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Inspiring Results: Designing Innovative Instruction Using Faculty Feedback on Technology Use and Attitudes toward Library Research Instruction

Maria A. Perez-Stable, Dianna E. Sachs, and Patricia Fravel Vander Meer

Introduction

The importance of information literacy (IL) at the college level is well documented. Like many other institutions, Western Michigan University (WMU) has come to recognize the value of IL, after years of deliberate and steady promotion of its benefits to the WMU community by the University Libraries. A big question that has emerged as part of the Libraries' strategic plan to meet the University's IL needs is this: What are the best ways to deliver library instruction to address the needs of today's students and faculty, keeping in mind emerging and changing technologies to which faculty and students relate?

In order to help address this issue, WMU librarians conducted a survey of the University's teaching faculty to gain insight regarding: (1) their attitudes, habits, and preferences regarding IL; (2) faculty use of technology in teaching; and (3) existing and potential technological applications for the delivery of IL. Based on the results of the survey, IL services have been revised and expanded to accommodate faculty practices and preferences whenever possible. [Note: A more detailed analysis of some of the data gathered

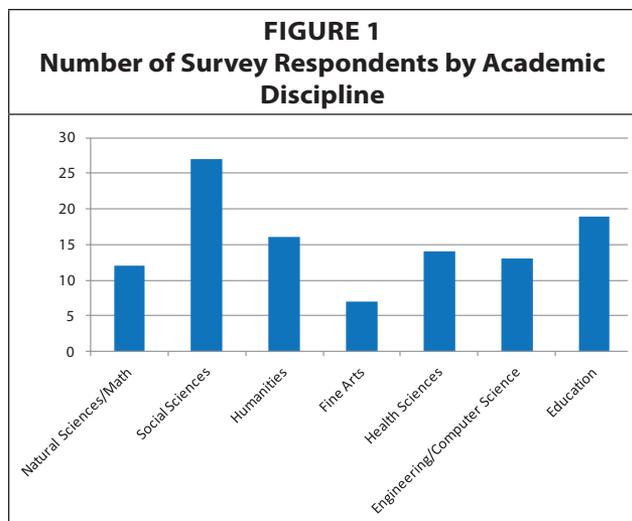
from this survey can be found in an article by Perez-Stable, Sachs, and Vander Meer (2012).]

Survey of the Faculty

Teaching faculty were asked to participate in an on-line survey designed to gather information about faculty views of library instruction, their perceptions of student information literacy skills, and faculty use of technology in education. Cannon's (1994) research at York University in Toronto was the most pertinent study in relation to our research and served in part as a model for the survey we created. WMU faculty were notified of the survey through their librarian liaisons and their academic departments. We received 132 responses to the survey, of which 118 were full-time faculty members at the institution, for a response rate of 14.2 percent. Given the low numbers of part-time faculty (8) and graduate student instructors (6) who responded, we removed them from the study.

As seen in figure 1, the full-time faculty who responded represented all of the WMU academic colleges, except the College of Aviation (which had no respondents). For the purposes of this study, we divided

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the large College of Arts and Sciences into three disciplines—natural sciences/mathematics, social sciences, and humanities. Faculty also ranged in the number of years of experience they had teaching at the post-secondary level. Most had taught for more than 10 years, although faculty with less experience were also represented in the survey, as shown in figure 2.

Summary of Findings

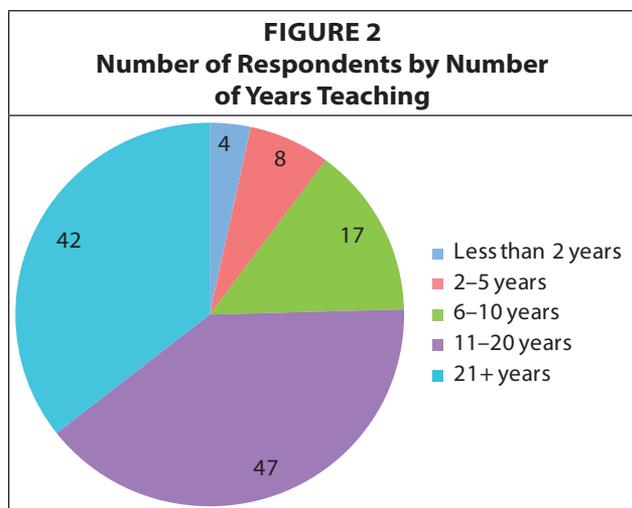
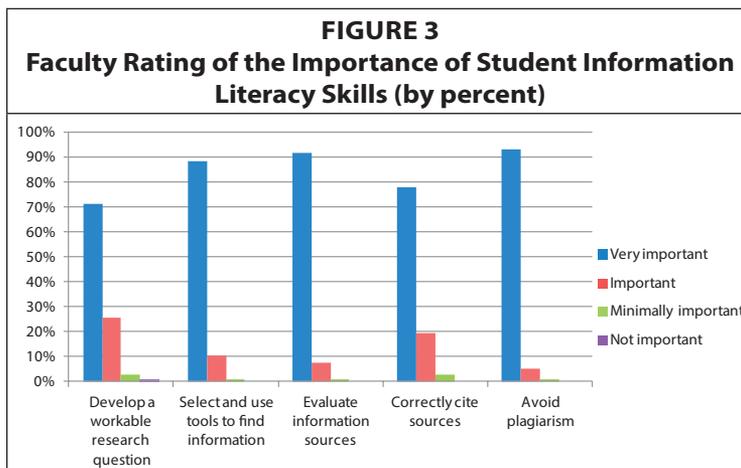
Faculty Attitudes toward Library Instruction

Faculty indicated that they placed a high value on the importance of students having mastery of IL skills. They were asked to rate how important it was for their students to be able to:

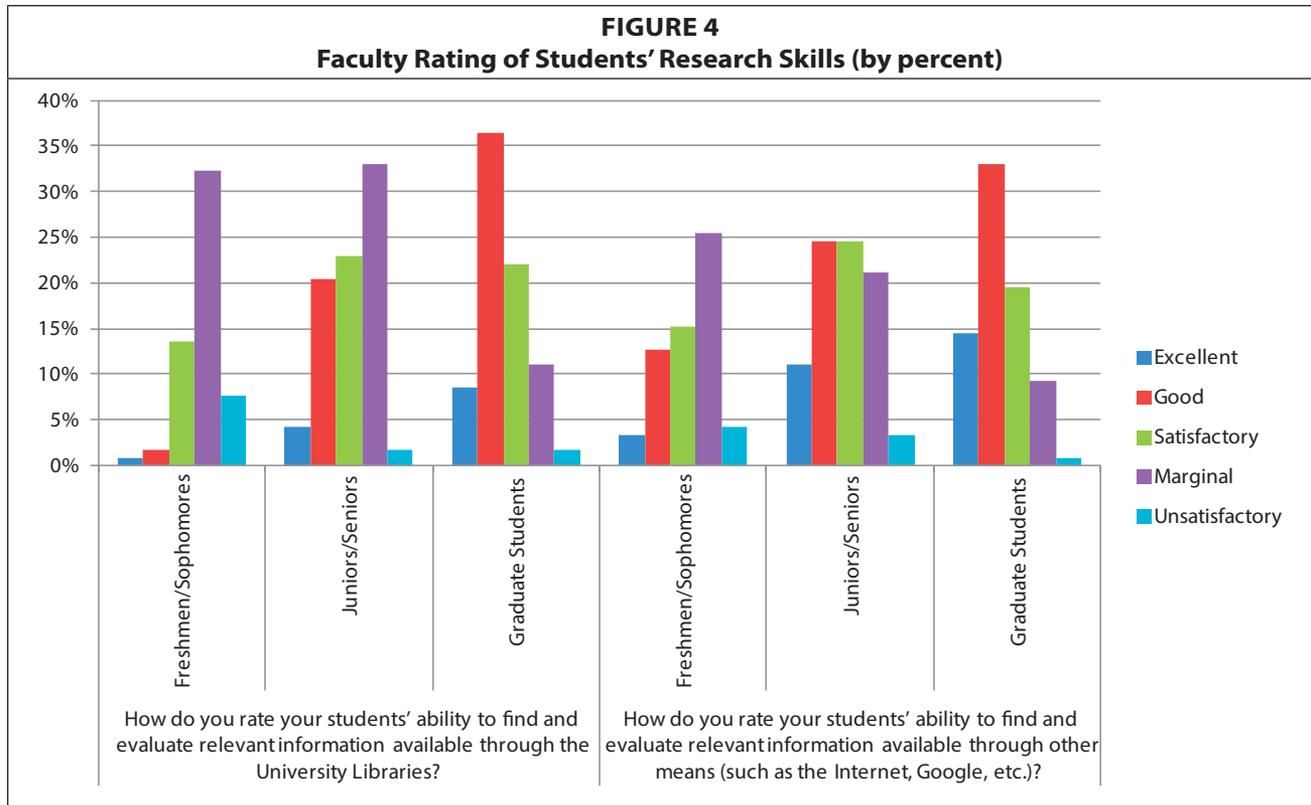
- Develop a workable research question
- Select and use tools to find information (monographs, journals, databases, web sites, etc.)
- Evaluate information sources
- Correctly cite sources
- Avoid plagiarism

Figure 3 indicates that over 95 percent of faculty indicated that all five of these skills were either “very important” or “important.” The importance that faculty placed on student research skills is in keeping with the results of other studies such as Cannon (1994), Manuel, Beck, and Molloy (2005), and Hrycaj and Russo (2007).

Faculty were also asked to rate their students’ ability to find and evaluate relevant information found through the Libraries and through other means, such



as Google, using a five-point scale ranging from “unsatisfactory” to “excellent.” The data in figure 4 shows that faculty considered students across the board—from freshmen to graduate students—to be better at finding and evaluating information through the Internet than through the Libraries. The majority of faculty who responded to this question considered all undergraduates to be below satisfactory at using the Libraries’ resources to locate and assess information. In their estimation, graduate students fared better, but they still saw significant room for improvement. It is clear from the data that faculty value IL skills and are not satisfied with their students’ abilities in these areas. However, over 40 percent of the faculty who responded to the survey had never taken advantage of any form of research instruction offered through the Libraries, such



as a “one-shot” session, a librarian-developed online class guide or tutorial, or a librarian embedded in an Elearning course. We also asked faculty specifically if they had requested a formal research instructional session in the previous four years; 43 percent reported having done so. Of those who indicated they had *not*, more than half were not even aware that the service existed. Other often cited reasons for not using the service included an unwillingness to give up class time and a belief that the sessions were not relevant for the courses taught. It is clear that the librarians need to improve the marketing of these services.

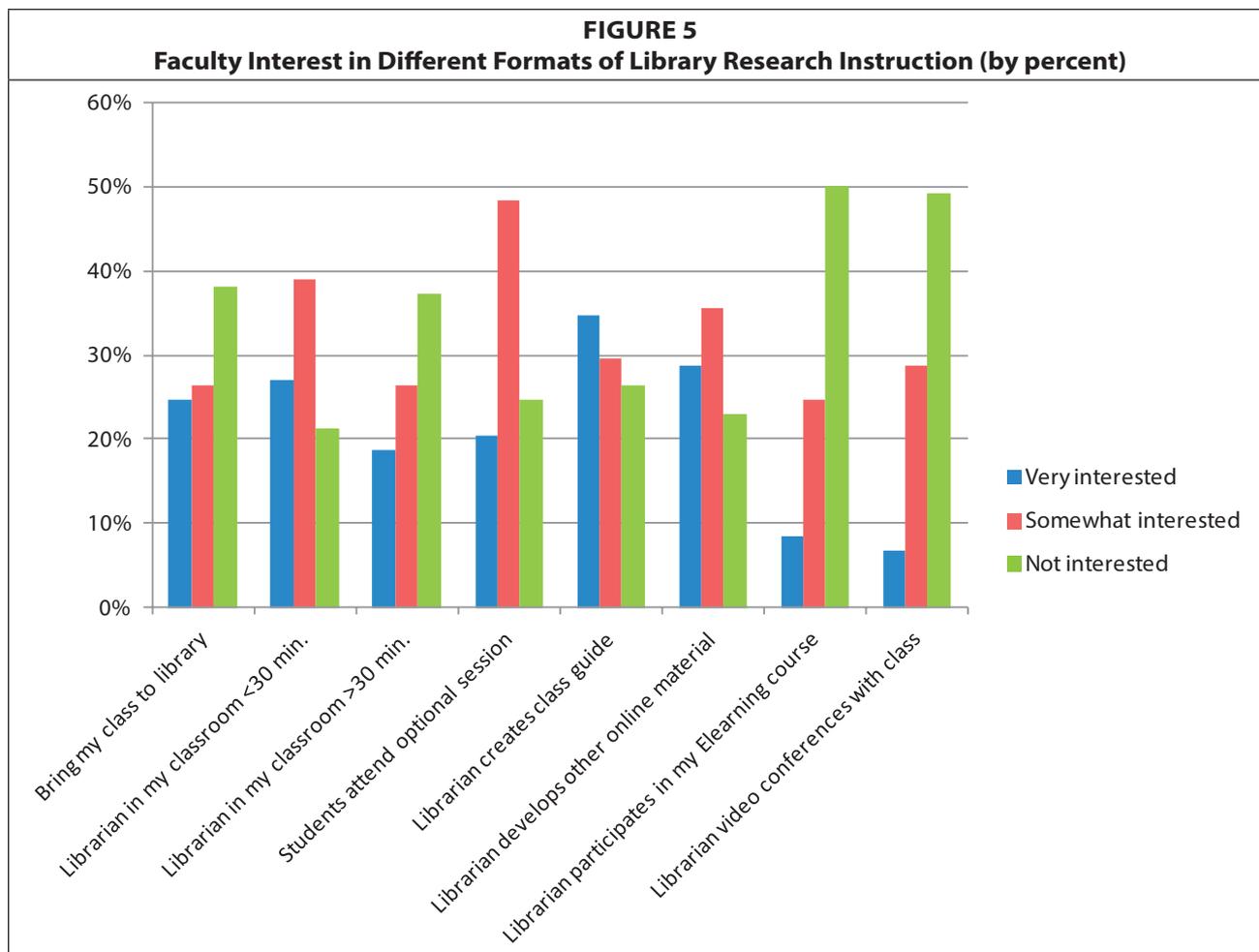
Of those faculty who *had* taken advantage of library research instruction classes there was nearly universal agreement that the sessions were useful. Over 98 percent agreed that the sessions helped them and their students, and faculty provided comments such as:

- “Helps students realize the range of valuable sources available for their projects.”
- “Reinforces the message that university resources are VAST and VARIED.”
- “Students had a hands-on experience utilizing the library research tools...extremely helpful!”

- “It was tailored for my class...very helpful to my students whether it’s for narrowing a topic or finding sources.”

When asked what types of IL services they were most interested in using in the future, faculty preferred those that required that they give up a minimal amount of class time, if any. Figure 5 shows that faculty especially liked the idea of having a librarian create an online guide or other online instructional materials for their specific courses. Faculty also expressed interest in having a librarian come to their classrooms (as opposed to bringing the classes to the library) for 30 minutes or less.

Naturally enough, faculty who reported that they had never taught an online class using WMU’s online learning management system (known as Elearning) were unlikely to express interest in having a librarian embedded in their courses. However, even among those faculty who had taught using the Elearning system, less than half were interested in having an embedded librarian participate. We suspect that some faculty are hesitant to have an “outsider” with the ability to access their Elearning pages. As Elearning continues to expand, librarians need to engage in more dialogue with faculty about embedding librarians in their online courses.



Faculty Experience with Technology

Elearning on our campus (WMU uses Desire2Learn; www.desire2learn.com) was by far the most heavily used technology, with 72 percent of the faculty respondents indicating they used it. This is in keeping with one of the key findings of the 21st National Survey of Computing and Information Technology in American Higher Education (Green, 2010) that revealed a dramatic increase in the use of learning management systems on college campuses in the past decade. This important annual survey addresses the role of information technology in American institutions of higher education, including attitudes toward and use of specific technologies such as course management software, mobile apps, social networking, classroom clickers, and ePortfolios.

The next most often used technologies used at WMU were online or embedded videos, personal web page or WMU “homepage,” discussion boards/fo-

rums, and electronic reserves. Podcasts, video conferencing, social networking sites, blogs, Wikis, iClickers (www.iclicker.com), and RSS feeds were also used, but by less than 15 percent of the respondents.

Analyzing data from another national study, the Faculty Survey of Student Engagement (FSSE), Guidry and BrckaLorenz (2010) reported differences in technology use by discipline, finding that faculty in education were the highest users of technology in their teaching. This matches the results of the WMU study which found that faculty in the college of education used the greatest number of *different* technologies, averaging about 3.84 technologies. Given that the field of education has long taken a leadership role in pedagogical innovation, this is not too surprising. Professors in the social sciences, business, and humanities were not far behind education, reporting 3.3, 3.1 and 3.06 different technologies, respectively.

It was interesting to note how technology use varied by discipline. Online or embedded videos were most popular with faculty in education, the humanities, and business. Electronic reserves were most heavily used in the social sciences, health sciences, and education. A large majority of faculty in education used discussion boards and forums, and between 30 and 40 percent of faculty in the social sciences, health sciences, and business also used this form of technology. Social networking for instruction was not used by most faculty, although it was popular with almost half of the faculty in fine arts and nearly one-third in business. Faculty indicated low use of iClickers, but now that WMU has selected a standard interactive student response system, we expect faculty will begin to use this technology more often in their classrooms.

Faculty also commented on their experiences—both positive and negative—using various technologies. Respondents indicated that they appreciated how online videos allowed them to present information in a more engaging format and were useful for fostering debate, especially for complex questions. Although the response to discussion boards/forums was mostly positive, several faculty mentioned it was time-consuming to moderate, and that online discussions sometimes disintegrated.

Librarians' Response to the Data

A number of initiatives were created or expanded in response to the findings of this research:

Offering Shorter Sessions

Data reported by Thomas (1994) at California State University, Long Beach, Leckie and Fullerton (1999), who surveyed faculty at two Canadian colleges, and DaCosta (2010) at De Montfort University in England and the College of New Jersey in the United States, reinforced the all too familiar phenomenon of faculty who value library instruction but find it hard to make room for it in their already full curriculum. Before this survey, many WMU faculty did not realize that they could request instruction without sacrificing an entire class period. When asked how interested they would be in various types of instruction, an abbreviated session was the second most popular option (tied with online tutorials), and was surpassed only by online class guides.

In response to the data, a number of librarians have begun to provide instructional sessions of 30

minutes or less. Librarian liaisons in history, literacy studies, adolescent literature, business, social work, and marketing have all reported success with shorter classes. Although most librarians would prefer to have an entire class period, the half-hour block is adequate to cover one or two topics such as searching for books, choosing the best databases, developing search strategies, citing sources, etc. The librarian needs to coordinate carefully with the faculty member in a shorter session to decide exactly what will be covered. Perhaps the most important outcome of this curtailed class is that it gives the students a chance to meet their librarian liaison and know that personal research assistance is available to them.

Offering Instruction Outside of the Library

In addition to favoring shortened sessions, faculty expressed an interest in having librarians visit their classrooms to deliver instruction. Although teaching outside of the library is nothing new, especially with large lecture classes, WMU librarians have certainly expanded this practice in response to the survey. Faculty in the health sciences, social work, and engineering have especially appreciated this service since their classes are taught at campus locations that are somewhat remote from the main library. A benefit of this practice is that students appear to be more at ease and engaged in their own classroom, and tend to participate more. One science librarian noted that since her instruction only takes up part of a three-hour laboratory class, visiting the classroom allows students to continue the remainder of their class period with their regular instructor, in reach of the specialized equipment they need to complete their experiments. Although most classrooms are not equipped with computers for students to use, many college students own laptops, tablets and other mobile equipment that allows them to still actively participate when the librarian comes to their classroom. In this case, the librarian needs to remind the instructor to ask the students to bring their own devices.

In addition to stating the obvious—that many librarians are reluctant to venture out of their comfort zone, i.e., the library instructional facility—other challenges exist when offering instruction outside of the library. For example, utilizing unfamiliar equipment provided by the faculty member for the librarian to use can be a problem. Several librarians mentioned that specialized browser settings, the lack of pre-set li-

brary links, and the librarians' expertise in Mac versus PC platforms tended to bog down the live demo portions of their presentations. Even something as simple as the lack of an external mouse on a strange laptop discombobulated one librarian in front a large lecture class. Consequently, this problem has been ameliorated by outfitting the librarians with their own iPads and portable keyboards and connectors to use when teaching outside of the library.

Online Videos

In response to faculty interest in online videos and tutorials as a means of developing students' IL skills, the Libraries has expanded these modes of instruction. Years ago, the WMU Libraries created an interactive online tutorial, originally titled Searchpath and currently known as ResearchPath, designed to introduce students to information literacy and research concepts. In the last two years, ResearchPath has undergone several significant revisions through the use of Adobe Captivate (<http://www.adobe.com/products/captivate.html>) to improve and incorporate audio, interactivity, video recordings, animation, and other technological enhancements. This tutorial, now available through WMU's Elearning system, continues to be widely used; faculty frequently require that their students complete the tutorial, particularly for introductory-level courses.

Librarians have also made a concerted effort to create new online videos for the Libraries' web site, using screencast software tools such as Jing (<http://www.techsmith.com/jing.html>). These new offerings include introductory messages from librarian subject specialists, and topics such as citing sources in APA and MLA styles, interlibrary loan, customizing settings in Google Scholar, and using the Libraries' discovery search service. Librarians have also created videos designed for specific courses or specialized research, including searching for U.S. patents, looking for children's books, using reference sources for physics laboratory assignments, finding primary documents in history, and exporting citations from PubMed. In addition to creating online videos and tutorials, librarians have also heavily promoted to faculty the use of streaming videos available through subscription services, as well as those freely accessible through sources such as YouTube (<http://www.youtube.com/>) and iTunes University (<http://www.apple.com/education/itunes-u/>).

Embedded Elearning

Of special interest to the researchers conducting this study were the faculty's attitudes toward and use of Elearning. A number of efforts have been made to integrate the Libraries more fully into this mode of teaching, especially given that the number of courses offered in Elearning is growing each semester. The initial format for all courses using Elearning now includes a standard box containing links to various library services such as Ask a Librarian and course reserves. In addition, the aforementioned online tutorial, ResearchPath, now resides in the Elearning system, and many faculty ask their students to complete it.

Librarians at WMU have also been working to increase the number of instances where they are embedded in Elearning, with varied results. As the survey data indicated, many faculty were not interested in having a librarian participate in their online courses. However, through steady promotion of this option, in the past year there has been a notable increase in the number of courses using Elearning with an embedded librarian, including classes in history, English, education, health sciences, and comparative religion. Going forward, librarians are continuing to promote the Elearning "librarian" role that allows a librarian who is embedded in an online course to have access only to certain functions, for example, posting news announcements about online class guides and personal help with research. The hope is that by limiting the areas of the course to which librarians have access, faculty will not feel that an embedded librarian is a threat to their autonomy or to their (or their students') privacy.

Expansion of Online Guides

Dovetailing with the faculty's preference for online library guides as an instructional tool, the Libraries has greatly expanded its number of LibGuides (<http://springshare.com/libguides/>, implemented in fall 2011), which as of February 2013, exceeds 145. These include subject or course guides, or guides for individual class assignments; in fact, one librarian creates an online guide for every class she teaches, so it can be embedded in Elearning or included in class syllabi. Other specialized guides include how to store/manage citations, avoid plagiarism, find and use streaming videos, and evaluate sources. New guides seem to appear nearly every week!

Student Response Systems

WMU has recently chosen iClickers as the student response system for all its courses, and its use is on the rise. Consequently, the Libraries received a grant in fall 2012 to purchase iClickers for library instruction, and librarians are currently experimenting with this technology in entry-level courses. One librarian is also using Prezi software (www.prezi.com) to set up the questions; she “warns” that there is a learning curve in using the new software, but that the results are worth it. As she explained, “Students love ‘talking’ about themselves” by offering data such as demographic information (year in school, etc.), if they have written a research paper before, and what kind of previous library experience they have had. It is also useful to learn where and how students look for information for their college assignments. Because iClickers allow students to respond anonymously, they are less intimidated and are more likely to answer the questions honestly. The librarian can easily gather and store data from many students in an accessible format. One of the challenges for the librarian is that, as with all new technologies, it is one more thing to manage in the classroom.

In-House Training in Technology

A major challenge for librarians is keeping up to date with the ever expanding number of technologies available for use in instruction. In light of the results of this study and current library research instruction trends, the WMU Libraries arranged training sessions for librarians to learn how to integrate certain technologies into their teaching. In the last two years, we have held workshops on using Adobe Captivate, Jing, iClickers, Elearning, and LibGuides. This training has helped to demystify the technologies and help librarians draw on the collective wisdom of their colleagues to get past technological hurdles more quickly. In addition to these workshops, many librarians who have mastered these new skills have also worked one-on-one with colleagues who are new to the technologies.

A More Responsive Web Site

Since the use of mobile devices to access web based services is greatly increasing, the Libraries’ web site was recently redesigned in accordance with the University’s new web template to accommodate access from any type of device patrons may be using (tablets, smartphones, etc.). Using the new standard left

navigation column allowed us to more prominently display important links such as course reserves, citing sources, and guides and tutorials. Based on user studies of faculty, staff and students, other elements of the web site were also rearranged and some were given new emphasis or renamed; for example, the catalog link was retitled “Books+.”

Final Comments

Understanding faculty attitudes toward library instruction and technology use at WMU has helped librarians generate a roadmap for the IL program and has motivated us to focus on the most effective ways to deliver instruction, taking into account faculty preferences. In addition to this direct intended application of the study, the data was useful in furthering other library initiatives. For example:

Faculty have become more aware of research instruction as a result of the survey.

Librarians have recognized the importance of becoming more adept in new technologies for IL, in particular those that foster an asynchronous environment that allows students to enhance their library skills outside of classroom contact hours.

Empirical data of faculty attitudes regarding student performance and student needs is being used to promote IL initiatives to university administration, and to demonstrate the need to incorporate IL into the general education curriculum.

Given the fact that there are likely differences between faculty and student use of technology, WMU librarians are considering a follow-up study to directly survey *student* attitudes and practices.

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