

DAIRL

A BIMONTHLY REPORT ON RESEARCH LIBRARY ISSUES AND ACTIONS FROM ARL, CNI, AND SPARC

MOBILE TECHNOLOGIES, MOBILE USERS: IMPLICATIONS FOR ACADEMIC LIBRARIES

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Introduction

More and more Americans are using devices such as cell phones to seek information, not just to communicate.¹ At the National Endowment for the Humanities (NEH) Office of Digital Humanities, staff are pursuing interest in mobile technologies that can be used in museums and historical places and that deliver “scans of primary documents, audio-visual materials, and scholarly analysis to enhance [one’s] understanding of the site.”² They are interested in funding projects that will address standards to assist in making these ideas practical. Will libraries be involved in similar efforts to supply content and services for access via mobile devices such as cell phones?

When conversation among academic librarians turns to the topic of use of mobile devices and the implications for libraries, it is common to hear the refrain: yes, we ought to be thinking about that, but right now this issue is not at the top of our agenda. Why should librarians actively investigate mobile technologies and plan for services that take into account a range of devices beyond desktop and laptop computers? Some blogs and conferences are beginning to address issues related to mobile technologies or to present projects by early adopters, but treatments of the broad range of issues related to libraries are few.³ This brief survey of mobile technologies, learning, and libraries provides some examples of innovative ways in which a limited number of academic libraries are already designing services around mobile technologies and mobile users and lays out the issues that should be discussed on individual campuses that would like to examine their role in the move to mobile.

We are well aware that most members of our

campus communities are highly dependent on mobile technologies. The 2008 survey by the EDUCAUSE Center for Applied Research (ECAR) reported that 82% of students on the campuses participating in the survey own a laptop. About one quarter of students who identify themselves as early adopters of technology access the Internet from handheld devices weekly or more often. Students are heavy users of their hardware, spending an average of 19.6 hours per week using an electronic device.⁴ While not many undergraduates own PDAs or similar devices, it is likely that graduate students, especially those attending professional schools, will be the early adopters of these devices on campus. A survey at Harvard Medical School in 2007 showed that fully 52% of their medical students owned PDAs. The most-used application (by 26% of respondents) was reference information; only 6% reported subscribing to podcasts.⁵ Today’s college students are also more versatile in their use of devices and the Internet than are older generations. For example, college students watch television and listen to radio on the Internet much more than do older generations.⁶ They are less likely to dismiss the usefulness of information on small screens than are older generations.

University Libraries and Mobile Users

Many faculty and others involved in the educational process express concerns that Net Gen or Millennial students are wasting their time with technology and that their use of technology may even hinder their learning. However, some research sponsored by the UK’s Joint Information Systems Committee (JISC) reported that students who are effective learners in the digital environment:

- Use mobile phones, laptops, and PDAs to support their learning

- Use software to create, manipulate, and present content
- Seek peer support via informal networks of family by using e-mail, texting, chat, and Skype, “an underworld of communication and information-sharing invisible to tutors”⁷

Many Net Gen students think of their mobile devices as more than efficient or convenient pieces of hardware; they view the devices as integral to their daily lives: “Many speak of their personal devices as individualised learning environments which, if possible, go everywhere with them. As a result, they express a need to integrate personal technologies with institutionally based systems—for example downloading podcasts onto a palmtop or uploading work from a storage device, such as a USB memory stick, to an institutionally based computer—to provide a seamless flow of study.... Not being able to do so causes them frustration.”⁸

While the studies cited above are important for understanding the student landscape today, it is even more important that information professionals understand the types of devices their own students and faculty use and the uses they are making of those devices. By analyzing existing survey data, consulting with other institutional units to see what type of data they already collect and how you can partner with them, and supplementing existing quantitative data with qualitative data through focus groups, interviews, or observations and field studies, you can develop a profile of students and faculty (or sub-groups of these populations) in your particular university. Understanding the profile of your user population should underpin planning for content and services for mobile devices.

As university library personnel begin to plan how they will address the needs of their clientele who use mobile devices, they should first clarify the meaning of “mobile library users” in the context of their campus. Mobile users can be:

- Faculty conducting research or teaching activities
- Students who study entirely at a distance
- Students whose courses include online and on-campus components
- Learners in the field, e.g., clinical settings, professional internships
- Learners using mobile devices such as clickers in the classroom
- Learners using mobile devices for learning activities outside of the classroom, e.g., class assignments and group projects

It is likely that more than one type of use will be evident on any given campus, and faculty may have both similarities and differences from student use.

Since services for distance-education students may have different characteristics than those for students who primarily use mobile devices in their classrooms and other campus buildings, each institution should gather data on the types of devices their students employ, the prevalence of distance education courses, and the use of mobile devices for on-campus courses. In addition, campuses need to have data on the types of mobile devices students own and whether they are using them for educational purposes. Some types of devices they may already be using are mobile/smart phones, PDAs, clickers/personal response systems, MP3 players/iPods, and laptops/notebook computers. It is likely that new mobile devices will be coming on the market, such as Livescribe’s Smartpen,⁹ with which a student can record notes from a lecture, upload them to a computer, and tap on the notes on paper and hear an audio recording of them.

As libraries consider their re-tooling for mobile users and mobile devices, they should examine the consequences of mobility and the opportunities for innovation in the areas of content, systems and tools, services, and environments, both physical and virtual.

Mobilizing Content

What will library users want to access and actually read on mobile devices? What types of library users will be most likely to want to access content on mobile devices? At present, few libraries offer licensed content for mobile devices. An exception is in the medical field where some libraries, such as the University of Alberta, offer an array of health-science reference sources for their users.¹⁰ The notion of offering authoritative reference sources to students and faculty in clinical settings seems a natural for a first offering of content tailored to mobile devices.¹¹ One can imagine offering reference sources for other researchers (students or faculty) in the field, such as those doing agricultural studies, environmental data collection, anthropological work, or social-services work in the community. Such individuals may find ready access to directories, handbooks, and the like to be of great utility in the field.

As higher education institutions increasingly use mobile devices for some courses, there may be opportunities for tie-ins with library content and services. For example, a company is offering English lessons with test preparation materials for use with cell phones; libraries could offer access to dictionaries or other language reference tools that would be cell-phone compatible. Libraries might want to offer a set of mobile-formatted reference materials for students studying abroad. In some subject areas, students and researchers rely on quick reference sources; libraries might consider developing brief guides to reference sources by discipline and then linking to reference sources compatible for cell-phone use. In the life sciences and medical areas, students and researchers often use sets of images of subjects like

plant and animal species, cells, diseases, and the like; ornithologists and others may use audio files. Institutions may subscribe to databases that these scientists use or may house them in their institutional repositories. Providing formats for access via mobile devices might be of interest to these user groups.

At University of Nebraska–Omaha, the library has purchased the e-book reader Kindle and is lending it, along with access to popular fiction e-books, as a new service. Their library patrons had been asking for access to popular fiction and the service has proved very popular. This library is also experimenting with using Kindles to fulfill interlibrary loan book requests, filling them “in a matter of minutes.”¹²

Another aspect of providing content for mobile devices is the opportunity to make university-affiliated content available for downloading to MP3 players and other devices. At the Arizona State University, the Library Channel provides access to content such as podcasts and videos on information literacy and guest speaker lectures.¹³ Libraries may want to consider how they could make some of the content in their institutional repository more available for mobile devices, if the content includes course lectures, podcasts, or similar content.

Mobilizing Services and Systems

Libraries have been providing reference service by phone for many years, and most university libraries also provide reference services by e-mail, instant messaging, and chat. At least in the US, few libraries are using text messages to communicate with users at this point. Some library users can access some factual information via their mobile devices, including their record of items checked out, the hours the library is open, and directions to the library. Some university libraries have begun to make versions of their catalogs available for access on mobile devices. The North Carolina State University (NCSU) MobiLIB catalog interface, for example, is optimized for mobile devices.¹⁴ In addition, NCSU Libraries offers access via mobile device to information about availability of computers, library hours, and other general information.

The Open WorldCat offers citation styles for many of its entries; students needing quick access to the correct citation format for the sources for their paper might find access to WorldCat by cell phone to be useful. OCLC is experimenting with what it takes to make WorldCat more mobile.¹⁵

As information resources in new formats for mobile devices are made available, the library may serve as a training center for the devices and the use of the content; this has happened at the University of Alberta, which conducts the training for the campus use of PDAs for information resources. Some libraries, like Arizona State University, mentioned above, are developing podcast tutorials for information literacy purposes. Libraries can

also consider whether their users might benefit from simple tutorials on finding a periodical article or evaluating Internet resources that would be mobile phone-accessible.

As information professionals consider what types of services they might offer that would employ mobile devices or be accessed by users with mobile devices, they need to target specific user groups, such as students at a distance, field-based students, or students in professional programs, e.g., health sciences, education, social work, or journalism. Some of these disciplines are rethinking their curriculum so that it more realistically prepares students for the way professionals are working today. For example, at the Northwestern University journalism school, they decided, “At a time when newspaper readership is steadily declining and many readers are bouncing from blogs to Internet video to get their news, the new approach will send student reporters out into the field with video iPods and digital camcorders, as well as spiral notebooks.”¹⁶ These students might benefit from some readily accessible reference tools, too.

Mobilizing Environments

The use of mobile devices also has implications for the physical spaces in libraries. For example, some libraries are loaning mobile devices, including iPods and video cameras, and many are loaning laptops. Service desks need to be configured to house the hardware and signage needs to convey the availability of the equipment. Use of all of this equipment has implications for the need for electrical outlets and network connectivity throughout the library facility since some users will do their work in-house. In addition, students who bring their own devices need access to electrical outlets in order to recharge their own equipment. At the Montesquieu Learning Center at Tilburg University in the Netherlands,¹⁷ some lockers with electrical outlets are available so that students can recharge their devices while they are off doing other things.

Many libraries are developing new types of collaborative learning spaces when they renovate; these include group study rooms, multimedia production spaces, and rooms with equipment that enable students to practice delivering multimedia presentations. All of these types of spaces support students’ use of mobile devices in creating content for their coursework. In addition, some institutions have centers that are oriented towards encouraging faculty to use technology effectively in their teaching. The Open University Library’s Digilab¹⁸ is an innovative facility that provides the latest technologies in an engaging physical space for faculty to try out new products and get advice from professional staff in the facility. Libraries’ instruction classrooms may be employed during workshops to teach students and faculty about how to use new mobile devices on the market and how to upload content to their devices.

As students increasingly develop innovative digital

content, such as videos, on their mobile devices, libraries should consider not only providing spaces or small rooms for collaborative work on projects, but spaces to display finished work. These could be posters, digital displays, or screen savers. If universities want to highlight the type of work their students or faculty are doing in the field, it would be interesting to have the capability for some real-time streaming of data into a display in the library.

Conclusion

According to the EDUCAUSE Evolving Technologies Committee, the University of South Dakota has been issuing PDAs to students since 2001 and they are preloaded with materials, including reference books.¹⁹ Other institutions may be planning or offering similar programs. Does the library want a seat at the table when such programs are developed and offered? Does the library want to play a role in the selection and licensing of content for mobile devices in such cases or is this a role better played by the campus bookstore? Does the library want to become a service hub for mobile content and devices, or is this a role better played by IT or some other group? Each institution needs to consider what role the library should play in relation to mobile content and devices. If the library is not at the table, will other campus units make decisions that result in incompatibility with equipment and content purchased and licensed by the library?

Libraries may want to approach the consideration of provision of content and services for mobile users at two levels, internally within the library and at an institutional level. Some issues that the library may wish to examine in-house are the library's role in:

- Licensing information products for mobile devices
- Hosting or pointing to institutional content intended for mobile devices, e.g. podcasts
- Preserving new content types and formats
- Providing instruction on the devices themselves, not just access to content
- Providing space for new equipment and work styles

Libraries may want to take a campus leadership role and consider establishing a task force or study group that involves individuals representing various sectors of the university to examine issues related to mobile users, or if such an institution-wide group already exists, libraries may want to ensure that they are represented. The group may want to address:

- Specific goals and objectives for mobile content/services (in research and instruction)
- The current state of uptake of mobile devices by campus sectors
- Target audience for anticipated content/services
- Stakeholders who should be involved in the detailed planning

- A clear understanding of resources needed and funding streams
- A plan for assessment of the effectiveness of the new content/services

As with most technology developments, this one is fast-moving. This is not a time to sit on the sidelines as other campus units are developing services for mobile users and licensing content for mobile devices. Academic libraries should make conscious choices about what they want to offer in this arena and act accordingly.

- ¹ John Horrigan, "Mobile Access to Data," Pew Internet & American Life Project, March 2008, http://www.pewinternet.org/PPF/r/244/report_display.asp.
- ² David Weinstein, "NEH and Mobile Media," ODH Update blog, National Endowment for the Humanities, Office of Digital Humanities, July 17, 2008, <http://www.neh.gov/ODH/ODHUpdate/tabid/108/EntryID/72/Default.aspx>.
- ³ Ellyssa Kroski, "On the Move with the Mobile Web: Libraries and Mobile Technologies," *Library Technology Reports* 44, no. 5 (July 2008). Also: Gil Needham and Mohamed Ally, *M-Libraries: Libraries on the Move to Provide Virtual Access* (London: Facet Publishing, 2008); this article draws on a chapter by Joan Lippincott in *M-Libraries*, which is a collection of papers from the first M-Libraries conference held in Milton Keynes, England at the Open University in 2007.
- ⁴ *ECAR Study of Undergraduate Students and Information Technology* (Boulder, Colorado: EDUCAUSE, 2008), <http://connect.educause.edu/Library/ECAR/TheECARStudyofUndergradua/47485>.
- ⁵ This study was reported on by Joseph C. Panettieri, "Waiting on the Wave," *Campus Technology*, March 1, 2007, <http://campustechnology.com/articles/45244/>.
- ⁶ Zogby International, January 31, 2007.
- ⁷ *In Their Own Words: Exploring the Learner's Perspective on E-Learning* (JISC, 2007).
- ⁸ Ibid.
- ⁹ Livescribe, <http://www.livescribe.com/>.
- ¹⁰ University of Alberta Libraries, "PDA Zone," <http://www.library.ualberta.ca/pdazone/index.cfm>.
- ¹¹ An excellent Web site developed and maintained by Megan K. Fox at Simmons College Library—PDAs, Handhelds, and Mobile Technologies in Libraries—provides links to some examples of libraries, particularly those in medicine and the health sciences, and their content and services for mobile devices. See <http://web.simmons.edu/~fox/pda/>.
- ¹² Joyce Neujahr, comment on "Amazon Plans to Market Its E-Book Reader to Colleges," *The Wired Campus, Chronicle of Higher Education*, August 25, 2008, http://chronicle.com/wiredcampus/article/3268/amazon-plans-to-market-its-e-book-reader-to-colleges?utm_source=at&utm_medium=en.
- ¹³ Arizona State University Libraries, "The Library Channel," <http://lib.asu.edu/librarychannel/>.
- ¹⁴ North Carolina State University Libraries, "Catalog WS," <http://www.lib.ncsu.edu/dli/projects/catalogws/>.
- ¹⁵ Lorcan Dempsey, "WorldCat in Your Pocket," Lorcan Dempsey's weblog, January 19, 2005, <http://orweblog.oclc.org/archives/000544.html>; also see a model of mobile WorldCat at <http://mobileworldcat.org/>.
- ¹⁶ Katherine Mangan, "Journalism Dean at Northwestern U. Develops Curriculum with Increased Emphasis on Multimedia and Marketing," *Chronicle of Higher Education*, July 20, 2007, <http://chronicle.com/daily/2007/07/2007072002n.htm>.
- ¹⁷ Tilburg University, Montequieu Learning Center, <http://www.tilburguniversity.nl/services/lis/mlc/>.
- ¹⁸ The Open University, Digilab, <http://digilab.open.ac.uk/>.
- ¹⁹ Art St. George et al., "Imagining Tomorrow's Future Today," *EDUCAUSE Review* (Nov./Dec. 2007): 107–127, <http://connect.educause.edu/Library/EDUCAUSE+Review/ImaginingTomorrowsFutureT/45226>.

VIRTUAL RESOURCES AND INSTRUCTIONAL INITIATIVES: SNAPSHOTS OF LIBRARY EXPERIMENTS

ARL libraries are setting a rapid pace for experimentation as they replace or supplement traditional information literacy classes with a variety of library engagements in classrooms, through course management systems, and in the virtual spaces inhabited by students and faculty. Respondents to a survey conducted by ARL during the late winter and early spring of 2008 described a widely varied landscape of instruction initiatives.

The survey invited all ARL libraries to describe innovative and noteworthy experiments in three areas: instruction programs, virtual resource development, and space initiatives. Of the 123 member libraries, 77 participated in the survey, for a response rate of 63%. Responses to the first two elements of the survey (instruction and virtual resource development) are summarized in this article; responses to the third element, space initiatives, will be reported separately.

Innovations and noteworthy experiments were defined in the survey as either "a new service for the library," or "unique in academic librarianship." Respondents briefly described the initiative, provided supporting documents and URLs, and offered assessment data where it existed. What is new or innovative for one library may be a standard and long-practiced approach at another institution. Whatever one's perspective however, it is clear that considerable change is underway. Research library engagement in, and support for, student learning and academic success is producing an instruction landscape that is varied, evolving, and shaped by local cultures and opportunities.

Underlying many of the examples described by survey respondents is an agenda to develop students' information fluencies *beyond the needs of a single assignment or course*. Goals are shifting to produce individuals who are adept at critically evaluating resources within their discipline and across disciplines, who incrementally enhance their research skills over several years, and who develop capacities for critical self-reflection and ethical behavior. Adoption of this agenda has a direct bearing on library collaborations with teaching faculty, sharpening the focus on student learning outcomes. Increasingly, libraries rely on technology to create and deliver persistent aids, tutorials, and context-sensitive assistance in ways that emphasize active learning and support research-based curricula. As one respondent noted, "The pedagogy for these sessions has changed dramatically over the past several years. From "sage on the stage" instruction with time for hands-on experimentation, we have moved to self-paced online assignments with the instructor...acting as a resource person."

This summary of the initiatives described by survey respondents is organized around themes that emerged in the responses:

- Collaborations with academic faculty
- Digital images
- Podcasts/vodcasts
- Blogs
- Facebook
- Short Web tutorials
- Specially assigned librarians
- Immersion in special collections
- Mentoring/training of instruction librarians
- Plagiarism and ethics
- Customer-informed training, faculty workshops, student research competitions

Collaborations with Academic Faculty

A growing number of library literacy programs embed resources into course management systems like Blackboard and WebCT. The ambition of these comprehensive instruction programs is to instill increasingly more advanced information competencies from freshman to senior year. For example...

University of California, Berkeley's Undergraduate Student Learning Initiative (Mellon-funded) transforms undergraduate course curricula into research-based activities. Courses across a broad range of disciplines were redesigned to incorporate information competencies, research skills, and the use of the library's print and digital collections as integral components. Comprehensive evaluation of this ambitious program will likely emerge in 2009.

<http://www.lib.berkeley.edu/mellon/>

Librarians at **North Carolina State University** partner with Engineering and Textiles faculty on curriculum-integrated information instruction. Librarians coordinate resources that students need to complete assignments, and create a rubric for faculty to grade the assignments. "Partnerships with faculty are the essential component of any curriculum-integrated library instruction program, and developing a strategic plan for cultivating these relationships is crucial."

<http://www.lib.ncsu.edu/instructiontoolkit/>

For a required freshman writing course, **University of Minnesota** is dropping its overwhelmed workshop series in favor of digital modules, prepared in collaboration with the Writing Program staff. The digital learning materials will replace most face-to-face workshops. Four pilot modules were tested in spring 2008, created with Lectora, and initially accessed from the libraries' Web site. Additional modules will be integrated over time.

<http://www.lib.umn.edu/site/aboutunravel.phtml>

Digital Images

Digital image databases represent large library investments that are unevenly used. In order to ramp up use in academic classes and research, some libraries are creating staff positions and service units to engage faculty more deeply in the use and

management of licensed and personally owned images. For example...

Cornell University Library's Digital Image Instruction Assistant helps to "bridge content, services, and users." Faculty are shown how to exploit the potential of image delivery systems, increase the quality and availability of digital images, incorporate new strategies for teaching digitally, and make effective presentations. Use of digital images has surged. <http://imageinstruct.library.cornell.edu/>

The Imagebase component of ARTstor at **University of Miami Libraries** offers a growing collection of images to browse, embed into a course management system, and apply to research. The database is heavily marketed to faculty. A Digital Library Fellows program provides funds and technology to faculty for the creation of innovative electronic scholarly content that is open access. The program awards projects that will have a significant impact on teaching, learning, and research. <http://merrick.library.miami.edu/>

Podcasts/Vodcasts

Podcasts and vodcasts capitalize on the proliferation of iPods and mobile devices carried by students, and on students' practice of seeking quick bites of information. Instruction videos are sometimes adapted for downloading as podcasts. Producing podcasts and vodcasts is inexpensive, technically easy, and open to quick revisions and updates, giving libraries a Web 2.0 entrée for consumers. For example...

Ohio University supports podcast library tours in many languages: Swahili, Japanese, Mandarin Chinese, Spanish, Malay, Portuguese, and Arabic. Students can download content to their own iPods, supplemented by library iPods available for checkout.

http://www.library.ohiou.edu/podcasts/?page_id=14

The Library Channel developed by **Arizona State University Libraries** is a richly realized portal for podcasts, videos, and other library materials. It feeds an exceptional mix of content that features faculty presentations; library services, resources, and information literacy podcasts; campus news of the day; etc. New content is continually supplied, mixed, and presented to appeal to students. Content can be downloaded to MP3 players and other devices.

<http://lib.asu.edu/librarychannel/about/>

Blogs

In recent years, blogs have become a delivery mechanism for library publishing and information awareness. Blogs enable libraries to create an evolving Web site of resources and guidance, with options for the user community to comment on postings. For example...

New York University Libraries' blog service is designed to create community among students and faculty. The site is imbued with library content and detailed explanations of services and resources. Seminars, training sessions, digital exhibits, and

videos of library-sponsored programs proliferate.

<http://liblink.wordpress.com/>

The **University at Buffalo Libraries'** "Services for Students" blog offers library hints, services, assignment tips, and resources pertaining to student learning and research. This content is replicated on the libraries' Facebook page. The libraries are planning opportunities for students to create content for the site, including reviewing books and media productions.

<http://libweb.lib.buffalo.edu/blog/students/>

Facebook

Harnessing Facebook to portray library services, resources, and instructional materials is proliferating across libraries. The immensely popular virtual convening ground seems a logical destination for marketing and heightening awareness of libraries with packaging and language tailored to appeal to undergraduate students. For example...

The **University at Buffalo Libraries** duplicates its blog content (mentioned above) in Facebook. The libraries' page supplies links to a number of resources, along with an FAQ, chat service, alerts, links to digital library exhibits, and other items of student interest.

<http://www.facebook.com/pages/Buffalo—NY/>

[University-at-Buffalo-Libraries/6629876727](http://www.facebook.com/pages/University-at-Buffalo-Libraries/6629876727)

Pennsylvania State University Libraries created a Facebook application to provide access to the online catalog, ProQuest databases, live help, and other resources. The libraries are adding more extensive social and collaboration components to the application over time.

<http://apps.facebook.com/psulibrary/>

Short Web Tutorials

Point-of-need tutorials are proliferating in ARL library instruction programs. The rise of video tutorials capitalizes on students' heavy consumption of digital videos. Camtasia is the most popular screen video capture program for creating instructional materials. The majority of context-sensitive tutorials are text-based, but soon may be surpassed by videos. For example...

Examples of Camtasia-created instructional materials for chemistry can be seen at:

MIT Libraries

<http://libraries.mit.edu/guides/courses/fall2007/3.091/>

McGill University Library

<http://www.mcgill.ca/schulich/collections/links/course/chem120/#VIDEOS>

The **University of Illinois at Urbana-Champaign** has created short video tutorials covering basic tools, research processes, and databases, presented as a mix of video and print descriptions. Video tutorials are also posted to the libraries' YouTube site. The collection of self-paced video tutorials is complemented by Web-based guides, including one particularly rich compilation for undergraduate students:

<http://www.library.uiuc.edu/ugl/howdoi/how.html#research>

A portal for all instructional resources is available at:
<http://www.library.uiuc.edu/learn/>

Research 101 is a **University of Florida Libraries** and Center for Instructional Technology and Training project to create interactive, Web-based information literacy tutorials for undergraduate and distance-learning students. Five tutorials introduce basic library research skills, finding information, learning search techniques, and strategies for evaluating sources. The tutorials include flash-based activities that allow students to interact with the content, and take quizzes to test comprehension. Research 101 is also embedded within WebCT Vista.

http://mihq.org/smathers/research101_intro.html

Specially Assigned Librarians

Libraries are imagining new ways to identify with the populations they serve. The resulting new roles for librarians include special assistance to discrete populations of students. For example...

Cohort classes at the **University of Chicago** are assigned a "class librarian" to work with them until graduation. The class librarian maintains Web pages with class-specific information and timed e-mails to reduce freshman anxiety, prepare for upcoming deliverables, and condition upperclassmen to rely on the library when beginning research papers and senior theses.

At **Johns Hopkins University Libraries**, a consultant to undergraduate research journal editors provides assistance with writing style, scholarly resources, and article editing. This assistance is well received and elevates the libraries in the eyes of influential student editors.

Immersion in Special Collections

Special collections are a defining characteristic of each ARL library, and primary source materials are being promoted to undergraduates in new ways. Providing primary materials to foster genuine student research elicits enthusiasm from students and faculty. For example...

At the **University of North Carolina Libraries**, collections of audiotapes, diaries, photographs, and other primary documents have been digitized and woven into a rich collection of resources (Stories of the American South, an educational resource that is part of Documenting the American South) for class work. A faculty client reports, "these efforts help our undergraduates to gain an understanding and appreciation for the power of primary source material in the study of history." Assessment indicates that undergraduates exposed to the digital series Stories of the American South were more apt to find and use primary source materials in future assignments.

<http://www.lib.unc.edu/stories/>

Georgetown University, through its Carroll Fellows Initiative, offers freshmen an option to work with special collections materials. Undergraduates are paired with

graduate student "mentors" to transcribe, research, and edit un-researched 19th-century letters. This "manageable discovery research experience" popularizes special collections that are typically underutilized by undergraduates while also imparting research methodologies and subject expertise. Librarians and faculty collaborate on seminar content and learning outcomes.

<http://gervaseprograms.georgetown.edu/carroll/>

Mentoring/Training of Instruction Librarians

As pedagogy and instruction methods change, so, too, must the preparation for librarians. Several libraries have responded by providing intensive workshops and special training series for library instructors. For example...

At **Cornell University**, the library instruction program collaborates with the Center for Learning and Teaching (CLT) to produce a "train the trainer" videotape series. The librarian instruction sessions focus on instruction modules, critically observing teaching, and providing effective feedback. The libraries and CLT have evaluation forms and other material to facilitate the process and assess efficacy.

<http://www.cte.cornell.edu/campus/teach/faculty/faculty.html>

The **University of Texas Libraries** help instruction librarians with a comprehensive tutorial covering "Tips and Techniques for Library Instruction." A workshop on teaching styles includes a mockumentary portraying poor teaching and resulting student reactions. Staff benefit from workshops on emerging Web 2.0 technologies as they apply to finding, organizing, and synthesizing information when planning instruction modules. Tutorial:

<http://www.lib.utexas.edu/services/instruction/tips/>

Plagiarism and Ethics

Copyright in the digital age has refocused attention on ethics, especially the responsible use of others' intellectual output. Libraries invariably are partners in campus-wide initiatives to raise student awareness and influence behavior. For example...

The **University of Maryland Libraries** have launched an Academic Integrity Initiative in collaboration with other campus partners to raise awareness, and to provide information to students and educators on how to use research resources in a responsible and ethical manner.

<http://www.lib.umd.edu/UES/integrity.html>

The **University of Texas Libraries** have developed a plagiarism prevention program for freshman learning communities in collaboration with other campus units. The program is delivered by upper-division undergraduate mentors assigned to each community. The mentor is trained to take the group through an exploration of why, how, and when to cite sources, assisted by active learning exercises such as a "cite it" game and "you be the judge" small-group discussions. Curriculum coordinators believe that "peer-to-peer

learning is a very effective method for [engaging freshmen in] this type of content.”

<http://www.lib.utexas.edu/services/instruction/faculty/plagiarism/>

Customer-Informed Training, Faculty Workshops, Student Research Competitions

The instruction programs of some libraries are strongly influenced by client requests for specific classes and training. Some libraries have created special faculty training opportunities in collaboration with other campus units. These may feature new teaching technologies, examples of library partnerships in courses and across disciplines, and helpful information-use tools. In other cases, competitions have been created to identify exemplary examples of undergraduate research. For example...

University of Pennsylvania Libraries offer a rich mix of short classes and training opportunities in the Weigle Commons of Van Pelt Library, from multimedia topics to advanced information-searching skills to making effective conference presentations. Penn faculty and students suggest courses as well as volunteer to teach them. Most instruction is provided by library staff, or by campus collaborators. Assessment is ongoing.

<http://wic.library.upenn.edu/workshops/>

University of Michigan offers an Enriching Scholarship workshop each May for faculty as a collaborative venture of the libraries and other campus groups to promote applications of technology with new forms of pedagogy. One quarter of the training sessions offered in 2007 were conducted by library staff.

<http://www.umich.edu/~teacht/ec/es.html>

The **University of California, Berkeley** “Library Prize for Undergraduate Research,” established in 2004, recognizes excellence in undergraduate research projects that draw upon university library collections and “demonstrate use of sophisticated information literacy and research skills.” Judges focus on the research process portrayed in each student submission. “Many essays include revealing statements about personal setbacks and challenges, false starts, muddled thinking, desperate measure, and despair—all shared student experiences.”

<http://www.lib.berkeley.edu/researchprize/>

In Summary

The examples cited above were selected to give the reader a sense of the rich experimentation underway with instruction programs, outreach initiatives, and context-appropriate resources. They represent a small portion of all of the responses to the survey. All survey responses are available on the ARL Web site (see insert for details).

In reporting their achievements, ARL libraries frequently refer to the initiatives of sister institutions as providing critical impetus for moving in a new direction. There is a curiosity to know how others are creating opportunities to engage their client populations. Some of the initiatives take advantage of unique campus

circumstances, but they nevertheless can inform and encourage variations on the theme in other libraries.

Libraries clearly recognize the importance of embedding information tools, resources, and expertise into the teaching, learning, and research enterprises. They are following their user populations into the virtual spaces they inhabit (course management systems, Facebook, YouTube), and infusing portals with content, news, and even examples of students’ creative output that are intended to draw the student back for repeated visits.

It also appears that the rapid pace of experimentation and redesign of information literacy engagements will be sustained into the future. One detects the gradual drying up of “cattle call” instruction sessions in library classrooms in favor of working with academic faculty and programs in more ambitious information-fluency enterprises. In the process of experimentation, libraries and the institutions they support will benefit from sustained assessment that reveals the impact of these efforts and suggests improvements.

For most of the initiatives being reported, there are lingering or unresolved questions:

- How do we know that we are genuinely influencing the academic performance of students?
- Are the goals and aspirations that drive instruction and virtual resource initiatives reflective of or linked to the broader mission of the university?
- Are we considering all opportunities to expose students to primary materials in archives and special collections?
- Are instruction librarians getting the support and encouragement they require to make inroads into academic programs, new course creation, and virtual-resource planning?
- Are these experiments scalable and adaptable to other institutions and settings?
- How could assessment strategies be applied to provide deep insight into these efforts?

In the meantime, we can expect to see new experiments with information instruction and virtual resource development. Library collaborations with academic faculty and departments will evolve, libraries’ presence in virtual spaces will accelerate, and assessment will play a larger role to reveal the efficacy of these efforts.

COMPREHENSIVE SURVEY RESULTS

In early 2008, all ARL libraries were invited to describe innovative and noteworthy experiments in instruction programs and virtual resource development.

Responses are summarized in the accompanying article and, in order to encourage wide sharing of experiences, all survey responses are available on the ARL Web site. See <http://www.arl.org/rtl/roles/>.

CURRENT MODELS OF DIGITAL SCHOLARLY COMMUNICATION

ARL has released the final report from a study that ARL commissioned Ithaka to conduct, *Current Models of Digital Scholarly Communication*, by Nancy L. Maron and K. Kirby Smith, along with the database of exemplars that the study produced.

In the spring of 2008, ARL engaged Ithaka's Strategic Services Group to conduct an investigation into the range of online resources valued by scholars, paying special attention to those projects that are pushing beyond the boundaries of traditional formats and are considered innovative by the faculty who use them. The networked digital environment has enabled the creation of many new kinds of works, and many of these resources have become essential tools for scholars conducting research, building scholarly networks, and disseminating their ideas and work, but the decentralized distribution of these new-model works has made it difficult to fully appreciate their scope and number.

Ithaka's findings are based on a collection of resources identified by a volunteer field team of over 300 librarians at 46 academic institutions in the US and Canada. Field librarians talked with faculty members on their campuses about the digital scholarly resources they find most useful and reported the works they identified. The authors evaluated each resource gathered by the field team and conducted interviews of project leaders of 11 representative resources. Ultimately, 206 unique digital resources spanning eight formats were identified that met the study's criteria.

Highlights from the study's findings include:

- While some disciplines seem to lend themselves to certain formats of digital resource more than others, examples of innovative resources can be found across the humanities, social sciences, and scientific/technical/medical subject areas.
- Of all the resources suggested by faculty, almost every one that contained an original scholarly work operates under some form of peer review or editorial oversight.
- Some of the resources with greatest impact are those that have been around a long while.
- While some resources serve very large audiences, many digital publications—capable of running on relatively small budgets—are tailored to small, niche audiences.
- Innovations relating to multimedia content and Web 2.0 functionality appear in some cases to blur the lines between resource types.
- Projects of all sizes—especially open-access sites and publications—employ a range of support strategies in the search for financial sustainability.

The report and database of exemplars are freely available on the ARL Web site at <http://www.arl.org/sc/models/model-pubs/pubstudy/>.

E-SCIENCE TALKING POINTS FOR ARL DEANS AND DIRECTORS

Exactly what is meant by “e-science” and what are the most relevant areas for library involvement in e-science projects? These are two of the eight questions addressed in a background paper prepared in collaboration with ARL's E-Science Working Group. The paper provides brief commentaries on basic questions on the topic as well as a short list of readings for additional information. Elisabeth Jones, doctoral candidate at the University of Washington iSchool, is working with Eric Celeste, consultant to the E-Science Working Group, to expand the paper to address additional questions about e-science. The paper is posted on the ARL Web site. See <http://www.arl.org/rtl/escience/eresource.shtml>.

PLANNING A LEARNING SPACE IN A RESEARCH LIBRARY

A tool kit by ARL's Crit Stuart enables library staff—without reliance on outside experts—to conduct pre-programming assessment in order to customize learning spaces to fit local circumstances. The kit includes an overview of the planning process for building a learning commons as well as easy-to-use, one- to two-page guides to implementing a dozen different pre-programming assessment techniques. The techniques have been tested in several libraries and consistently produce excellent data for developing informed building programs.

The techniques covered in the tool kit are:

- Surveys and Comments
- Student and Faculty Advisory Groups
- Lunch Invitations
- Survey Tours (with Photographs)
- Affinity Focus Groups
- Structured Conversations
- Videotaped Interviews
- Design Charettes
- Campus and Outside Experts
- Sandboxing/Experiments
- Learning Commons Oversight Council
- Report Cards/Post-Occupancy Assessment

The tool kit is available for free download from the ARL Web site via <http://www.arl.org/rtl/space/>.

ARL MEMBERSHIP CONVENES

On October 15, ARL President Marianne Gaunt (Rutgers) convened the 153rd ARL Membership Meeting in Arlington, Virginia, with 108 member libraries represented. The two-day program featured remarks by two provosts, by ARL directors, and by other librarians who participated in one of ARL's leadership development programs: Leadership and Career Development Program (LCDP) and Research Library Leadership Fellows (RLLF) Program.

Diversity in Higher Education & LCDP Anniversary

University of North Carolina at Chapel Hill's Provost Bernadette Gray-Little opened the meeting with keynote remarks on diversity in higher education. Weaving her personal educational experience into the larger picture of change for US higher education, she made a compelling case for the cumulative impact of many steps, even modest ones, that aim to increase diversity of the student population and the faculty and research library workforce. Her remarks were followed by a panel convened by Karin Trainer (Princeton) celebrating the 10th anniversary of ARL's LCDP. Speakers included LCDP alumni Anthony Smith (Miami), Aisha Harvey (Duke), and Jeannie An (McMaster)—who described the impact of the LCDP on their views about leadership roles as well as the future of research libraries—and Nancy Baker (Iowa) and Vivian Lewis (McMaster)—who addressed the positive experience of sponsoring or serving as a career coach for an LCDP participant. The panel concluded with a salute and standing ovation for Jerome Offord for his leadership of ARL diversity initiatives over the past five years. A reception followed where Marianne Gaunt offered a toast celebrating past and future LCDP participants and sponsoring libraries.

The Future for the Work of Extended Arguments

ARL's Scholarly Communication Steering Committee sponsored a program featuring James J. O'Donnell, Provost, Georgetown University, who, both as humanist and provost, considered the recent evolution of the role of monographs, particularly in validating the quality of scholarship. O'Donnell emphasized that the real issue for the future of monographs continues to be clearly

identifying the best works to be published. The long-term trend of scholarly publishers placing increasing weight on works that appeal to broader markets has worked against the needed focus on quality, he argued, and newer issues, such as debates around the application of network technologies and business models, further distract attention from the core issue of rewarding quality work.

Leadership Roles in Research Libraries

Nancy Cline (Harvard) convened a program with Nancy Eaton (Penn State) and Martha Bedard (New Mexico) reflecting on the strategic issues and success factors

associated with executive leadership of research libraries. The three directors, each at different points in their own careers as ARL library director, commented on the need and options for nurturing succession planning in the ARL community. They highlighted the distinctive role of ARL's Research Library Leadership Fellows (RLLF) Program, in which they had each been involved as either sponsor or participant, citing the importance of being introduced to the complexity of leadership roles in a large research institution. The panel was followed by concurrent discussions led by the current RLLF fellows.



Eleven LCDP alumni attended the 153rd ARL Membership Meeting (left to right): Allison Sutton, Anthony Smith, LaVentra Danquah, Jerome Conley, Karen Downing, Corey Murata, Aisha Harvey, Nevil Prendergast, Vicky Coleman, Patrick José Dawson; accompanied by: Charles B. Lowry (ARL), Karin Trainer (Princeton), DeEtta Jones-Young (ARL consultant), Marianne Gaunt (Rutgers), Jerome Offord (OCLC, formerly ARL); not pictured: Jeannie An. Copyright © 2008 Frank Scieurba Photography

E-Science: Trends, Transformations & Responses

Wendy Lougee (Minnesota) convened a panel to review the future of e-science and implications for library support. Speaking from the view of a multi-agency federal program, Chris Greer (NITRD) gave a preview of how future scientists will conduct their research, emphasizing the distributed, collaborative, and data-intensive nature of their work. Biologist William Michener (New Mexico) illustrated the trend lines with a case study from the multi-decadal research undertaken by the Ecological Research Network. Rick Luce (Emory) summarized past motivations of library collaborative actions and concluded, "the next phase requires an expanded mission of shared purpose" and "a shift from a focus on products (e.g., reference) to process (e.g., team science)." The points raised by the panelists were elaborated the following day in a separate ARL/CNI Forum, "Reinventing Science Librarianship: Models for the Future." *Audio and slides of the panelists and the full forum are on the ARL Web site at <http://www.arl.org/resources/pubs/fallforumproceedings/forum08proceedings.shtml>.*

Membership Meeting background papers and speaker slides are on the ARL Web site at <http://www.arl.org/resources/pubs/mmproceedings/153mm-proceedings.shtml>.

ARL ANNOUNCES BOARD OF DIRECTORS 2008–09

Thomas C. Leonard, the Kenneth and Dorothy Hill University Librarian and a Professor in the Graduate School of Journalism, University of California, Berkeley, began a one-year term as ARL President on October 16, 2008, during the ARL Membership Meeting. He succeeds Marianne I. Gaunt, University Librarian, Rutgers. Gaunt continues to serve as a member of the ARL Board of Directors and Executive Committee as Past President. Also on October 16, the membership ratified the Board of Directors election of Brinley Franklin, Vice Provost, University Libraries, University of Connecticut, as ARL Vice President/President-Elect.

Three new Board members were elected by the membership to serve three-year terms: Colleen Cook, Dean of University Libraries, Holder of the Sterling C. Evans Chair in Librarianship, Texas A&M University; James Mullins, Dean of Libraries, Purdue University; and Sandra G. Yee, Dean, University Library System, Wayne State University.

Continuing members of the Board are: Barbara I. Dewey, Dean of Libraries, University of Tennessee; Carol A. Mandel, Dean of the Division of Libraries, New York University; Dana C. Rooks, Dean of Libraries, Elizabeth D. Rockwell Chair, University of Houston; Winston Tabb, Sheridan Director and Dean of University Libraries, Johns Hopkins University; Karin A. Trainer, University Librarian, Princeton University; Paul Wiens, University Librarian, Queen's University; Charles B. Lowry, ex officio, Executive Director, ARL; Sarah Michalak, ex officio, University Librarian and Associate Provost, University of North Carolina at Chapel Hill; and James Neal, ex officio, Vice President for Information Services and University Librarian, Columbia University.

ARL TRANSITIONS

Boston College: Thomas B. Wall has been named University Librarian, effective March 1, 2009. He is currently Associate University Librarian and Director of Public Services at Duke University.

National Agricultural Library (NAL): Peter Young resigned as NAL Director to take the position of Chief of the Asian Division at the Library of Congress. Eleanor Frierson, NAL Deputy Director, was appointed NAL Acting Director. Both transitions were effective October 31, 2008.

ARL STAFF TRANSITIONS

Henry Gross joined the ARL staff as Applications Developer, Statistics & Measurement, effective October 28, 2008. Henry holds a degree in computer science from Carleton College.

OTHER TRANSITIONS

National Endowment for the Humanities (NEH):

Chairman Bruce Cole announced his departure from NEH to become the President and CEO of the American Revolution Center, effective January 2009.

National Institutes of Health (NIH): Elias A. Zerhouni stepped down as NIH Director in October 2008.

HONORS

Donald H. Dyal, Dean of Libraries, Texas Tech University, was confirmed by the US Senate in July 2008 as a member of the National Museum and Library Services Board (NMLSB). He will serve in the position through 2013.

Clifford Lynch, Executive Director, Coalition for Networked Information (CNI), received the 2008 American Society of Information Science and Technology (ASIS&T) Award of Merit at the ASIS&T Annual Meeting in October 2008.

GRANTS

In celebration of their groundbreaking Social Entrepreneurs Series, FRONTLINE/World, in cooperation with the American Library Association (ALA) Public Programs Office, selected 50 public and academic libraries to receive grants of \$500 plus supporting program materials. The grant funds will promote the screening and discussion of one the series's short documentary films on innovative social entrepreneurs around the world. Three ARL libraries were selected to receive the grant:

Case Western Reserve University
University of Florida
Florida State University

MEMORIALS

Jerrold Orne, 1911–2008

Jerrold Orne died July 13, 2008. He was University Librarian at the University of North Carolina (UNC) at Chapel Hill from 1957 to 1972 and a faculty member of the UNC School of Library Science. During his tenure as University Librarian at UNC, he served on a number of ARL committees.

Vern Mathew Pings, 1923–2008

Vern Mathew Pings died November 3, 2008, at Carol Woods Retirement Community in Chapel Hill, North Carolina. He was at Wayne State University for 25 years, first as a medical librarian and later as Director of Libraries 1971–82, where he was active in local and regional interlibrary cooperation. As an ARL member representative for over a decade, Pings helped direct the Association's efforts to encourage development of an electronic network in support of interlibrary loan.



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ARL: A BIMONTHLY REPORT TO GO E-ONLY IN 2009
 Beginning with the first issue of 2009 (February), *ARL: A Bimonthly Report* will be distributed in electronic format only. Each issue will be freely available on the ARL Web site. To receive alerts of new issues via e-mail or RSS feed, simply sign up at <http://www.arl.org/resources/pubs/br/>. Questions? Please contact pubs@arl.org.

ARL CALENDAR 2009

<http://www.arl.org/events/calendar/>

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|----------------|---|---|--|
| January 5–9 | Web Development with XML: Design and Applications
<i>Chapel Hill, North Carolina</i> | May 19–22 | ARL Board & Membership Meeting
<i>Houston, Texas</i> |
| January 23–26 | ARL at ALA Midwinter Meeting
<i>Denver, Colorado</i> | July 27–28 | ARL Board Meeting
<i>Washington DC</i> |
| February 12–13 | ARL Board Meeting
<i>Washington DC</i> | October 13–16 | ARL Board & Membership Meeting
<i>Washington DC</i> |
| March 11–12 | Scholarly Communication Outreach: Crafting Messages that Grab Faculty Attention
<i>Seattle, Washington</i> | December 14–15 | CNI Fall Task Force Meeting
<i>Washington DC</i> |
| March 16–20 | Service Quality Evaluation Academy
<i>New Orleans, Louisiana</i> | ARL Membership Meetings 2010 | |
| April 6–7 | CNI Spring Task Force Meeting
<i>Minneapolis, Minnesota</i> | April 27–30, 2010, Seattle, Washington
<i>Note new dates</i> | |
| | | October 12–15, 2010, Washington DC | |

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