Mobilizing the Library

Shifting the focus of the academic library to a student-centered
technology perspective

Sonya Betz, MA, MLIS
Librarian, Grant MacEwan University
Edmonton, Alberta, Canada
BetzS3@macewan.ca

Robert Zylstra, M.Mus., MLIS
Librarian, Grant MacEwan University
Edmonton, Alberta, Canada
zylstrar@macewan.ca

Introduction

Modern academic libraries are incredibly complex information ecosystems and significant issues are beginning to emerge when users interact with online library environments. The majority of user interactions with the library begin online; access to library catalogues and databases begins at the library website, and more and more services and resources are moving into digital environments. However, students are often overwhelmed and frustrated by their online library experiences. Developing user-focused web environments, accessible from all devices, is crucial to the sustained relevance of the academic library to the student research process.   This paper explores the context of library user experience and presents strategies for developing usable student-centered virtual spaces.

Current Trends:

We know that post-secondary students are young and connected. The average full-time MacEwan University student is 22.4 years old (Institutional Research and Planning, 2012). Not surprisingly, the most connected demographic groups are teens 12-17 (95% use the Internet) (Pew Research Center, 2011) and young adults 18-29 (94% use the Internet) (Pew research Center, n.d.). Students outpace both of these demographic groups, reaching nearly universal Internet use in undergraduate and graduate students (Smith, Rainie & Zickuhr, 2011).

Our students are also very likely to be using mobile devices. Smartphones and tablets in particular have been increasing in popularity. 66% of 18-29 year olds now own smartphones, and are using them more often to browse online. Smartphones have become an incredibly convenient point-of-need information tool; nearly half of smartphone owners reported using their phones to settle arguments, decide whether to visit a business, or solve an unexpected problem (Benner, 2013). Tablet computers are gaining prominence at an even faster rate. The 2013 Horizon Report identified tablet computers as a key near-term technology trend for higher education (Johnson et al., 2013), and technology journalists are predicting that tablets will outsell the PC and Laptop markets combined in 2013 (Tofel, 2013).

Academic libraries are well aware of the shifts in user preferences and information-seeking behaviour, and the increasing primacy of digital access to information. Like many of our peers, MacEwan University has been focusing increasingly on building collections in electronic formats such as e-journals, e-books, and streaming audio and video. From 2007 to 2012 we increased our e-journal collections by 134% and our e-book collections by a staggering 391% (Institutional Research and Planning, 2011a). During that time we also subscribed to dozens of tools to host and search these formats, including journal databases and ebook platforms.

Our students have unprecedented access to high quality academic information sources, immediately available in full-text. Logic suggests that student satisfaction with library collections should be at an all-time high. However, we measure our student satisfaction regularly, and while students consistently grade the Library's staff and services very highly, satisfaction with collections has been steadily declining since 2008 (Institutional Research and Planning, 2011b).

Discoverability and Findability
Traditionally, libraries have been focused on collection building as the primary strategy for providing access to information. However, as formats shift to digital, modern academic libraries are becoming increasingly complex information ecosystems for students and faculty to navigate. Less than 20 years ago, the primary mode of access into an academic library collection was via dedicated catalogue computer stations that replicated the simplicity of card catalogues. The discovery process was straightforward: search by author, title, or subject heading and retrieve a call number for an appropriate book. Journal articles could be retrieved using dedicated subject indices to find article citations, and journals were most often located by title or call number on the shelf.

The simplicity of these processes has disappeared in modern library environments and students today have a very different experience when looking for books or journal articles. The benefits they gain through immediate access to huge quantities of high-quality digital resources are often tempered by tremendous frustration with the discovery experience. A

typical library search often involves a library website, online catalogue, any number of databases, a link resolver to move between databases, a citation management tool, content in multiple formats, and an authentication process for off-campus access. Each of these environments presents a unique and isolated user experience, with different site architecture, visual design, and navigation. Most of these environments are also vendor-supplied solutions, with very little flexibility for customization and local design.

It's becoming apparent that the problem of decreasing student satisfaction despite growing collections is closely connected to students' frustration with our increasingly complex search processes, and corresponding inability to find the resources that they need. This trend is clearly emerging in our student feedback. In 2011 we conducted the LibQual survey, measuring users' perceptions of quality of library services. In the feedback we received about our online environment, "the greatest levels of dissatisfaction [were] focused on expectations for a website that enables users to locate information on their own, easy-to-use access tools that allow users to find things on their own and making information easily accessible for independent use" (Cook, Association of Research Libraries, & Texas A & M University, 2011). A more direct example is highlighted from comments gathered in a feedback form on our Library website (student's comments in bold):

> 1. What was the purpose of your visit to the Library's website today? **trying to find articles for occ. Health**
> 2. Were you able to complete your task today? **no**
> 3. If you were not able to complete your task today, please tell us why. **search engine sucks**
> 4. Do you have any other comments? **much rather not have to use this site, but I guess I'll have to learn how to use it. It shouldn't be so difficult.**

Significant research has been conducted connecting web usability with user satisfaction and online consumer purchasing decisions (Beatty, Reay, Dick & Miller, 2011; Burke, 2002; Caslo, Flavian & Guinaliu, 2008; Donahue, 2001; Hwang & Kim, 2007; Juang, Chan, Tan & Chua, 2010). However, the implications of this connection are not yet reflected in common

library practice. Despite growing pressures such as the "Four Horsemen of the Library Apocalypse" described by the Education Advisory Board in *Redefining the Academic Library* – namely unsustainable costs, viable competition, declining usage, and new patron demands (Education Advisory Board, 2011) – libraries continue to use collection building as a strategy for addressing perceived deficiencies in their collections. And they continue subscribing to poorly designed vendor-created search tools to access those collections.

Better Solutions

Improving access to collections is a complex problem, but not an impossible one, especially given recent technological developments and movement towards new models of leadership. In an ideal user experience, students and faculty would be able to easily access the information they need, from the device that's most convenient for them at any given time, in their preferred format. A book on the shelf would be as easy to locate as a full-text journal article. Moving towards this reality requires significant changes in how we define success, allocate resources, and enable leadership, and includes:

1. **Shifting perceptions of value from size and quantity of collections to discoverability and impact of resources, and begin allocating funds to enable this process.**

As stated in *Redefining the Academic Library*, "size doesn't matter" (Education Advisory Board, 2011). Libraries have to begin redefining the metrics we use to define success. Measures like student satisfaction, or impact on student learning are becoming more relevant than the number of books on shelves. Funding the initiatives that seek to improve these measures needs to become a priority.

2. **Adopting a user-centered philosophy through developing deep understanding of user preferences, behaviours, and needs and designing environments accordingly.**

Libraries are working to develop more user-focused approaches to designing virtual and physical spaces. Awareness of current environmental trends in broader contexts such as ecommerce and social media is important. Also important is developing better understanding of individual institutional communities. More academic libraries are beginning to conduct in-depth user studies to better understand their students' needs, and are creating positions for librarians who specialize in marketing, user experience, or assessment (Duke & Asher, 2012; Foster & Gibbons, 2007; Crump & Freund, 2012).

Moving towards success at MacEwan University:

At MacEwan University we have been working towards making meaningful changes in our understanding and approach to our online environment. Historically, we have focused on building collections as a strategy for addressing collections shortfalls as we expanded our degree programs. Increasing our collections was a critical component not just for supporting student research in undergraduate degree programs, but was also a necessary step in securing appropriate accreditations for granting baccalaureate degrees. However, like many institutions, we didn't focus on also developing a strategy for enabling access, and the impacts are clear. We have the resources that students need, but they are unable to find them.

One of the fundamental problems with access is the lack of control we have over most of our library tools. For example, finding a book requires a visit to the Library website and our discovery tool, and often also requires a visit to the Library catalogue as well. With the exception of the Library's website, these environments are designed by external companies and we have had little to no input over the user interface. Fortunately, technological advancements in these systems are changing the nature of our relationships with many of these vendors and opening up exciting possibilities for libraries to have far more control over design and development of our user interfaces, even those provided by vendors. We can now access much of the raw data provided by our vendors and present it in our own custom designed interfaces.

By February 2012 we had developed a proposal for an exciting project that would see us making tremendous advancements in exploring our role in shaping the user experience for our students and faculty. We proposed the creation of an integrated online environment that incorporates our tools and resources presented in a single unified online space with consistent look and feel, predictable navigation, and seamless authentication to all of our services. The goal of this space is to simplify access to resources, provide access from all devices, and provide a common experience across all platforms.

We submitted a successful proposal for resources from a central Student Technology fund and began this project in summer 2012 with a small scale proof-of-concept iPhone app, called MacEwan Lib. Building the app allowed us to explore the ideas of resource integration, custom design of a user interface, and develop support and trust in the concept from our administration, faculty, and students. The iPhone app allows users to search, place holds on materials, download and share full text articles, and find basic library information, all in a single seamless user interface. The functionality is simple and predictable, but the user experience is dramatically improved from our existing website. Well over 1000 students have downloaded the app since it was launched in October 2012, and reviews and publicity around the app have been overwhelmingly positive. Most commonly users comment on the ease of use and intuitive nature of this app.

Our next steps are to build a fully featured web environment that recreates the same functionality as the MacEwan Lib app and provides:
- a single consistent and predictable experience
- accessibility from all devices
- user aware services

We plan to launch the first phase of this environment in September 2013. Developing these web environments is a significant departure from traditional approaches to technology implementation and development in libraries.

Reshaping library culture by enabling transformational leadership.

Librarians and libraries need to be more fully engaged in leading the design of the technologies that we use. The vision for the end goal should to be tied to user experience and its impact on students, and librarians need to provide leadership in all aspects. If libraries begin to demand open tools that allow complete customization with the vision of a superior user experience, our web environments can start becoming pleasurable spaces that encourage informal learning and discovery. This vision requires a dramatic shift in how we understand technology implementations in libraries, and how we interact with the vendors that create and sell to us most of our tools. We need to move beyond processes that position us as customers and disconnect technology development from the user experience.

Traditional leadership in information systems development consists of "allocating resources, monitoring outcomes, and controlling and coordinating people and work environments" Park & Michel, 2011). Often described as "transactional leadership" this approach is "the transaction that occurs between leaders and followers in getting the job done and achieving goals" (Warrick, 2011). "The leader makes clear what needs to be done and offers rewards in exchange for individual and group effort directed towards goal attainment" (Warrick, 2011). In practice, transactional leadership has led to a very problematic process in library software development: vendors or IT departments create software solutions for use in libraries, library IT implements and support solutions, librarians and faculty encourage the use of these solutions, and students ultimately use the solutions. There is no opportunity for student or librarian engagement in the design process, and the resulting products are often difficult and frustrating for end users. The responsibility for design is with the vendor, whose motivation is fundamentally different from that of the library. Those with the closest connection to the user experience take on the role of customer, rather than leading the project with a guiding vision.

In moving towards a new understanding of technology in libraries it may be useful to begin thinking of transformational leadership as an alternative model. Transformational leadership "describes a process by which leaders bring about significant positive changes in individuals, groups, teams, and organizations by using inspiration, vision, and the ability

to motivate followers to transcend their self-interests for a collective purpose. [It] transforms organizations and sets them on a new course of action" (Warrick, 2011). Transformational leadership towards the goal of more positive user experiences would see a focus on student and faculty needs permeate the entire design and implementation process, rather than libraries struggling to append user experience as an afterthought within vendor controlled spaces. Libraries need to become experts in understanding their user groups and apply those concepts throughout the design and development process rather than relying on vendors to make those decisions. If librarians can become transformational leaders within our own organizations, promoting the demonstrated importance of user experience to student satisfaction and success, we can ensure that our libraries continue to remain useful and relevant to our students.

References

Beatty, P., Reay, I., Dick, S., & Miller, J. (2011). Consumer trust in e-commerce web sites: a meta-study. *ACM Computing Surveys*, 43(3), 1–46.

Brenner, J. (2013, Jan 31). Pew Internet: Mobile. Retrieved from: http://pewinternet.org/Commentary/2012/February/Pew-Internet-Mobile.aspx

Burke, R. (2002). Technology and the customer interface: what consumers want in the physical and virtual store. *Journal of the Academy of Marketing Science*, 30(4), 411–432.

Casalo, L., Flavian, C., & Guinaliu, M., (2008). The role of perceived usability, reputation, satisfaction and consumer familiarity on the website loyalty formation process. *Computers in Human Behavior*, 24(2), 325–345.

Cho, J., Park, I., & Michel, J. W. (2011). How does leadership affect information systems success? The role of transformational leadership. *Information & Management*, *48*(7), 270–277.

Cook, C., Association of Research Libraries, & Texas A & M University. (2011). *LibQual+ spring 2003 survey: Grant MacEwan University*. Washington, DC: Association of Research Libraries/Texas A & M University.

Crump, M., & Freund, L. (2012). *Meeting the Needs of Student Users in Academic Libraries: Reaching across the Great Divide*. Oxford: Chandos Publishing.

Donahue, G.M. (2001, Jan/Feb). Usability and the Bottom Line. *IEEE Software*, 31–37.

Duke, L.M., & Asher, A.D. (2012). *College Libraries and Student Culture: What We Now Know*. Chicago: American Library Association.

Education Advisory Board. (2011, Nov). Redefining the Academic Library: Managing the migration to Digital Information Services. Retrieved at: www.theconferencecircuit.com/wp-content/uploads/Provosts-Report-on-Academic-Libraries2.pdf

Foster, N,F., & Gibbons, S. (2007). *Studying Students: The Undergraduate Research Project at the University of Rochester*. Chicago: Association of College and Research Libraries.

Grant MacEwan University. (2011). Baccalaureate Survey. Retrieved from: http://www.macewan.ca/wcm/Administrative/ InstitutionalResearchandPlanning/ResearchReports/index.htm

Grant MacEwan University. (2012, Nov 29). Fact Sheet – Statistical Overview. Retrieved from: http://www.macewan.ca/wcm/Administrative/Institutional ResearchandPlanning/FactSheet/index.htm

Grant MacEwan University. (2011). Student Satisfaction Report. Retrieved from: http://www.macewan.ca/wcm/Administrative/InstitutionalResearchandPlanning/ ResearchReports/index.htm

Hwang, Y., & Kim, D.J. (2007). Customer self-service systems: the effects of perceived web quality with service contents on enjoyment, anxiety, and e-trust. *Decision Support Systems*, 43(3), 746–760.

Jiang, Z., Chan, J., Tan, B.C.Y., & Chua, W.S. (2010). Effects of interactivity on website involvement and purchase intention. *Journal of the Association for Information Systems*, 11(1), 34–59.

Johnson, L., Adams Becker, S., Cummins, M., Estrada, V., Freeman, A., and Ludgate, H.
(2013). NMC Horizon Report: 2013 Higher Education Edition. Austin, Texas: The
New Media Consortium. Retrieved from: http://www.nmc.org/publications/2013-
horizon-report-higher-ed

Pew Research Center. (2011, July). Demographics of Teen Internet
Users. Retrieved from: http://www.pewinternet.org/Static-Pages/Trend-Data-
%28Teens%29/Whos-Online.aspx

Pew Research Center. (n.d.). Demographics of Internet Users.
Retrieved from: http://www.pewinternet.org/Static-Pages/Trend-Data-
(Adults)/Whos-Online.aspx

Smith, A., Rainie, L., Zickuhr, K. (2011, July 19). College Students and Technology.
Retrieved from: http://www.pewinternet.org/Reports/2011/College-students-
and-technology/Report.aspx

Tofel, K. (2013, Feb 21). More evidence of tablets slowly killing the PC market.
Retrieved from: http://gigaom.com/2013/02/21/more-evidence-of-tablets-
slowly-killing-the-pc-market/

Warrick, D. D. (2011). The Urgent Need for Skilled Transformational Leaders:
Integrating Transformational Leadership and Organization Development. *Journal of
Leadership, Accountability & Ethics*, *8*(5), 11–26.