational culture of such enterprises should include collaboration, team work, a spirit of unity, a high level of involvement in the organization, and active support of and advocacy for its goals and mission.

Employee Participation

The initiative to increase employee involvement into decision making came from the Libraries administration. The new Dean initiated a review of the organization within the first year of his arrival in September 2003. Rather than making all decisions from the top, the Dean asked representatives of the faculty and classified staff to review the current organization, to look to the future, and offer ideas for change in the Libraries organization. The task force worked for several months and solicited ideas from the rest of the Libraries faculty and staff. This group made a series of suggestions and offered their ideas to library personnel in an open forum. Some of the suggestions met with great approval, others did not. The task force allowed a period of comment from their colleagues, and then revised some of their recommendations. More drafts of the plan were submitted for comment, and at the conclusion of this period the task force submitted a final revision directly to the Dean, who approved the presented model of the Libraries reorganization with a few minor modifications. All existing library committees, except those required by the University, were dismissed.

The new primary policy recommended organ, the University Libraries Faculty Council, was created. The Council, comprised of full and part time faculty and administration, and chaired by the Dean, holds meetings monthly. The similar organ, University Libraries Allied Professional Association, was created to address staff concerns and issues. University Libraries Administrative Council, chaired by the senior Associate Dean was created to direct operational activities of the Libraries. Some additional task forces were created to address specific issues, and the rights to create additional teams as needed were given to Associate Deans, Chairs, and both Councils. The Dean reserves his right to issue an executive order for cases not covered by existing policies (for the period of two months). This decision making structure is strong and flexible while at the same time providing a balance of strategic, executive, and day-to-day operational management of the Libraries.

Reorganization of Cataloging Department

The Cataloging Department participates actively in the library-wide reorganization. The goal of the Cataloging Department in the library reorganization is to:

- Provide access to traditional resources, plus accommodate new kinds of formats or information sources;
- Respond to even more diversity in our user community;
- Meet traditional faculty needs but also expectations of new faculty used to a great variety of electronic resources;
- Support a constantly changing student population (students who have only known the presence of the Internet, but also more traditional students who may be less comfortable in an electronic environment)
- Address the needs of our local community and distance researchers worldwide

In the process of reorganization, the Cataloging Department was renamed Metadata Services. Its organizational structure was flattened.[4] The principal Cataloger assumed the leading position as Coordinator of the Department, reporting to the Associate Dean. Professional catalogers and lead support workers became more active balancing their operational and project activities on different levels, such as small units (e.g. Music and Media area; Processing Area, etc.), department, or library-wide involvements.

Professional catalogers received the opportunity to lead teams and to explore new aspects of their librarianship roles. Their workflow shifted toward initiation, development, participation and coordination of various projects. The Metadata Cataloger was hired to assume responsibilities for digitization projects. A Special Project Cataloger joined the Department. Metadata Services became more actively involved in the management of electronic resources and non-MARC cataloging. Several important projects were initiated including among others: record enrichment initiatives; electronic theses and dissertation program (ETD), and the implementation of an Open Access digital publishing database of works authored by University employees. The newest "OPAC re-design" project involves professional catalogers of the department. Faculty from different departments work together in various projects. In several cases, the administration appointed faculty as coordinators, or chairs of committees. Senior faculty and administration help junior faculty to obtain confidence with their new assignments when previously coordinators often were left to struggle with problems without administrative support.

Two Organizational Cultures

The new "team culture" made its first steps in the Metadata Services department. Ad hoc project teams are appointed by administration. Norms became less rigid, which is typical during

[4] Similar changes happened in other university libraries technical services as well, see Bailey 307-329.

organizational change. Teams are formed to solve a particular problem. They bring together people with different skills, knowledge, and expertise. Charles Handy, in his Gods of Management, described the Athenian notion of team as creative "task culture," participative management, and Apollonian "hierarchical culture," or bureaucracy with his love of classical forms, systematizations, classifications, discipline, clearness, and order (Handy 34). Working in teams is different than working in a traditional cataloging production environment. Team assignments are given in general terms; details and direction are not determined; group roles are not defined; workflow is not formed; there is no reporting line inside the group except of appointed coordinator, or chair. But creative challenging assignments are usually more attractive than routine tasks and give people more satisfaction.

Today the library organizational culture includes both elements: traditional administrative hierarchy and empowered teams. Teams are directed to completion of the projects and the development of new services while traditional hierarchical units are responsible for operational activities. The presence of traditional management provides stability, which is very important during reorganization. "Team management" adds interesting projects and job satisfaction. Both segments are in balance, which helps to fulfill the library re-organization goals.

The new library organizational model has been in effect since September 2004. As soon as the new organizational model became effective, several important positive changes happened almost immediately. A Systems Librarian position had been on the books but unfilled for years – this position was filled. A need for an electronic resource librarian was voiced, and this position is likely to be the next "new" faculty member to come into the Libraries. Other issues are also being addressed – the Libraries are looking at using internal blogs to increase communication, and new faculty will serve in a primary department but will participate in another department's activity a few hours each month to increase awareness of inter-relationships within the Libraries.

Conclusion

The way to become a genuine "hybrid library" is long and not easy. Often, we think about new technology and technological aspects of our work. When we talk about the human part of movement to the new information environment, we mention training and skills more often than anything else. We notice changes in clientele faster than changes of ourselves. In this paper the authors wanted to bring attention to the changes in our working environment, in ways we organize, how we communicate, and how we "do things." We wanted to bring attention to organizational culture of hybrid libraries, which is changing with us and changing us. These changes are the important aspect of success of our endeavors toward the genuine "hybrid library."

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Research from Afar: The Library Usage Patterns of Distance Students

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Abstract

Librarians at Beulah Williams Library, Northern State University, undertook a survey of the university's distance students in order to better understand and serve their needs. Knowing more about how distance students search for information, their attitudes towards the university library, their level of awareness and usage of library resources, and what services they would like to see offered will inform future library purchasing decisions, the development of the library's web presence, and will help identify marketing opportunities and potential new services for distance learners. Data was also gathered about research requirements in existing distance courses for possible collaboration and promotional opportunities with course faculty members.
The students that participate in NSU distance programs should provide a good cross-section of ages and experience levels found among distance education students in the typical university. This research would also interest educators who teach or are involved in administering distance course work requiring research. The survey findings are shared here.

Using a Personal Response System to Enhance Interaction and Assessment in Library Instruction

Richard Eissinger
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Abstract

Academic instruction librarians often lament that all too often they only have one class to teach library research skills to students. And this opportunity quite frequently only presents itself once in the students' college experience. Frustrated by limited feedback from library instruction classes and the uncertain results from assessment efforts, instruction librarians at Southern Utah University needed a better method to measure what students were learning in classes.

Personal Response Systems (PRS), also known as clickers, audience response systems, and student response systems, provide needed interactivity for library instruction classes. Instruction librarians at SUU are using this system to assess instructional effectiveness and encourage student feedback in library instruction classes. This kind of classroom research is providing quick feedback that is being used to redesign library instruction to make it more productive.

This presentation will illustrate how a personal response system works, show results of instruction feedback at SUU and how it is used, and show how a PRS can make even a large class interactive, encourage student learning, and assess students' understanding of concepts.

Promotion for Pennies: Marketing and Promoting Your Academic Library on a Shoestring

Jennifer A. G. Jenness
Technical Services Coordinator
Williams Library, Northern State University

Abstract

Small academic libraries usually have one primary factor in common when it comes to promotion and marketing: limited resources. However, without effective marketing, libraries run the risk of becoming increasingly marginalized. Most have little time or money to devote to such efforts, so librarians are forced to come up with creative and inexpensive marketing methods. For this project, I will be surveying a variety of small academic libraries to discover what ideas or tools they use for promotion and marketing, focusing particularly on those which can be utilized with minimal outlay of time and money. The methods can be either tangible or virtual, reaching out to the online community or the community at large.

For the purposes of this study, I have defined a small academic library as a library which serves a student population of between 1000 and 5000. I will be contacting librarians at both private and public universities to complete the survey, and will conduct follow-up interviews via email or telephone if necessary. My objectives for this project are: to discover and compile marketing ideas used by small academic libraries; to determine themes and trends within existing library marketing and promotion practices; and to enable other libraries to more effectively market themselves by using tried and tested promotional tools and avoiding those shown to have little or no impact. I hope to show that there exist a wide variety of useful methods for library marketing which can be effective and inexpensive.

Leave No Stone Unturned:
Bring Your Holdings to Light with WorldCat Collection Analysis

Deb Ehrstein
User Services Manager
Missouri Library Network Corporation

Abstract

To make the most of your acquisitions budget, your library needs data that reveals your collection's strengths, gaps, and overlaps in subject-matter coverage. WorldCat Collection Analysis is a web-based service from OCLC that allows libraries to analyze their collections and compare to peer libraries that have their holdings in WorldCat, OCLC's union catalog. The service provides many benefits to libraries:

-- Easily identify strengths, gaps and overlaps in your collection
-- Analyze the collection by parameters such as subject, publication date, language, format, and audience level
-- Assist collaborative collection development
-- Use results to facilitate acquisition, weeding, and preservation processes
-- Demonstrate fiscal responsibility or financial need, and prove responsible stewardship to administrators and funding bodies

This session will demonstrate how to compare a collection to that of other OCLC member libraries for age and subject content, generate printable graphs, and export analysis results.

May We Organize You? Document Management for the Idealistic Technical Services Librarian

Beatrice L. Caraway
Head of Technical Services
Trinity University

Jane Costanza
Head of Cataloging
Trinity University

Abstract

Who writes and updates administrative documents and makes them accessible on your campus? Are some documents available in paper, others stored as Word files in a department's or office's common folder, and still others posted to the university's website?

Is it easy for people to find a policy or procedure when they need it? If your answers to these questions reveal a somewhat casual and disorganized institutional approach to managing administrative documents, you are not alone.

After years of frustrated calls to administrators and their staff members to locate a policy, procedure, or handbook, along with many disappointing instances of finding a needed document on the campus website only to discover that the Web version wasn't up-to-date, the technical services librarians at Trinity University decided to take things into their own hands. After all, the best people to write policies and handbooks are not likely to be the best ones to manage them. Since administrative documents fall loosely—very loosely!--under the rubric of intellectual output of the institution, we reasoned that we were justified in offering to take over the collection, organization, provision of access, and archiving of these administrative documents in electronic format. Little did we realize the difficulty of the undertaking!

There are at least two options to choose from: a home-grown web page or a commercially produced content management system. Both come with a fairly high price tag, the first in time, the second in money. We will describe and demonstrate the advantages and disadvantages of each, then talk in more detail about the various facets of the option we selected at Trinity.

Search Engine Toolbox:
Rethinking and Improving Your Web Search Strategies

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Abstract

Developing effective strategies for searching the web—and teaching those strategies to our students—can be challenging. Most of us already have particular methods we apply when searching the catalog or a database; why have we not applied these strategies and skills to web searching? Why have we not made a concerted effort to help our students to become more sophisticated web searchers when search engines seem to be their tool of choice?

This is not another presentation about Google tips and tricks. This presentation will focus on the web search strategies we need to teach our students to help them find the materials needed for their academic assignments. We should be teaching our students about ways of thinking through a search and methods of executing a search that generate authoritative, comprehensive, reliable, and current results.

Search Engine Toolbox is for anyone involved in reference or instruction; it's an opportunity to improve our own web search skills and to rethink our approach to teaching web search strategies to our students.

Establishing Virtual Reference through Partnership: The GWLA Model

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Abstract

The "chat" partnership of three universities (Arkansas, Iowa State, and Southern California) illustrates the benefit of working across institutional boundaries to provide patrons a cutting-edge service for more hours than would have been possible had the three universities provided it individually. This partnership grew out of a larger vision to reach underserved users through sharing resources across the Greater Western Library Alliance (GWLA), a national consortium of thirty-one research libraries. The three chat partners have paved the way to 24/7 chat service and hope to add more libraries to their partnership.

The divergent needs of potential partners proved the first significant challenge to developing the GWLA chat project. Members of the task force that planned the initial service navigated differences in their organizational values and cultures; they also had to balance integrating a new consortial service into existing virtual services. Ultimately only three of the approximately ten libraries represented on the task force agreed to staff the consortium's pilot service. After each coordinator from the three campuses received permission to proceed, the three new partners laid the groundwork for their collaboration. Training was their top priority. First, some librarians had to learn the software. On a more advanced level, all librarians needed to learn to work with one another across the boundaries of their diverse institutions and develop guidelines and promote practices so that all their chat patrons received answers of the highest quality.

After the GWLA chat service debuted in February 2005, the coordinators observed what they had anticipated: their colleagues answered better the questions related to their own institution. To address this imbalance, the coordinators refined a web page with key information about the three campuses and their library resources, a critical tool. The coordinators also began a systematic review of the chat transcripts to assess the quality of their joint service. This assessment led to tentative standards for chat etiquette and a common understanding of what types of questions a librarian should be expected to answer across institutions and those a participant should refer to the patron's home library. These experiences indicated both the benefits and limits of virtual service, reinforcing the continued need for traditional library services.

Communication and marketing have been key elements of the project's success. Regular conference calls and e-mails among the coordinators and their staffs have proved essential. Marketing—external and internal—has allowed the three universities to establish a clientele and

build a corpus of librarians determined to provide excellent virtual service across institutional boundaries. Inspired by the golden rule in the virtual age, "Answer for others as you would have them answer for you," the librarians of the University of Arkansas, Iowa State University, and the University of Southern California have maximized their assets to offer an emerging service. Their experiences could benefit other libraries seeking to chart their futures in an era of scarce resources.

Introduction

The "chat" partnership of three universities (Arkansas, Iowa State, and Southern California) illustrates the benefit of working across institutional boundaries to provide a valuable service for more hours than any of the three could have offered individually. This paper traces the roots and development of this collaboration, and addresses the marketing and assessment used to foster the service, which was launched in February 2005.

Background and Beginnings

The partnership of the University of Arkansas (UA), Iowa State University (ISU), and the University of Southern California (USC) is a product of the Greater Western Library Alliance (GWLA), a consortium of thirty-one research libraries. In 2003, the deans and directors of the GWLA libraries discussed the formation of a consortium-based virtual reference service as part of a series of projects to maximize resources and reach underserved users.

The authors, along with individuals from eight other GWLA libraries, began regular communication with one another and the executive director of GWLA in February 2004 to plan a consortium-wide virtual service with both asynchronous (e-mail) and synchronous (chat) components. The members of the task force quickly agreed that a shared e-mail service was of dubious value. Their libraries were able to answer their e-mail queries satisfactorily and members saw little benefit to sharing them. On the other hand, pooling resources to answer virtual reference questions in real time over an extended schedule—including late night and weekend hours—was an attractive prospect. The Association of Southeastern Research Libraries (ASERL) Ask-A-Librarian service provided the group with a compelling model: eleven ASERL institutions had just begun a collaborative chat service, which was available eighty-four hours per week.

The divergent needs of the potential partners proved a significant challenge to developing a GWLA chat service. Not only did the members of the task force navigate organizational differences, but also they had varying experiences with chat reference. Most, but not all, of their campuses offered chat; several of these had existing partnerships with non-GWLA institutions, which they expected to continue. One university's chat service was experiencing dismal demand; its service and participation on the task force ended shortly thereafter. Furthermore, the potential partners used three different software programs for chat reference, making common ground even more elusive. Ultimately only three libraries agreed to staff the consortium's pilot service: UA, ISU, and USC. The initially ambitious task force spawned a small "cluster" of three campuses, whose coordinators adapted to changed circumstances and adopted a more modest vision.

Collaboration—Establishing a GWLA Chat Service

Tight collaboration characterized the work of the three new partners and was key to their success. The campus coordinators decided that the telephone, not the Internet, would be their primary medium of communication. Although e-mail supplemented the regular conference calls, the latter allowed the three to explore substantively the challenges that they faced. In addition, the conference calls allowed more personal interaction and built camaraderie. This sense of community proved central to this venture: if the GWLA service were to succeed, each campus had to support the other two, and the vision that the coordinators developed for the collective needed to be conveyed to local colleagues (Singh and Ginman 135). Although the coordinators might not agree on every point, they had to commit to a vision and reach a general consensus on key points. They lost some autonomy but recognized that the loss was necessary for the common good (Boissé 92). Within this context of collaboration the cluster laid the groundwork of the new service.

In planning the GWLA chat service, the coordinators first identified the many databases that they held in common. Second, working with local colleagues, each coordinator devised a list of Web sites from her or his campus that were frequently consulted in reference work and most apposite in a virtual environment (e.g., campus maps, information on remote access to resources). One partner created a Web page with a table of these links, which later proved valuable. Before the service began, the coordinators encouraged their colleagues to explore the links of the other two campuses and learn the idiosyncrasies of their collections and services.

Setting the hours of the service and the individual contributions of each campus was the next [5]step. This task touched on a sensitive topic: workload. But the coordinators reached consensus quickly and agreed to staff chat fifty-eight hours per week. These hours did not place an unrealistic demand on any campus and included service on Sundays and weeknights. UA took the fewest hours (sixteen), and USC took the most (twenty-four). ISU offered to work the four weeknights while staffing the reference desk, an experience that would give the cluster the opportunity to note the benefits and pitfalls of juggling in-person and chat service.[1] In response to ISU's generous offer, the other two campuses accepted the Sunday hours. Each coordinator took responsibility for staffing the hours assigned to her or his campus. Having agreed upon a schedule, the cluster tackled the question of when to launch chat.

The coordinators had hoped to begin offering chat as a group in the fall semester of 2004, but several factors delayed their start date. ISU and USC were using the software around which the cluster had been planned (the standard version of QuestionPoint), but the librarians at UA had no experience with chat and needed training in the use of the software and chat techniques. The three campuses needed to develop facility with answering questions for one another in real time. To prepare for live service, the three libraries conducted several role-playing sessions, during which librarians at each campus in turn took the role of the service provider while librarians at the other two campuses asked questions. These exercises built confidence and gave the librarians experience working with the resources of the other campuses without mangling genuine

[5] Many librarians from at least one GWLA library expressed strong reservations about staffing chat reference at the in-person desk. For a comprehensive discussion of the pertinent issues in the literature, see Ronan 82-86, 124-25.

encounters. As a result, the service providers proceeded with adequate confidence and competence when their service went live in February 2005.

Marketing—Cementing a GWLA Chat Service

Early in their collaboration, the coordinators had begun a subtle campaign of internal marketing among their local colleagues to orient them to a shared virtual service, a task that they recognized as a prerequisite to external marketing (Broady-Preston and Steel 294). The three welcomed constructive criticism, but sought a critical mass of buy-in and inculcated a "customer consciousness" among their colleagues (Singh and Ginman 137). They acknowledged their stake in fulfilling the needs of all patrons using the service, not merely their own campus's clientele, which they couched as the golden rule of the virtual age: Answer for others as you would have them answer for you. The coordinators attained their objectives with little difficulty, but had to overcome the skepticism of some service providers; namely, that their own patrons would not receive adequate help from the librarians at the other two campuses. Patient internal marketing addressed this reservation. As part of this effort, the coordinators reminded their local colleagues that although the new medium could not meet all information needs, the consortial service provided hours of coverage not possible had the universities continued to provide chat individually. Over time, a team spirit developed across institutional boundaries, which grew as representatives from the three campuses met at national conferences. Careful internal marketing, reinforced by a growing team spirit, resulted in better chat transcripts and provided a springboard for the three campuses to market the service to their clientele.

Although the coordinators agreed to launch a large external marketing campaign at the campus and consortium levels after they had acculturated their colleagues and built a satisfactory chat service, several factors impeded external marketing, which developed piecemeal. Each campus took a different tack in publicizing the service, often via library newsletters, word of mouth, and the Web. One service provider at UA, an artist, created a whimsical logo, which was placed prominently on the home page of the UA Libraries. Small peaks in use often accompanied these campaigns, but the partners recognized that concerted marketing, particularly at the consortium level, might attract far greater use. Nevertheless, the coordinators agreed to redirect their limited time toward assessment in order to improve the consistency of their service. Thereafter, they faced some major decisions, including the choice of a different software and the challenge of extending service hours in light of increased workloads and without more GWLA partners. The coordinators agreed that these critical decisions, which are discussed below, required their immediate attention and chose to defer comprehensive external marketing until they were convinced of the short-term stability of their service and software.

Assessment—Honing a GWLA Chat Service

From the beginning of their collaboration, the coordinators were determined to develop a service of high quality. They acknowledged the limits of collaborative reference service, especially that the service providers could not answer all questions fully (Ronan 125-26). However, these limits could not be an excuse for poor service. For the service to succeed, its quality had to be sound in both substance (accuracy) and style (etiquette). After commencing chat, the coordinators began to examine the available transcripts, which included sessions either accepted by their local colleagues or initiated by their campus's patrons, and observed what they had anticipated: their local colleagues answered better the questions that related to their own institution. After several months, the coordinators decided to make assessment more systematic. They reread RUSA's

Guidelines for Behavioral Performance of Reference and Information Service Providers, generated files of their transcripts to date, and conducted several conference calls discussing the strengths and weaknesses of sample sessions. They did not agree on every point but reached a consensus on markers of quality. While critiquing these transcripts, the coordinators worked with their local colleagues to ensure a broad representation of professional opinions. This exercise resulted in local procedures, including guidelines for referrals, which supplemented the RUSA Guidelines. Each coordinator shared the guidelines with her or his local colleagues to ensure accurate, courteous answers and to build a stronger, consistent service. The coordinators had intended to formalize the guidelines and place them on the Web but shifted their priorities to extend the hours of their service.

The Holy Grail—24/7 Service

In the first year of the GWLA service, the three academic libraries staffed chat between fifty and sixty hours per week, but failed to recruit other libraries and did not have adequate personnel to extend coverage on weekdays beyond 9 P.M. Central Time (7 P.M. Pacific time), a schedule that did not serve late-night researchers. To address this need, the coordinators considered joining the QuestionPoint 24/7 Reference Cooperative to supplement their local service. The cooperative offered round-the-clock coverage, but disadvantages as well. Outsourcing would cost money and require a shift in software for both the service providers and users; in addition, the cooperative service providers, who represented OCLC and more than one hundred member libraries, would not have the familiarity that the three GWLA libraries had developed with one another's resources. After weighing the pros and cons, the coordinators recommended that their libraries purchase the new software and membership in the cooperative, to which their administrators agreed. However, in order to avoid changing chat software twice within a few months, the three campuses delayed joining the cooperative until OCLC released its new Flash-based chat software in March 2006. The three GWLA universities agreed to staff the service twenty hours per week as members of the cooperative, and in return received 124 hours of additional coverage from other cooperative service providers. As a result, the patrons of the three academic libraries acquired continuous access to a remote reference librarian. Although when the coordinators had begun their collaboration in 2004 they had not expected to rely so heavily on non-GWLA providers, they ended the spring semester of 2006 satisfied with the quality of service that the 24/7 Reference Cooperative provided. Furthermore, they acknowledged that round-the-clock service would have been unattainable without some outsourcing. Their partnership had survived but evolved. The three GWLA libraries had adapted to changed circumstances to meet a need. As the coordinators surveyed their work with one another and planned their future, they recognized that the adaptability within their collaboration had served it well.

Results and the Future

As the authors completed this paper, a fourth GWLA library had inquired about joining the chat collaboration and negotiations were underway; this development emerged from the dynamic nature of the GWLA chat partnership and the redefinition of the service as a result of membership in the 24/7 Reference Cooperative. Joining the cooperative changed the nature of the collaboration. The outsourcing aspect and the limits of the software shifted the identity of the GWLA chat partnership: the cooperative service providers assumed a large share of the questions from UA, ISU, and USC. Furthermore, the cooperative service providers might not recognize when deciding to pick up a chat patron from one of the three GWLA libraries that the three campuses have solid knowledge of one another's resources and thus not give a librarian

from one of the three campuses—if online—priority in answering the question. The coordinators have discussed staffing their chat service more than the required twenty hours per week to answer a greater share of their local chat traffic, but there is no financial incentive to staff "GWLA only" hours because of the pricing structure of the 24/7 Reference Cooperative. The three also have discussed devising some subject-based chat service but have not resolved how to achieve this goal. The contributions of a fourth GWLA partner, and perhaps other partners, could serve as another variable in considering these possibilities. Irrespective of these particular outcomes, the three coordinators recognize that their collaboration retains relevance to ensure quality of local service and leverage with OCLC; there will continue to be strength in numbers as the redefined group charts its future. At a minimum, the coordinators are pleased that their patrons enjoy access to round-the-clock, cutting-edge service of satisfactory quality and that their libraries have accrued benefits from sharing resources across institutional boundaries.

Conclusion

Although written primarily in the past tense, this paper depicts a vibrant, ongoing partnership. Despite the challenges of sustaining an alliance across three diverse, far-flung institutions, the three academic libraries have formed a resilient, evolving collaboration, one that attained the holy grail of reference work, 24/7 service, and exemplifies the continued promise of collaboration in a period of scarce resources. The authors' experiences can serve as a model to libraries with limited resources that wish to launch a chat service.

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Making Instruction Audience-Appropriate: Information Literacy for Non-Traditional Students

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Abstract

For non-traditional students who may be confronting information in an online academic environment for the first time, being able to understand and evaluate the information that is constantly bombarding them is an important and useful skill. Providing these students with strong information literacy skills can be critical to their academic success. But how can librarians best present information literacy skills to non-traditional students? One approach that has been effective is using a research journal, coupled with annotated bibliography and in-class presentation assignments, to reinforce information literacy skills presented during in-class instruction to these students. The annotated bibliography and presentation assignments work together to teach students not only how to search the literature but also to critically evaluate information sources and to synthesize that information and communicate it to their fellow students. The research journal helps non-traditional students keep track of their research process during a time in their academic careers when they are both new to the research process and pressed for time as they juggle their school, work, and family lives. This presentation will discuss the effectiveness of this method in two courses taught in the Adult Reentry Program at New York University's School of Continuing and Professional Studies.

Introduction

In library instruction sessions for undergraduates, librarians are used to being greeted by a sea of young, tech-savvy students who may feel like there is little they need to be taught about finding information. However, these are not the only faces in library instruction sessions today, and, while it is great that librarians are working so hard to capture the attention of these new students, it is very important that efforts are also made to provide instruction that is appropriate to another growing population of students, the non-traditional student. Non-traditional students, or adult learners, are typically defined as “over twenty-three years of age and pursuing a baccalaureate degree” (Wyman 1988), and their numbers on college campuses have grown consistently over the past thirty years (Gold 2005). While the young “Millennials” that most academic libraries find themselves catering to today expect things like online collections and online research help, adult learners bring different expectations to the educational process. They expect great customer service and consider it necessary for effective learning (Oblinger 2003). Adult learners also have the additional demands of work and family on their time that most traditional students do not have, and incorporating formal learning into their hectic lives requires a large commitment on their part. Because of these differences, non-traditional students often want “classroom content and skills to have value in areas outside the classroom” (Gold 2005). These expectations that adult learners have for their educations have big implications for how libraries present

instruction to these students. The big question for librarians then becomes, "How can we address those needs in library instruction?"

The Adult Reentry Program at NYU's School of Continuing and Professional Studies

New York University (NYU) offers a suite of academic choices aimed at adult learners through its School of Continuing and Professional Studies (SCPS). This school offers more than 2,000 noncredit courses in areas such as foreign languages, art, and business. It also offers credit courses leading to associate's, bachelor's, and master's degrees. While much of the coursework offered through SCPS is geared toward adult students, there is a division within the school that provides an environment that celebrates the life experiences of non-traditional students and works to incorporate them into the higher education experience. This division is called the Paul McGhee Adult Reentry Program. The students in this division are understood to be working full-time jobs and leading full family lives. Consequently, classes are offered in the evenings and on weekends.

Although no science degrees are offered in the McGhee Program, several science classes are offered for these non-traditional students. Two of these science courses, *Biology of Hunger and Population* and *Global Ecology*, include library research components. For these two courses the professor had always asked his students to write term papers researching science topics. To ensure that the students were well equipped for this task, he had always brought them to the library to learn how to efficiently search for and locate scientific information resources. However, he found that this term paper project was not truly giving the students what he wanted them to get out of the project. He was interested in creating "science literate" students who could put their new skills to use in their everyday lives.

In the summer of 2004 he met with his subject librarian, and they discussed his hopes and expectations for his class. He wanted to craft an assignment that would expose the students to science information in a variety of publication types—academic publications that they might encounter while pursing their degrees as well as popular publications that they encounter in daily life, ensuring that his students had a good understanding of what types of information were available to them. He also was concerned about his students abilities to evaluate the science information that they found. What types of assignments could he give his students that would not only allow them to explore course-related topics in an in-depth fashion but also give them skills that they could put to use in their everyday lives? The librarian devised a strategy for achieving this goal that included three assignments that would help students gain needed information literacy skills, instruction sessions that would introduce the students to those skills, and follow-up appointments that would allow students who needed one-on-one attention to get it.

The Assignments

Instead of a term paper, students in *Biology of Hunger and Population* and *Global Ecology* would instead complete a set of three assignments designed to not only expose them to scientific information but also give them skills that they could transfer to other courses and to their daily lives. The first of these three assignments was a research journal that the students would keep as they searched for information on a topic they had chosen. They would be searching for

information to use in the two following assignments: an annotated bibliography in which they would evaluate the information found on their topic in a variety of sources and an in-class presentation in which they would synthesize the information they found on their topic so that it was easily understandable by their peers.

The guidelines for the research journal were simple. Each student should keep a record of their quest for information on their chosen topics as they went about their searches. This record could include information such as which database they were searching, what search terms they initially used, how many results they returned, any evaluation of the results they did, and how they refined their search. The purpose of this assignment was two-fold. First, many of the students in these classes were going through the library research process in an electronic environment for the first time. Keeping such detailed notes about the process should help them to better internalize it so that it becomes a tool that they can automatically call upon when needed. While this is important with any student, it is especially so for students in the McGhee Adult Reentry Program, which emphasizes not only its respect for the students' life experiences but also its usefulness to them. Second, most of these students are full-time employees, parents, and spouses. They are juggling their coursework around very full lives, and, in order to make good use of their time, they are often working on assignments in the small chunks of time that they can steal at lunch or after the kids are in bed. Keeping a research journal that included the details of their last searches and what criteria they were using to evaluate the sources they found allows them to retain the continuity of their work without having to set aside large chunks of time to complete it.

The annotated bibliography assignment asked the students to find a minimum of sixteen references on their topics (including newspaper, magazine and journal articles, and web pages) and to format those references using the citation style most appropriate for their field of study, be it business, education, or history. Students would approach their literature searches with a careful eye, asking themselves, "What are my criteria for choosing sources for my bibliography?" As they located sources for their bibliographies, they would then apply these criteria, carefully selecting the resources to be included in the annotated bibliography. Instead of reading articles for a paper, the students would read those articles with the purpose of writing annotations that evaluated the information presented in the articles for audience level, content, and authority. This focus on evaluation gives the students skills that they can later transfer not only to other assignments but, more importantly for the adult students, to any information source they come across in their everyday lives. Having the students present their evaluations in a bibliography format gives them practice using the appropriate citation format for their disciplines as well as reiterating to them the importance of citing the source of information used in their course assignments or in their everyday work.

The final assignment asked the students to prepare a fifteen-minute presentation on their topics to present the information they found to their classmates. This assignment was much more transparent than the other two. Its purpose was simple—to require students to process and synthesize the information that they had evaluated and to share that information with their fellow students. In many ways it was the real replacement for the term paper assignment that had been given to students in previous classes. Although the instructor's goals for the courses were met mainly through the annotated bibliography assignment, especially non-traditional students, are

more familiar with a traditional assignment like an in-class presentation and tend to focus on it. To them the annotated bibliography is a means to an end, and that end is the presentation.

The Instruction

To prepare these students to complete their assignments, one session of each course was devoted to a library workshop that would introduce the students to the new concepts presented by these assignments, the library research process, and bibliographic citation software. Ordinarily, condensing all this information into one instruction session would not be the best method of delivering library instruction to these students. However, because these courses are geared towards non-traditional students, they only meet one evening per week for a long two-and-a-half hour session. The instructor requested that all the information be presented as an "in-service" workshop, a format that is familiar to the workplaces of many of the students in the courses. This workshop took place early in the semester to allow the students plenty of time to work on their assignments throughout the semester.

The first topics that had to be addressed in this library workshop were the assignments themselves. While the students all understood very well what was being asked of them in preparing an in-class presentation, almost none of them understood what a research journal or an annotated bibliography was. Research journals and annotated bibliographies had to be defined, and detailed explanations of the guidelines for these assignments had to be given.

Once the students understood what the assignments were and how to create research journals, the focus could then turn to evaluation of information. Making sure the students really understand this topic is so critical to achieving the professor's goals for the courses, and it is a critical information literacy skill that non-traditional students really need. They are well accustomed to evaluating print information, but for many of them the combination of electronic periodical subscriptions available via a click of the mouse and webpages just as easily accessible via Google is a bit confusing. How is evaluating one different from the other? To help clear up any confusion students might have, information on evaluating both print and web resources is presented as a lecture and discussion and in an online tutorial.

While students in these classes are not new to computers or online environments, many of them are new to library research in an online environment, so the basics of database searching are also covered in this library workshop. Boolean searching, truncation, and phrase searching are all presented to help the students learn to search effectively and efficiently, avoiding the information overload that they may feel when conducting simple keyword searches at their favorite Internet search engine. As many of these non-traditional students are also encountering library databases for the first time, what kinds of information one might expect to find in different databases and types of publications are also discussed.

The last topic covered in these library workshops before the students are given time to begin working on their projects is the use of RefWorks bibliographic citation manager. Because one of the benefits of an annotated bibliography assignment is helping to familiarize the students with the citation style most appropriate to their discipline of study, introducing them to a tool such as RefWorks that can help them with this process is quite appropriate. It makes formatting proper

citations much easier for the students, and it gets them used to a tool that they can employ in other assignments where citing their sources is critical.

The Follow-Up

Because all of the instruction for these assignments took place in one workshop near the beginning of the semester, the subject librarian knew that many students would need additional help to complete their assignments much closer to the date when the assignments were actually due. To provide such help the librarian decided to offer one-on-one appointments to each student in the classes should they need it. This help was advertised during the workshop, in the course syllabus, and on the course web page. While not all students took advantage of this service, those who did asked for help in various areas of the assignments. While a few students did need more remedial help in searching the databases, most students who requested help with their searches really needed the expert assistance of a subject librarian in finding information on particularly difficult topics. Other students simply needed more help in beginning to use RefWorks. However, the majority of students requesting one-on-one appointments simply wanted feedback on their in-progress annotated bibliographies. Not having compiled such a bibliography before, these students just wanted to run their work by a non-threatening, knowledgeable individual before submitting their work to be graded.

Outcomes

The results of implementing these assignments coupled with instruction workshops and in-depth follow-up have been good overall. The professor has been pleased with the skills gained by his students from the completion of these projects, and the students are pleased because they are learning skills that can be used in many of their other classes. However, this process has not been without its problems. Having only one workshop per course per semester has necessitated offering extensive one-on-one help for many students, and at least some of this might be eliminated if the instruction were better integrated into the course. Additionally, many of these non-traditional students are accessing the library's resources remotely from their work computers. While this arrangement works well for most students, some have difficulties accessing these resources due to restrictions on those computers. Even so, the relationships built between these students and the library during this process is extremely important. These students have not only conquered the NYU Library and the library research process but also internalized that process and learned to critically evaluate information.

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From Far and Near: Analysis of On-Campus and Distance Learning Students' Responses to a Library Assessment

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Abstract

This paper discusses an assessment of library resources and services conducted among students at a medium-sized regional state university. During the assessment process, an intentional effort was made to distribute the survey to, and encourage responses from, students in different academic disciplines as well as in various learning settings: on-campus classes, face-to-face distance learning classes, and online classes. Our discussion begins by describing the context in which our decision to conduct an assessment occurred. The process of organizing the project and developing the questions is then detailed, after which the focus turns to the procedures we used to administer the survey. We will present the results of our assessment, followed by an analysis of the responses we received from over 1000 students. Our analysis was reviewed with special regard to discovering whether distinctions between responses from students enrolled in on-campus classes and students enrolled in distance learning classes could be observed. In conclusion, we will point out implications for improving our library resources and services along with possible directions for future investigation.

Introduction

The survey discussed here is the end result of a process that began in 2002. At that time librarians at Sam Houston State University's (SHSU) Newton Gresham Library met to consider conducting an assessment of students and faculty regarding the use of the Library's resources and services. Although the resulting survey, conducted during the Spring Semester of 2004 included faculty as well as graduate and undergraduate students, the focus in this paper is on the undergraduate student responses, particularly in regard to the following questions. What library resources and services are most often used by students in on-campus, off-campus, and online

settings? What, if any, significant distinctions between students in those three groups can be observed?

An initial literature search revealed that a project of this type required focus, direction, and persistent effort, along with people willing to invest time and energy in the project success. The researchers who made up the assessment team included three librarians, and a psychology professor with expertise in survey methodology and use of SPSS.

The first task, determining the purpose and goals for this survey, resulted in the following:

- To discover what Library resources and services are being used by students and faculty;
- To determine how students are accessing Library resources and services;
- To provide data for decisions regarding existing resources and services;
- To ascertain how often and from what venue "distance learning" students are accessing and using library resources and services;
- To provide documentation for reports to the University administration, state agencies and for Southern Association of Colleges and Schools (SACS) accreditation review;
- To apply Association of College & Research Libraries (ACRL) standards and guidelines regarding assessment of library services and resources.

At this point it would be valuable to define the following terms as used in this paper using the ACRL Guidelines for Distance Learning Library Services:

> *distance learning courses* –
> courses [that] may be taught in traditional or nontraditional formats or media, may or may not require physical facilities, and may or may not involve live interaction of teachers and students. The phrase is inclusive of courses in all post-secondary programs designated as: extension, extended, off-campus, extended campus, distance, distributed, open, flexible, franchising, virtual, synchronous, or asynchronous. [This is interpreted as including on-line courses also.]
>
> *distance learning students* –
> covers those individuals...directly involved with academic programs or extension services offered away from a traditional academic campus, or in the absence of a traditional academic campus, including students... (Association of College & Research Libraries)

Literature Review

Several pertinent studies of library use by on-campus students have been conducted at the University of California, Berkeley; Washington State University; University of California, San Diego; University of Memphis; and University of North Carolina, Chapel Hill. Since the focus of these studies was on-campus use, use by distance learning students was not addressed. The literature also reports several studies examining library use only by distance learning students (off-campus and on-line). These include work by Dew; Harrell, Stockham and Turtle; Fisk and Summey; McLean and Dew; and Lessin. Although studies comparing library use by on-campus

students with that of distance learning students are rare, Kelley and Orr and MacFarland provide examples of this dual focus.

Background

Among various assessment tools available for collecting data are: focus groups, individual interviews, and surveys. A survey was selected as the preferred method of data collection because the survey method:

- is flexible, can be of variable length and can include any number of different types of questions;
- can include valuable demographic questions;
- does not require lengthy instructions, and can be administered by someone without extensive training;
- requires comparatively little time on the part of the surveyors to administer;
- are less expensive than other forms of data collection;
- can exist in various formats, electronically for emailing, or print for distributing or mailing, or orally;
- can be machine-read.

A print format was chosen for the survey because paper surveys:

- can be machine read, and the responses analyzed statistically using SPSS software;
- allow for greater flexibility regarding stratification of the sample population;
- eliminate the difficulty of verifying student use of University assigned email addresses and possible prevention of delivery by SPAM filtering software.

Design of the survey came next. It was decided the survey should not take longer than 10 minutes for completion. Using the stated purposes as a guide, questions were created, to assess Reference Service, Ask-a-Librarian e-mail reference service, Interlibrary Loan, Reserves, Copy Services, the Library-based computer lab, Databases and Indexes, the OPAC, Electronic Journal search function (Serial Solutions), On-line Library Tutorials, face-to-face library instruction, the Library homepage, Special Collections, Study Carrels, Microforms, Government Documents, and lastly a rating for overall library service. The survey was divided into 5 parts: (1) frequency of use; (2) use of a specific resource or service; (3) the resources and or services the respondent used on last visit to the Library; (4) an overall rating of Library services; (5) demographic questions.

One other activity occurred before the survey was administered. The process and forms regarding research using human subjects were completed and the University's Institutional Review Board (IRB) granted approval.

Methodology

On Campus

Phone calls were made to selected teaching faculty members to explain the project and obtain permission to survey a specific course, or courses, allowing as often as possible the teaching faculty member to select the specific class or classes, and day/date for administering the survey. They were offered the option of administering the survey themselves or having one of the researchers administer the survey. If the teaching faculty member chose to administer the survey, then the necessary number of student survey forms was provided. Once the surveys were completed and returned, the researchers began the process of compiling the data for analysis.

Off-Campus

Researchers and teaching faculty members also administered the survey to students in selected distance learning courses that were face-to-face off campus classes, taught at the satellite campus as well as other locations. As with the on-campus classes, once the surveys were completed and returned, the researchers began the process of compiling the data for analysis.

On-Line

Researchers used the postal service to mail the print survey to the distance learning students enrolled in distance learning courses that were exclusively on-line or web-based. A postage paid return envelope was included with each mailing.

Population

The population for this study was selected from students enrolled in classes offered by Sam Houston State University. Convenience method sampling was used to choose participants with intentional effort made to reflect the University population as a whole. Selection of specific classes allowed for stratification by College or Department, by classification, such as undergraduate/graduate and lower division undergraduate/upper division undergraduate. “Location”, for example on-campus, off-campus and on-line web based was also considered in determining the overall survey population.

Results

Of the 2200 student surveys that were distributed, 1080 were returned (return rate = 50%) and 959 were determined to be usable. The surveys were optically scanned and the data analyzed using SPSS software. The responses were grouped into three categories: students enrolled in courses only on the main campus; students enrolled concurrently in courses on the main campus and in distance learning courses at the satellite campus; and students enrolled only in distance learning courses off-campus, whether at the satellite campus or elsewhere, or online.

Part One: Frequency of Use

The first part of the survey asked students to indicate how frequently they used library services and resources the semester the survey was administered. Students reported their use of 14 library services and resources on a 6-point scale ranging from "have not used" to "more than twice a week."

For each of the three groups the most frequently used resources and services were:

On-campus

- visiting the library building (39%),
- accessing the library's homepage (25%),
- using the homepage from a personal computer (18%),
- using a computer in the library's reference area (15%),
- accessing the library's databases (14%).

On-campus/satellite

- visiting the library building (38%),
- accessing the library's homepage (21%),
- using a computer in the library's reference area (18%),
- using the homepage from a personal computer (13%),
- using the electronic journals link (9%), tying with using the databases (9%).

Off-campus

- accessing the library home page (25%),
- accessing the homepage from the satellite campus (23%),
- using the homepage from a personal computer (23%),
- using a computer in the library's reference area (21%),
- accessing the library's databases (18%), tying with obtaining a full-text article (18%) and using the electronic journals link (18%).

Part Two: Use of a Specific Resource or Service

In part two of the survey, students were asked three yes/no questions:

- "Since the beginning of this semester I have used the "Ask-a-Librarian" e-mail question and answer service."
- "During ANY semester at SHSU have you been required by an instructor to complete any on-line library tutorial?"
- "During ANY semester at SHSU have you been in a class that received a library instruction session presented by a librarian?"

Only 5% of on-campus student respondents (n=40) responded "yes" to the question regarding using the Ask-a-Librarian email question and answer service. There were no "yes" responses from on-campus/satellite campus respondents and only 2.5% (n=1) positive response from off-campus respondents. A majority of on-campus students (55%, n= 439) indicated that they had attended a library instruction session. The number dwindled for both on-campus/satellite students as well as off-campus students. Only one-third of each of these groups report attending an

instruction session. On-campus students were more likely to complete a library tutorial (23%, n=182) than on-campus/satellite students (7%, n=7) or off-campus students (15%, n=6).

Part Three: Resources/Services Used on Last Visit to the Library

In the third part of the survey respondents were asked to choose from a list of 14 services and resources and mark any and all that they used during their last library visit. The most popular resource or service used during a library visit was the computer lab (55%, n=442 on-campus/ (53%, n=58 on-campus/satellite); followed by using computers in the library's reference area (44%, n=353 on-campus; 37%, n=41 on-campus/satellite); photocopy machines (39%, n=311 on-campus; 38%, n=42 on-campus/satellite campus); checking out books (35%, n=285 on-campus; 26%, n=28 on-campus/satellite); and using the library catalog (30%, n=244 on-campus; 22%, n=24 on-campus/satellite).

Since off-campus students, enrolled in classes through a variety of options (face to face distance education, online, correspondence), are dispersed geographically, visits to the campus library occur infrequently. Among off-campus students who did visit the library, use of computers in the library's reference area was reported most frequently (43%, n=17); followed by using the computer lab (25%, n=10); checking out books (23%, n=9); using reference materials (18%, n=7); and using the library catalog (18%, n=7).

Part Four: Overall Rating

The fourth part of the survey asked students to provide an overall rating of library services and resources using a five point scale ranging from "very poor" to "very good." A majority of all students responding rated the library as either "good" (38%, n=377) or "very good" (33%, n=320), (26%, n=258) indicated no opinion, while only three percent of students (n=26) rated the library as "very poor" or "poor." The average rating from all three groups, on-campus, on-campus/satellite, off-campus, was "good".

Part Five: Demographics

Gender

The survey population of 959 was made up of 56% (n=532) females and 41% (n=394) males, with 3% (n=33) not listing gender.

Age

Survey results showed a mean age of 22.58 and a range of ages from 17 to 63 years.

College

Twenty-six percent (n=249) of the respondents were from the College of Arts & Sciences. Twenty percent (n=190) were from the College of Business Administration. Nineteen percent (n=179) were from the College of Criminal Justice. Thirty-one percent (n=295) were from the

College of Education and Applied Sciences. Five percent (n=46) reported no major or college affiliation.

Classification

Survey respondents were asked to state their classification. Of those responding:

- 17% (n=165) were Freshmen,
- 17% (n=164) were Sophomores,
- 29% (n=275) were Juniors,
- and 37% (n=355) were Seniors.

Current Hours

Survey respondents were asked to state the number of college hours they were taking in the current semester (Spring 2004). Nine percent (n=85) stated they were taking less than 12 hours; 73 % (n=696) stated they were taking between 12 and 16 hours; and 17% (n=158) were taking greater than 16 hours.

Analysis and Conclusions

Based on simple percentages, the most frequently cited activity related to library resources or services for on-campus and on-campus/satellite groups was visiting the library building itself. In contrast, off-campus students most frequently reported library activity was accessing the Library's homepage. A greater proportion of off-campus students reported accessing the library's databases than did the on-campus group and on-campus/satellite groups. Also a greater proportion of the off-campus group utilized the electronic journals link more often than did the other two groups. Using Pearson's Chi-Square of 0.050 or less, six significant differences were noted regarding: (1) use of Ask-a-Librarian email service, (2) use of on-line tutorials, (3) attending a library instruction session, (4) checking out library books, (5) using library photocopy machines, (6) using the computer lab in the library.

From analysis of these percentages and statistically significant findings researchers drew several conclusions. As expected, distance learning students in the off-campus group utilize the library's homepage to access services and resources. Since off-campus students visit the library much less frequently than their on-campus counterparts, they make significantly less use of in-building resources and services such as checking out library books, using photocopy machines, and using the computer lab. This verifies a long held assumption by the researchers that the library homepage is the primary link between off-campus distance learning students and the library. Researchers did not anticipate, however, the findings that off-campus distance learning students would use the Ask-a-Librarian email service and the on-line tutorials proportionately less than on-campus students, as well as significantly less than statistically expected for the group itself. Although library instruction sessions are conducted at the satellite campus, significantly fewer students in the on-campus/satellite and off-campus groups than statistically expected attended such sessions.

These and other findings will be used not only to document current activity, but also to inform future planning and decision-making in an effort to enhance provision of library resources and services for students in all three groups. Exploring additional approaches to marketing library resources and services, particularly to distance learning students, and increased contact with faculty members, especially those at the satellite campus are two areas for future action suggested by the results of this survey.

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Training Made Fun! Enhancing Student Training through Online Tutorials and Interactive Games

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Abstract

Libraries have come to rely on student employees to staff their busy service desks. Feeling the pressures to expand their hours of services to accommodate customers' needs at the same time witnessing the decline in their budgets has forced many libraries to depend on student employees to keep their doors open and to provide key services. One of the benefits of being at college or university is that academic libraries have access to a plentiful supply of cheap labor: student employees. However, libraries hire these employees knowing full well that they will eventually leave. The considerable investment in training student employees and the constant turnover make it very challenging to maintain service quality. The amount of time and effort in training may negate the monetary benefits achieved from hiring student employees. Libraries need to find more efficient and cost-effective ways to train and develop student employees so that libraries are maximizing the value of their investment.

The University of Illinois Library is overcoming this challenge of providing a cost-effective and consistent training of student employees through the use of online tutorials. Using TechSmith's Camtasia Studio, and its accompanying screen capture software called SnagIt®, the library created tutorials that actually simulate important transactions, showing students how to accomplish various tasks in the library's online systems. The desk supervisors can use these tutorials to instruct students on the fundamentals so that they can spend their time on more complex transactions and detailed procedures that require more one-on-one attention. The tutorials are then followed by Flash-based games and activities created in Respondus Studymate™. The students can work individually on the flash cards, multiple-choice quizzes, fill-in-the-blank, and crossword puzzles or they can compete as teams in a Jeopardy!-style game. One of the advantages of Studymate is that these games and activities can be produced on a web page or published directly into course management software (e.g., Blackboard). These learning games and activities provide the students with an interactive and fun way to test their retention and reinforce the information they need to know to be effective at the service desk.

These tutorials and learning aids are part of an on-going library-wide effort to develop a comprehensive training program for student employees at the University of Illinois Library. Librarians and staff from all areas of the library are collaborating to develop training materials and assessment tools to enhance service quality in the library.

Introduction

As librarians and staff are pulled away from the desk for instruction, collection development, and managerial responsibilities, student employees are on the frontlines of user services at many

academic libraries. Student employees are checking out the books, assisting users in finding books in the online public catalog, and providing basic reference and directional assistance.

Academic libraries benefit from hiring student employees who bring their freshness and enthusiasm to serving users. Whereas a student might find it difficult to approach a librarian for assistance, the same student may not hesitate to ask a peer at a desk for help and from this initial engagement, the student can experience the library as an inviting and safe place for learning and inquiry. Plus, the student employee can serve as a gateway between the students who are struggling with a research topic and librarians who can provide the necessary research assistance.

However, the major disadvantage in hiring student employees is that they will eventually leave in few years. Libraries train these bright students only to see them graduating and moving on to promising careers. The constant turnover of student employees can make it very difficult to maintain service quality, and the constant training can seem like a never-ending, perhaps onerous, task. The amount of time and effort in training may negate any benefits achieved from hiring student employees. Libraries need to find more efficient and cost-effective ways to train and develop student employees so that libraries are maximizing the value of their investment and are providing high quality and consistent service.

The University of Illinois at Urbana-Champaign (UIUC) Library is overcoming this challenge of providing a cost-effective and consistent training of student employees through the use of online tutorials. Using TechSmith's Camtasia Studio™, the library created tutorials to assist supervisors with student training in the circulation system. The tutorials are then followed by Flash-based games and activities created in Respondus StudyMate™. Theses tutorials and learning aids are part of an on-going library-wide effort to develop a comprehensive training program for student employees at the UIUC Library. Librarians and staff from all areas of the library are collaborating to develop training materials and assessment tools to enhance service quality in the library.

Tutorials

Each of the six tutorials focuses on specific tasks to perform in the circulation client and the online public catalog, such as searching for user records, searching for item records, charging and renewing, discharging, and placing book recalls and requests. Breaking down the training into these discreet topics makes it more manageable for the students to absorb the information and feel less inundated. A tutorial begins with a basic outline of the objectives and is followed with brief explanations and descriptions of the tasks. All of this information is to lead to the main event, full-motion screen video created using TechSmith's Camtasia Studio. From a tutorial's web page, the students are instructed to click on a link, and then they are taken to a popup window that launches the Camtasia video. Camtasia Studio captures the screen and mouse movements in such a way that it seems to simulate transactions step-by-step in the video. Not only can the students see how to complete a task by observing the movements, but the supervisor can annotate the screen through the use of callouts and voice narration. These features enhance the learning experience by providing clues on what the students should pay attention to and context for what is happening on the screen. Nevertheless, if a student is having difficulties with

comprehension of the material, they can stop the video and play back the relevant parts. Also, since the tutorials are web-based, the students can view them again for a refresher.

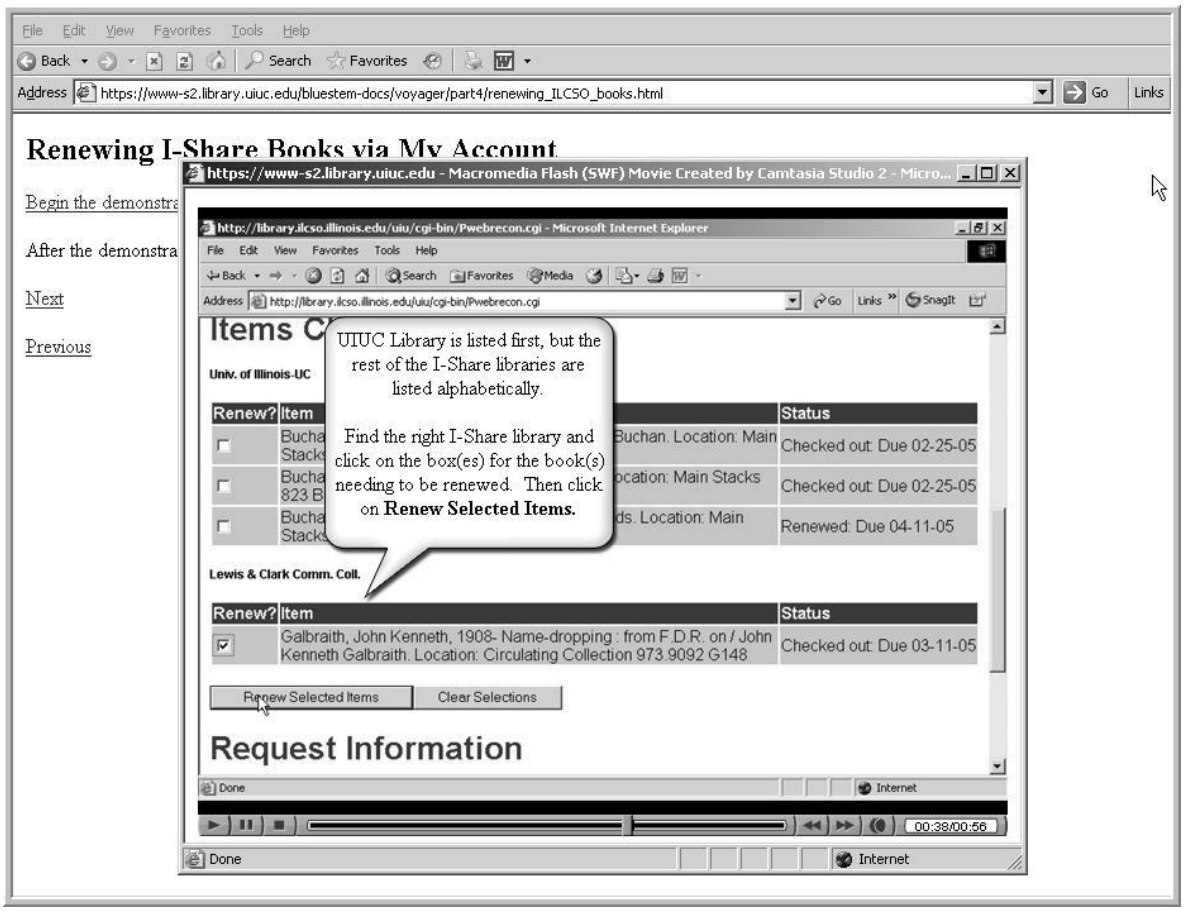

Fig. 1. An example of a Camtasia video in a popup window. The callout can direct the students to certain parts of the screen as well as provide instructions and additional information.

The tutorials work best for demonstrating routine, simple tasks. The videos come closer to capturing the actual transaction than reading a written manual, and for this reason, are more effective in conveying information for the visually-oriented undergraduate student. The students will vary on how quickly they can absorb the information and the tutorials allow them to learn at their own pace. The advantage for the desk supervisor is that she can rely on the tutorials to instruct students on the fundamentals that will build the core knowledge. Once the students have a good command of this information, the supervisor can expand on this knowledge base to move on to more complex transactions and detailed procedures that require more one-on-one attention. The videos can be produced through a variety of popular multimedia formats, such as Microsoft Windows Media, Macromedia Flash®, Apple QuickTime, and RealPlayer®. Another advantage for the supervisor is that the Camtasia videos are relatively easy to update. If changes in the layout and functionality of the system require the supervisor to redo the screen captures, it is not a time-consuming task.

While the tutorials can cover the majority of transactions, it is not always possible to develop a tutorial for all situations that students may encounter working at a service counter. Complicated

transactions that cannot be reduced to simple steps, but require the students to synthesize their knowledge to diagnose and troubleshoot problems, are not good candidates for tutorials. A more effective learning strategy is to have the students observe the supervisor and allow them to ask questions about the supervisor's thought-process. Other situations may also lend themselves to one-on-one or small group instruction. For instance, role-playing scenarios may be more effective in instructing students in good customer service behaviors.

Interactive Games

To reinforce the information covered in the tutorials, the students are directed to Flash-based games and activities created in Respondus Studymate™. Through Studymate, the supervisor can create a variety of games, both for individual learning or group instruction. The students can work individually on the flash cards, multiple-choice quizzes, fill-in-the-blank, and crossword puzzles. Studymate also has a Jeopardy!-style game, Challenge, that allows students to form teams to compete. The Challenge game is a fun and competitive way to test the students' knowledge as well as foster collaboration and team-work among the students.

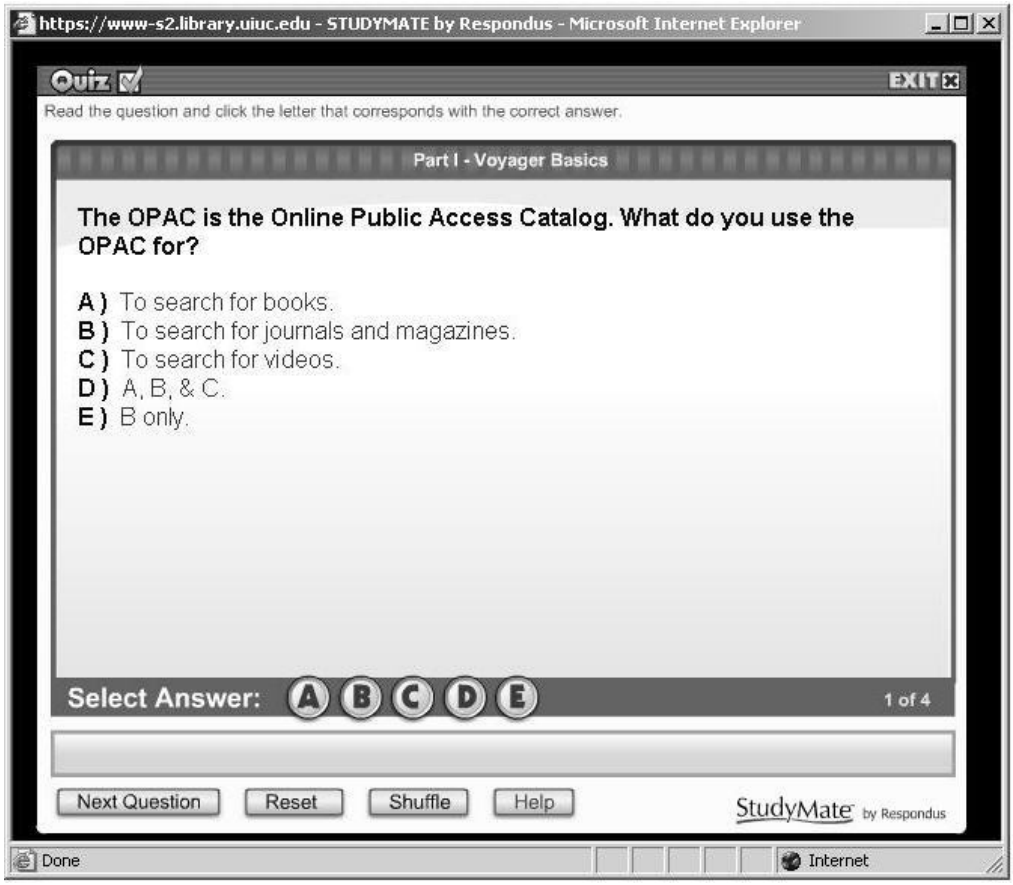

Fig. 2. An example of a quiz question in Respondus StudyMate™.
[Screen print reproduced with permission from Respondus.]

The supervisor does not need to possess sophisticated HTML and Flash programming skills to develop slick, professional-looking games. The desk supervisor can enter the content within a

couple of hours and select the best game format(s), and the games are ready for the students to start playing. The content can be straight text or a mix of screen shots and text. Also, Studymate games and activities can be produced on a web page or published directly into course management software (e.g., Blackboard™).

These learning games and activities provide the students with an interactive and fun way to test their retention and reinforce the information they need to know to be effective at the service desk. While the tutorials still require the students to passively watch a video, the games allow the students to synthesize the information and apply it to actual situations. The games can also test students' memory of key concepts and definitions. Nevertheless, the major drawback is that the games do not record how well the students performed in the various games. The lack of a scoring mechanism impedes the supervisor from seeing the results of the students' work and using this information for follow-up instruction.

Student Training Initiative

The UIUC library formed a working group to examine student training. Recognizing that every functional unit relies on student labor, librarians and staff with expertise in circulation, reference, preservation, acquisitions and cataloging, systems, and human resources came together to develop a comprehensive student training program. The vast majority of student employees are in the service-side of the library, but smaller branch libraries may have students working in all areas.

Each group member is responsible for developing content for their area and test questions to measure comprehension and retention of information covered in the training documentation and tutorials. The training documentation covers not only the basics of working in the library (e.g., how do you get paid), but also focuses on service behaviors (e.g., reference interview) and specific work tasks (e.g., checking out a book). Some students may only need to cover material relevant to their jobs (e.g., acquisitions check-in), but other students who need instruction in a variety of tasks (circulating books, proper shelving of books, troubleshooting computer problems, etc.) may need to spend more time reviewing a variety of documentation and completing multiple training activities. The group is working toward consistency in training and delivery of information, but also builds in flexibility so that individual supervisors can select the training material that is most appropriate for their student employees.

The plan is to put the content on the course management software, Illinois Compass (WebCT™), at the UIUC campus. The supervisors can track what parts of the training the students complete and can develop quizzes to test student retention. Unlike Studymate, the supervisor can view the students' test score and address the training gaps. Not only can the library utilize the software to manage its training content, but since many of the students are using it in their academic classes, the library does not need to spend valuable time familiarizing the students to the features and functionality of the training platform.

The training documentation on Illinois Compass is the initial training that student employees will need to pass in order to maintain their employment at the library. However, once the students have successfully completed their formal training, they may not always remember every detail of

their training. This is especially true for situations that do not come up very often. The library is in the process of developing a wiki so that the students can find an answer to a specific question without having to go through the full training course again. The wiki contains quick explanations or perhaps a one to two-minute video as a refresher.

Conclusion

The University of Illinois Library is attempting to address the need for systematic and consistent training for students in all units of the library. While online education comes close to fulfilling this goal, it is not the "one-size-fits-all" training solution. A good supervisor has a full arsenal of training strategies and will use the strategy that is most appropriate for each learning situation. Nevertheless, taking advantage of online tutorials and games conserves the supervisors' training time to areas that it is most needed. Plus, it gives the students an opportunity to learn at their own pace. Considering all of these advantages, online training tools present a win-win situation for supervisors, students, and the library as a whole.

Recommended Reading

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Additional Resources

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Virtually Yours - How to Construct an Electronic Resource Room for an HLC Visit

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Connie Migliazzo
Librarian
Metropolitan Community College - Blue River campus

Abstract

Providing college documents to the visiting evaluation team during an accreditation visit is a vital component to a successful reaccreditation. Resource rooms of documents are usually created for this purpose and often librarians are recruited for the task. Librarians from the Metropolitan Community College - Kansas City, created a web-based Resource Room database with electronic links to documents as well as a physical room containing organized documents shelved by broad subject categories. This session will explain the steps taken to set up the database, how to collect the appropriate documents, and how to process a Resource Room in preparation for a Higher Learning Commission re-accreditation visit.

Library Instruction Evaluation: Measuring Success in an Increasingly Complex Electronic Environment

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Abstract

With rapidly changing technology and a shift from hardcopy to electronic resources, librarians are faced with new instruction dilemmas. Are students getting the optimum benefit from their library instruction experience? Do students value electronic resources more than traditional reference books? Are there concepts that students miss or need further clarification? What do our students think of us as librarians? This presentation examines the ways to evaluate the effectiveness of library instruction via surveys and other assessment tools implemented at Wichita State University. By implementing evaluation tools in library instruction, instructional librarians hope to gain a better understanding of the information needs of their client base. The recent implementation of instruction evaluation sheets has generated a considerable amount of raw data. Librarians at WSU have experimented with a variety of different survey methods and received different results. From elaborate qualitative and quantitative surveying to informal minute papers, there are a variety of different ways to measure effectiveness through surveys.

Introduction

Instruction outcomes assessment has long been a priority in the world of higher education, including academic libraries (D'Angelo 282). When the concept of information literacy emerged in the early 1990s, academic librarians made a concerted effort to articulate student learning outcomes of library instruction and to assess those outcomes (Merz and Mark 1). For guidance on outcomes of library instruction, academic librarians look to the "Information Literacy Competency Standards for Higher Education (2000)" published by the Association of College and Research Libraries (ACRL).

Assessments must prove that those outcomes have been met. For years, academic librarians have faced the choice of which kind of assessment to use: qualitative or quantitative, multiple choice or open response, or a combination of both (Frary 21). Assessments can either be summative, which measure actual learning, or formative, which measure instruction quality (Riddle and Hartman 60). Tests and portfolios are examples of summative assessments. Examples of formative assessments are standardized surveys and one-minute papers (Angelo and Cross 5). This paper will focus on these last two methods of assessment as they have been employed by instruction librarians at Wichita State University (WSU).

Standardized Surveys

Because they are easily administered and analyzed, standardized surveys are a common assessment technique for library instruction. A study of 158 academic libraries by the ACRL found that 36% of the libraries that did formal assessment of library instruction used surveys (Merz and Mark 8). Such surveys usually contain several questions in multiple choice, Likert-scale, or short fill-in answer formats. By analyzing student response patterns, instructors can see areas of agreement or disagreement within a class. Instructors can use the results to make informed and timely adjustments to their teaching (Angelo and Cross 330-1).

There are also drawbacks to this assessment technique. Standardized surveys are not objective (Choinski, Mark, and Murphey 563). They tend to measure immediate user satisfaction to a session, but not whether any learning (defined as an increase in knowledge, improved or developed skills, or a change in attitude) has taken place. Also, if a survey contains Likert scales, respondents tend to mark the middle option of each question (Barton, German, and Joint 4-7).

One-Minute Papers

The one-minute paper (OMP) is a simple and versatile method to assess what students have learned in a course or in a single library instruction session. Angelo and Cross describe how to use the one-minute paper:

> An instructor stops class two or three minutes early and asks students to respond briefly to some variation on the following two questions: "What was the most important thing you learned during this class?" and "What important question remains unanswered?" Students then write their responses on index cards or half-sheets of scrap paper…and hand them in (148).

One-minute papers require very little time and preparation and provide timely and detailed feedback from students. Students who write one-minute papers may improve meta-cognitive skills such as reflecting and active listening (Wilson 199; Stead 119). One-minute papers are ideal for large classes, during which there may be little time for student questions (Angelo and Cross 152). Also, OMPs may help instructors identify students who need special help, but are reluctant to voice concerns during the lecture time (Wilson 199).

As with any assessment method, the one-minute paper has some drawbacks. If OMPs are used more than once a week, students and instructors may lose interest. Also, students may need more than one minute to respond to an OMP. Finally, instructors may want to remind their students that it may not be possible to respond to each OMP, especially if the class is large (Angelo and Cross 153; Stead 120-121).

Evaluating Library Instruction

An ACRL study of 158 academic libraries found that 95% use the "one-shot" method of library instruction (Merz and Mark 8). This method is commonly used by Wichita State University librarians. The one-shot format makes measuring long-term outcomes of library instruction a

challenge because of limited contact with students. Often, a large amount of material must be covered in that one brief session, leaving little time for assessment. Even worse, sometimes a librarian will forget to conduct the assessment (Choinski and Emanuel 150). It never fails to amaze one author of the variety of interesting questions that students can ask. These fascinating information queries are usually posed at the end of class when one intended to say "please take a moment to fill out the survey."

Another difficulty with accurately measuring outcomes is that students are not entirely aware of how useful the information presented in library instruction will be for their studies. Based on survey assessment, some students appear to immediately grasp search techniques and strategies that will be instrumental in effectively locating good sources of information while others appear less confident. According to Gill, the goal of evaluation is to effectively answer three questions: (1) what should students learn; (2) how well are they learning it; and (3) how does the institution know (4-5). For the first question, librarians at least in theory make lesson plans for library instruction with some concrete idea of specific databases, canned searches, and other electronic resources to show the class. The last two questions deal primarily with assessment.

Many library instruction sessions at WSU are evaluated through the use of a structured survey developed by Pam Howard. Twelve questions measure the quality of the session through a five-point Likert scale (with "1" representing least satisfied and "5" representing most satisfied). The scale also has four questions for qualitative comments. These forms are usually distributed by the teaching librarian during the last few minutes of a session and collected. Recently, WSU librarians have been using the one-minute paper as an alternative or a supplement to the structured survey. The OMP questions used in this study were "What is the most important thing you learned in this session?" and "What would you like to see added to the session?" The authors believe that trying different assessment techniques is worthwhile to measure how well students are learning and to improve future library instruction.

Methods and Results

The structured survey (see Table 1) was administered to a class of 33 business students in the last five minutes of a one-hour library instruction session in the fall semester of 2005. Both library instruction sessions took place outside of the library and featured electronic resources. The instruction and assessment process was repeated with a class of 54 business students in the spring semester of 2006. Results from the quantitative section of the survey (the twelve Likert scale questions) were averaged (see Table 2). The averages of the fall semester class were compared with those of the spring semester class to see if there was any increase in student satisfaction ratings.

Table 1
Evaluation of Library Instruction

The difficulty of the material presented was	1 Low	2	3	4	5 High
The librarian's manner of presentation (voice level, rate of speaking, etc.)was	1 Poor/distracting	2	3	4	5 conducive to learning
The librarian's classroom presentation was	1 Poorly prepared	2	3	4	5 Well prepared
The speed at which the librarian covered the material	1 Too fast/slow	2	3	4	5 Appropriate
The librarian's knowledge of the subject appeared	1 Poor	2	3	4	5 Excellent
The librarian responded fully to questions from students (if applicable)	1 Rarely	2	3	4	5 Always
The librarian was enthusiastic about the class	1 Strongly disagree	2	3	4	5 Strongly agree
I felt free to ask questions and make comments	1 Never	2	3	4	5 Usually
The amount of material presented in this session was	1 Too much/too little	2	3	4	5 Appropriate
The librarians handouts (if applicable) were	1 Rarely clear	2	3	4	5 Always clear
I think this class will help me in my research	1 Not useful	2	3	4	5 Very useful
My overall rating of this session is	1 Poor	2	3	4	5 Excellent

Which website did you find the most useful?

Which handout did you find the most useful?

Is there something else you would like to see in the presentation?

Comments / Questions:

(If you would like a personal response, please include your name and contact information)

Curt Friehs curt.friehs@wichita.edu

material borrowed from Pam Howard created Sept/14/2004

Table 2
Average Class Score for Survey Questions by Semester

Survey Question	Fall (n=33)	Spring (n=54)	Both Classes (n=87)
Difficulty of material (1=low / 5=high)	2.39	2.28	2.34
Manner of presentation (1=poor / 5=conducive to learning)	4.15	3.89	4.02
Librarian's preparation (1=poor / 5=well prepared)	4.39	4.09	4.24
Speed of presentation (1=too fast/slow / 5=appropriate)	3.88	4.21	4.05
Librarian's knowledge of material (1=poor / 5=excellent)	4.53	4.58	4.56
Librarian responded to questions (1=rarely / 5=always)	4.56	4.39	4.48
Librarian was enthusiastic (1=strongly disagree / 5=strongly agree)	4.24	4.19	4.22
Felt free to ask questions (1=never / 5=usually)	4.35	4.35	4.35
Amount of material presented (1=too much/too little / 5=appropriate)	3.85	4.19	4.02
Handout clarity (1=rarely clear / 5=always clear)	3.97	4.18	4.08
Class useful to research (1=not useful / 5=very useful)	4.32	4.25	4.29
Overall rating of session (1=poor / 5=excellent)	4.26	4.18	4.22

Of these twelve survey variables, only student comfort level to ask questions remained the same. Handout ratings improved and perceived difficulty of the material was reduced. Presentation speed improved. The class asked fewer questions and the session was shorter. On the other hand, the overall rating of the class went down slightly. Upon analyzing survey results, it became apparent that many students were quickly filling out the surveys. Most did not even bother to answer all of the questions. This was especially true of the qualitative questions at the end of the survey. Incomplete surveys made it difficult to determine if students received the maximum benefit from library instruction.

Forty-two students from a finance class were administered the OMP after a 25-minute library instruction session. The session began with an overview of WSU Libraries services such as the main web page and chat reference. The rest of the session focused on using electronic business databases including Mergent and ABI/INFORM. The instructor also responded to specific student questions about the business databases. See Figure 1.

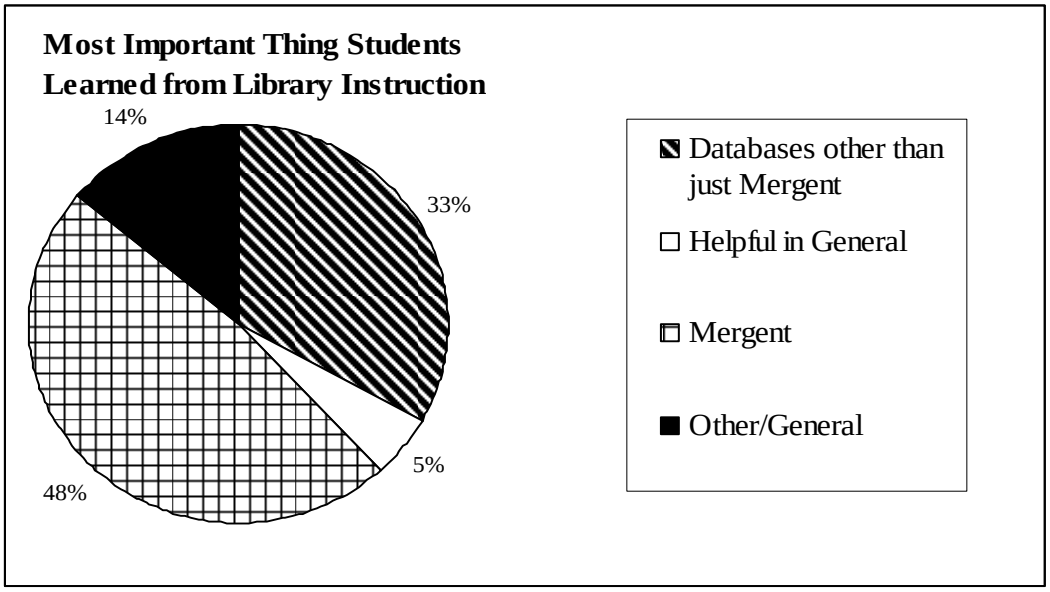

Fig. 1. Response to Question 1 of an OMP by a Finance Class (n=42).

Although roughly half of the students indicated that they received the maximum benefit from learning Mergent, another third cited databases other than Mergent. The results seemed to make sense given the number of questions being asked about other business databases. Perhaps most telling, all 42 students claimed to have learned something.

"Suggestions for Future Library Instruction Sessions" also showed results that indicated a desire to learn more than just about Mergent. Thirty-six percent of respondents wanted to learn more. Another 31% felt that the session was just right and an equal number did not respond to the question. Not one respondent expressed that too much information was presented or that the session was too long. This data could justify using more time to present additional library databases and give more in-depth instruction. See Figure 2.

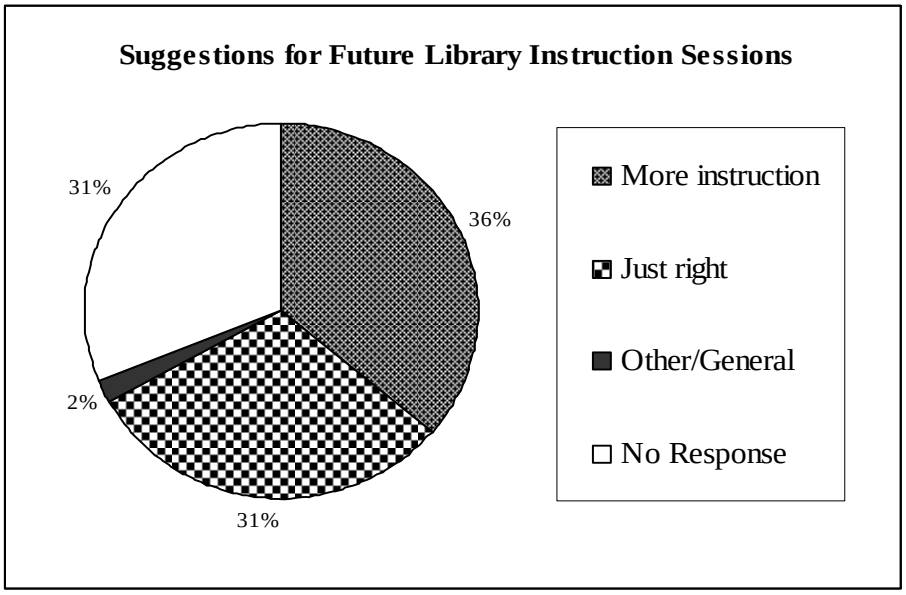

Fig. 2. Response to Question 2 of an OMP by a Finance Class (n=42).

Conclusions

This paper focused on two formative assessments of library instruction: the structured survey and the one-minute paper (OMP). Wichita State University librarians commonly use these methods to assess instruction of electronic resources. Both assessments are easy to administer and analyze. However, to some degree they measure student satisfaction with library instruction more so than actual learning. A structured survey adapted by a WSU librarian was administered to two business classes at the conclusion of an instruction session on electronic resources. The responses to the each Likert-scale question were averaged for the fall and spring business classes and compared. Between fall and spring, student satisfaction ratings increased slightly in some areas but decreased in others. Also, many of the ratings fell into the 3—4 range. This is perhaps due to the tendency of raters to mark near the center of Likert scales. The one-minute paper was administered to a finance class at the conclusion of a session on electronic resources. The comments from both questions were analyzed and graphed. Most of the respondents reported that instruction on electronic business databases, particularly Mergent, was the most important thing they learned from the session. Many respondents requested instruction on more electronic databases in future library sessions.

Library instruction evaluation can be beneficial to both students and librarians. With electronic resources becoming increasingly prevalent for locating business information, student responses indicate a desire to know more about library resources outside of hardcopy. An instructor can take the time to learn what students think about instruction and further adjust library instruction to make it more pertinent to student needs.

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Cancelled Requests: A Study of Interlibrary Loan Requests at the University of Arkansas

Tess Gibson
Head of Interlibrary Loan
University of Arkansas

Abstract

8693 lending requests were cancelled at the University of Arkansas in 2005, representing about one-third of the total requests submitted. While fill rates of 70% are something to be proud of in a climate where they tend to hover around 50%, we believe we can do better. Using ILLiad queries, cancelled lending requests were analyzed to determine the reason for cancellation. The most frequent reasons for cancellation were ones we all expect: item in use, local policies prevent lending, and volume/issue not owned. However, a number of requests were cancelled for less obvious reasons, such as cataloging errors, staff errors, or loss of material. These problems can be addressed in several ways: ensuring staff follow clear and easy procedures for reporting cataloging errors, improving staff and student training, and ensuring lost items are either replaced or removed from the catalog in a timely manner.

Interactive Citation Style Instruction Using the WRrite-Cite™ Tutorial

Carol Leibiger
Associate Professor
University of South Dakota

Alan Aldrich
Assistant Professor
University of South Dakota

Abstract

The passive nature of citation format instruction is reinforced by style guides and tutorials that require paging through different citation examples until a close or exact match with the specific citation situation is found. On-line citation tutorials may use hypertext links to provide supplementary information but essentially the instruction experience remains passive. Other online citation style guides are interactive in that students fill in the information for their article and a computer program automatically generates the citation for the student. This results in minimal learning by the student.

Two faculty librarians at the University of South Dakota identified three goals for developing a citation style lesson. First, the lesson needs to be as interactive as possible, preferably allowing students to incorporate multiple intelligence learning styles while using the lesson. Second, the lesson needs to be deliverable in both classroom and on-line settings such as experienced by distance learners. Third, the lesson needs to be flexible so multiple citation style formats can be included.

Write-Cite™ is the on-line citation style tutorial currently under development at the University of South Dakota. Rather than using passive strategies, the Write-Cite tutorial focuses on identifying the basic building blocks of citations and allowing students to manipulate these blocks as they work online to form complete and properly organized citations. Students make use of linguistic intelligence, the visual or spatial intelligence, and the tactile or bodily-kinesthetic intelligences as they interact with the Write-Cite lessons. The Write-Cite lessons are very flexible in that they can be configured in a stand-alone version placed on line or a demonstration version used in the classroom and the lessons can be readily adapted for different citation sty les and materials. This session will include both demonstrations of the on-line tutorial and in-classroom teaching tools.

Proxies, URL Redirectors, and VPNs--Oh My!

Nancy B. Thomas
M. S. in Library Science from the School of Information Science
University of Tennessee Knoxville

Abstract

Colleges and universities use several methods for providing restricted access to users who need to use electronic resources from computers at home or work. Firewalls and other security measures initiated by Internet Service Providers (ISPs), as well as personal and business firewall settings, have driven changes in the way access can be granted. At the same time distance education programs have increased the demand for off-campus access. Virtual Private Networks (VPNs) are the latest and most secure method to date. This display will try to demystify the variations in the process and allow participants to take a survey of how access is granted at their institutions.

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