Research and Statistics on Libraries and Librarianship in 2006

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It appears that we are losing public libraries. Over the last three fiscal years reported (2003 through 2005), the data show we have fewer library systems operating in the United States. There were 9,211 public library systems in fiscal year (FY) 2003, and in FY 2005 there were only 9,198 systems. (The FY 2005 figure takes into account libraries damaged by hurricane Katrina.) Further, these public libraries are serving 6.1 million more people than in FY 2003.

However, discussion with the state libraries where these declines were evident showed that some closures were really mergers with other libraries to form larger units of service. Other fairly marginal libraries that perhaps should never have been counted in the national data also closed; these had inconsistent budgeting, were open very few hours, and often had no full-time paid staff. A few libraries did close for fiscal reasons— their communities could not or would no longer support them. Sad as it is to lose any library, losing solid library operations because of local funding issues is doubly unfortunate.

Interestingly, we saw growth in a number of states. And, even with operating budgets that are increasing modestly (between 3 percent and 4 percent each year, going largely to staff salaries), services and collection use are rising. Public library visits were up nearly 3 percent (yes, people still go to the library), and circulation of audio and video collections increased more than 14 percent between FY 2003 and FY 2004; early data for FY 2005 indicate a similar increase.

Staffing costs rose 4 percent for this period, while staffing numbers declined less than 1 percent in FY 2004. Detailed data about public libraries are available on the National Center for Education Statistics Web site, http://nces.ed.gov/surveys/libraries/index.asp.

Research Relevant to All Libraries

Digital Rights Management

Digital rights management (DRM) looms large in the discussion on equity of access. A somewhat controversial perspective is presented in an article by Charles W. Bailey, Jr., "Strong Copyright + DRM + Weak Net Neutrality = Digital Dystopia?" (*Information Technology and Libraries* 25(3): 116–139, 2006, http://www.ala.org/ala/lita/litapublications/ital/252006/number3september/2503sept.htm). The debate is presented in the context of an implied Web-neutral environment.

The reality is quite different. Bailey suggests that rapid content growth, increasing bandwidth requirements, and DRM as a copyright protection utility have developed counter to the inherent, academic intellectual sharing model intended in the development of the Internet. And he poses an interesting question: "Is Net neutrality a quaint anachronism of the Internet's distant academic/research roots that we would be better off without?" Are we sacrificing innovation?

Bailey willingly admits to a one-sided argument, but he presents questions to challenge the information communities, perhaps the greatest of which is to think long-term, not short-term. "Information toll road" was a memorable phrase and the concept demands serious consideration.

Recruitment and Diversity

Recruitment and diversity issues within the profession were discussed on the literature and conference circuit in 2006. Mark Winston and Kimberly Walstad, in "Recruitment and Diversity: A Research Study of Bilingualism and Library Services" (*Library and Information Science Research* 28 (2006): 390–406) focused on English-Spanish bilingualism and posed three important research questions:

- What recruitment factors were important in the decisions of librarians who are bilingual in English and Spanish to enter the profession?
- What factors were important for bilingual librarians to accept positions with their current employers?
- What factors influence bilingual librarians to remain with their current employers?

The authors discuss the challenges of understanding the impact of staff diversity on the success of the organization, the nuances of Spanish as spoken in various countries as this relates to service provision in libraries (e.g., the Spanish spoken in Mexico versus that spoken in the Dominican Republic), and retention of bilingual employees. The authors provide interesting findings on the demographics of bilingual library staff, the types of libraries in which they are employed, and recruitment factors applicable both to the profession and to entry into the work force.

Another diversity study, completed for the American Library Association (ALA) by Decision Demographics (http://www.decision-demographics.com), was a demographic analysis of the profession overall. This analysis was used to develop *Diversity Counts,* an

exploratory report on diversity issues within the library profession. Using 1990 and 2000 Decennial Census Public Use Microdata Sample (PUMS) files, the study highlighted changes in distributions within the MLIS and non-MLIS employment classifications. Not surprisingly, the data held that the profession was unsuccessful in attracting new professionals in the under-35 age range, and had significant retention in the over-65 range. The detailed analysis and the *Diversity Counts* report are at http://www.ala.org/ala/ors/diversitycounts.

Survey Methods and Research

Several books on survey methods and research were released in 2006 and early 2007. Some more general titles deserve mentioning.

How to Conduct Surveys: A Step-by-Step Guide (Arlene Fink, Sage Publications, 2006) is in its third edition. As with the earlier editions, the book provides a systematic approach to the elements of survey research and provides useful comparisons of methodology to help the user choose the most appropriate approach.

Peter Nardi has issued the second edition of *Doing Survey Research: A Guide to Quantitative Methods* (Peter M. Nardi, Pearson/Allyn & Bacon, 2006).

The first edition was published in 2003. The strength of the newer edition is in the results-presentation chapter, as well as in its very basic approach to survey methods in the social sciences.

Conducting Online Surveys (Valerie M. Sue and Lois A. Ritter, Sage Publications, 2007) should prove a useful title. Although Sage doesn't include in its description the value of this book for information science researchers, an early review leads us to expect it will be helpful for those of us entrenched in online survey development.

Finally, an article that has to be mentioned is "How Much of It Is Real? Analysis of Paid Placement in Web Search Engine Results" (Scott Nicholson, Tito Sierra, et al., *Journal of the American Society for Information Science and Technology* 57(4) (2006): 448–461. The researchers proposed a hypothesis that users assume context-specific paid advertising on Web pages, rather than the "highest bidder" advertising that is the reality, and investigated three broad issues: the mixture of content and advertising and results from different search engines, the variation of advertising based on search topic and query length, and whether "patterns of interest" emerge that may result in future research questions.

Eight search tools were tested among paid-listings providers, general Web search tools, and meta search engines—Overture, FindWhat.com, Google, Yahoo! Search, MSN Search, Dogpile, Mamma, and ixquick. Presented in the article are a table of search terms used in the study, components of the search results pages that were measured—search interface, editorial listings, nonintegrated advertisements (e.g., banner ads), integrated paid listings, and white space. A total of 384 searches were conducted in fall 2003. Interestingly, multi-term phrase searching presented similar results until three terms were used in a search string/phrase.

The study found that 60 percent of search results appear on the first screen because someone pays for them to be there, and 33 percent of search results appear in the complete listing because they are paid.

Academic Libraries

Staffing Statistics

The number of MLIS staff employed in academic libraries increased a little more than 1 percent between 2002 and 2004, the most recent fiscal years for which NCES has collected data (http://nces.ed.gov/surveys/libraries/academic.asp).

During the same period, the number of other paid staff (not including student assistants) declined 1.48 percent or slightly more than 1,000 full-time-equivalent (FTE) staff, and expenditures for staff increased by more than 20 percent. Circulation increased more than 6 percent and library visits by more than 14 percent.

Although expenditures for collections decreased by nearly 9 percent, library collections grew by 4.7 percent, with the greatest increase in e-book and serial subscriptions in all formats.

Communication Models

Quite a bit of research was published in 2006 in the area of communication models and learning/knowledge networks, and readers interested in this are encouraged to investigate the subject further. Two articles highlighted focused on the concept of "invisible college," and on the impact of the Internet on scholarly communication and barriers to entrants in science research.

The concept of "invisible college" was investigated by Alesia Zuccala ("Modeling the Invisible College," *Journal of the American Society for Information Science and Technology* 57(2): 152–168, 2006). Zuccala conducted literature analyses to determine consensus in describing this concept, especially as it relates to communication models in the sciences. Inherent conflicts were found in the literature regarding communication as a social process and institutional structure (referencing L. A. Lievrouw's 1990 research). Zuccala also presents co-citation analysis as a method to plot research in a discipline to understand the extent of external collaboration, not unlike the bibliometric mapping done by Eugene Garfield (whose body of work she does not cite). This is an important article for those interested in the "invisible college" communication concept.

In scientific communication, Franz Barjak investigated informal communication models in an Internet environment ("The Role of the Internet in Informal Scholarly Communication," *Journal of the American Society for Information Science and Technology* 57(10): 1350–1367, 2006). Barjak outlines the impact of networks on scholarly communication, research and development, and publishing, and he discusses the impact of online communication in different research communities and describes and tests a number of hypotheses and "hybrid indicators" through a questionnaire

administered to academic institutions, nonprofit research and development institutions, and government-funded research institutes in the United States and Europe. Five academic disciplines were selected—astronomy and astrophysics, chemistry, computer science, economics, and psychology.

The findings are not surprising, but the importance of time as a factor limiting full participation in the range of communication channels was significant.

It is clear from this study that younger researchers with fewer support resources are disadvantaged in their ability to fully participate, and that access to the technological infrastructure is an insignificant barrier.

Public Libraries

Statistics Show Some Strengths

Based on the most current national data from NCES (http://nces.ed.gov/surveys/libraries/public.asp), public libraries are doing well overall, despite a decline in the total number. Use of public libraries continued to increase (nearly 3 percent, or 38.2 million visits). Circulation increased 2.33 percent (45.7 million) and collections grew by 10.4 percent (7.7 million). The greatest increase in collections was in audio and video formats, which increased 14.25 percent. Not surprisingly, staffing declined slightly between FY 2003 and FY 2004 (down 0.87 percent).

Expenditures increased slightly more than 4 percent (by approximately $227 million) between these fiscal years, with the largest increases in "other" expenditures and staffing. Collections budgets decreased just over 1 percent (approximately $12.5 million).

Noteworthy Publications

Research of interest to public libraries came not only from the publications focusing on public libraries and generally about management but also from *Library Trends* (http://puboff.lis.uiuc.edu). Two issues concentrated on topics important to public libraries. The fall 2005 issue—54(2)—edited by Allison Druin and titled "Children's Access and Use of Digital Resources," covered such topics as information-seeking behavior, the role of digital resources in formal education, digital resource development appropriate for children, and metadata development to increase access to resources appropriate for children. The second issue, "Dual-Use Libraries" (54(4), spring 2006), was edited by Sarah McNicol and discusses such topics as best practices and "guidelines for success," partnership development, personnel concerns, and content-specific alliances (such as health information). Both journal issues are highly recommended.

Another recommended article is from Denise E. Agosto and Sandra Hughes-Hassell, "Toward a Model of the Everyday Life Information Needs of Urban Teenagers" (*Journal of the American Society for Information Science and Technology* 57: 1394–1403 and 1418–1426, 2006). Funded by a grant from the Institute for Museum and Library Services, Agosto and Hughes-Hassell present a model of the "everyday life information seeking"

(ELIS) of urban teenagers. Two groups of Philadelphia teens were selected to participate in a qualitative study.

The first article details the methodology of the study, and the second details the themes identified by the research. These themes included 28 informational topics identified by the teenagers, from current events to personal finance to sexual safety and identity, and became the ELIS topics of the study. Seven dependent variables were identified—social self, emotional self, reflective self, physical self, creative self, cognitive self, and sexual self. The 28 ELIS empirical values were then aligned with the dependent variables. This study confirmed research of previous studies in this area, and discovered that the information needs of urban teens closely aligned with those found in more "advantaged" and "nonminority" communities. The researchers also suggest replicating this model in rural or suburban communities.

Finally, consider an article by Reijo Savolainen and Jarkko Kari titled "Placing the Internet in Information Source Horizons: A Study of Information Seeking by Internet Users in the Context of Self-Development" (*Library & Information Science Research* (26: 415–433, 2004) that investigates the informationseeking behaviors and source preferences of individuals aged 10 to 70 in Finland.

The article presents summary findings of general information value and situation-specific information needs relating to hobbies or self-development. This analysis included developing criteria for determining the relevance of Web-based sources as perceived by the user and the reality of information sources available, and presents these findings (preferences) in zones of preference. Overall, the researchers present an interesting conceptual model for considering information seeking behavior.

School Libraries

NCES Surveys

Data are collected about school library media centers by NCES every three to four years (http://nces.ed.gov/surveys/libraries/school.asp). The data released in the 2003–2004 report were more limited than previous studies due, in part, to a publication change made by NCES. This has resulted in limitations in analyzing change since 1999–2000, the date of the previous comprehensive study of school libraries. The new data show an increase of 7.5 percent in the number of schools with libraries (approximately 5,700), and an increase of 2.3 percent in staffing (approximately 1,975), yet a decline in the number of MLS staff of approximately 14.4 percent. Other staff categories (non-MLS-certified) grew by more than 51 percent. School libraries saw a 5 percent increase in the number of students and teachers served (approximately 2.28 million individuals) between the 1990–2000 and 2003–2004 periods.

AASL Survey

The American Association of School Librarians (AASL), a division of ALA, will conduct its first NCES-comparable sample survey of school libraries in 2007.

Prompted by the infrequency of the federal survey, AASL will ask fewer but more-directed questions of school library staff about staffing, collections, and services provided to students, teachers, and school administrators. The results will be available before the end of the year.

Digital Literacy in Britain

Students in Britain apparently prefer electronic resources. James E. Herring found in his study "A Critical Investigation of Students' and Teachers' Views of the Use of Information Literacy Skills in School Assignments" (*School Library Media Research* 9 (2006) (http://www.ala.org/ala/aasl/aaslpubsandjournals/slmrb/slmrcontents/volume9/informationliteracy.htm) that students' views of information access, and their literacy skills, were improved by an interactive but structured learning approach. Using a quantitative and qualitative research model, Herring investigated the value of the PLUS information literacy model (concept mapping and so forth). The study identified that students benefited from brainstorming and concept mapping prior to beginning a research project, and that there is a distinct preference for online resources. Not surprisingly, the study found that more than 65 percent of information used by students was from the Web and about 35 percent from print resources, and that students preferred using Web-based resources over print nearly 2 to 1. The questionnaire and comprehensive bibliography are included in the article.

Student Use of Electronic Resources

Sally Brewer and Peggy Milam reported similar findings regarding use of electronic resources in *School Library Journal*'s Technology Survey 2006 (*School Library Journal* June 1, 2006, http://www.schoollibraryjournal.com/article/CA6338687.html). In addition to basic questions about technology access, the survey inquired about student development of Web sites, use of wikis, podcasts, rich site summary (RSS) feeds, and other emerging technologies to understand the penetration of these technologies in the daily activities of students. This study is one
of the few that isolates school library expenditures and therefore is very useful.

Other Research Benefiting the Field

Serving the 'Oldest Old'

Information needs of the elderly, or the "oldest old," was presented by Terryl Asla, Kirsty Williamson, and John Mills in "The Role of Information in Successful Aging: The Case for a Research Focus on the Oldest Old" (*Library & Information Science Research* 28: 49–63, 2006). The authors present a comprehensive review of key research in the area of "global aging" and underline the need for more deliberate research, especially as it relates to the impacts on libraries serving this growing segment of the population.

Defining 'Information'

Marcia J. Bates's work in the area of information seeking continues. In her article "Fundamental Forms of Information" (*Journal of the American Society for Information Science and Technology* 57(8): 1033–1045, 2006), Bates presents a definition of "information" and walks readers through an analytical assessment of its implied meaning.

Salary Survey Expands

In 2006 ALA launched a new title in its annual salary survey series—non-MLS salaries. The series title changed, as well, to the *ALA-APA Salary Survey: Librarians—Public and Academic, and Non-MLS—Public and Academic.* A subscription database also was released in 2006, supporting cross-position searching and salary comparison. A summary article of the 2006 study is at
http://www.ala.org/ala/ors/reports/2006_Salary_Survey_Final_Report.pdf, and information about the new salary survey series at http://www.ala-apa.org.

The Web, Blogging, Podcasting, and Wikis

Just when we thought we couldn't take more e-mail or chat, the profession has launched headlong into blogging, wikis, and pushing presentation content out through podcasting. The potential of these technologies to disseminate and create virtual dialogues around MLIS education, research, and professional development is impressive. Keeping up with the threads proves challenging, and add to this the continued utilization of chat reference and other platforms to provide services to library users. The literature is only beginning to evaluate these communication and dissemination devices to understand the value and impact of alternate forms of information delivery.

In the fall 2006 issue of *Library Administration & Management,* Deborah Lee's article "iPod, You-pod, We-pod: Podcasting and Marketing Library Services" (20(4): 206–208) provides a useful overview of the value of the technology format and how-to information that will be helpful to those new to this method of information delivery.

Phillip M. Davis and Jason S. Price have completed a systematic analysis of six publishers' Project COUNTER-compliant eJournal data for 2004 ("eJournal Interface can Influence Usage Statistics: Implications for Libraries, Publishers and Project COUNTER," *Journal of the American Society for Information Science and Technology* 57(9): 1243–1248, 2006). The purpose of the study was to determine if a preferred format for content delivery existed by title or subject for pdf and HTML formats. The study found that interface did indeed have an impact on user navigation to retrieve a full-text article. Further, the study further revealed that although a publisher is COUNTER-complaint, realistic data comparison is not possible because of publisher interface variations.

Further analysis of Web usage and the impact on citation reuse using nearly 14 years of data was conducted by Tim Brody, Stevan Harnad, and Leslie Carr ("Earlier Web Usage Statistics as Predictors of Later Citation Impact," *Journal of the American Society for Information Science and Technology* 57(8): 1060–1072, 2006). Focusing on peer-

reviewed journals, the authors used Citebase to harvest and analyze citation metadata for "inlinks" and "outlinks," and compiled download latency tables for a range of titles. The article presents a model for describing the impact of downloads in supporting information access.

Information Retrieval

What an interesting year for publishing information retrieval research! Sherry Koshman's Visualization-based "Information Retrieval on the Web" (*Library & Information Science Research* 28: 192–207, 2006) provides a clear summary of the application of visualization tools to analyze information-seeking behaviors of searchers. Koshman replicated search strategies (proximity, closure, and connectivity) in a variety of metasearch tools utilizing visualization applications, including Anacubis, Grokker, Kartoo, MapStan, the Missing Pieces, Star Tree, PC-VIBE, and TouchGraph.

Jeffrey Pomerantz, Lili Luo, and Charles R. McClure's "Peer Review of Chat Reference Transcripts: Approaches and Strategies" (*Library & Information Science Research* 28: 24–48, 2006) evaluated NCknows, the chat reference service used statewide in North Carolina. The study team worked with the State Library of North Carolina to administer a peer (librarian) review process for evaluating colleague chat transcripts in both public and academic libraries participating in the statewide program. The study found that 52 percent of transcripts studied completely and correctly answered the query, and nearly 27 percent of responses were correct but incomplete—yielding an accuracy rate of nearly 79 percent for chat-based reference. Librarians participating in NCknows also were interviewed as part of the program evaluation, and the resulting summary anecdotal findings are provided in the article. The evaluation strategy presented by the research team easily could be replicated for evaluation of other chat-based reference programs.

Marie L. Radford's "Encountering Virtual Users: A Qualitative Investigation of International Communication in Chat Reference" (*Journal of the American Society for Information Science and Technology* 57(8): 1046–1059, 2006) evaluated randomly selected transcripts from Maryland's AskUsNow! virtual reference service and a fixed number of transcripts nominated for the LSSI Samuel Swett Green Award in a context of communication theory. Radford found that relational facilitators and relational barriers existed in both data sets, and provides detailed interpretation of those themes and subthemes. These include interpersonal aspects of chat, greetings, rapport building, deference behaviors, compensation for lack of nonverbal cues in a virtual environment, and chat closing messages. Not surprisingly, interpersonal cues are challenging to create in a virtual environment, and Radford's study provides useful analysis. A literature review of computer-mediated communication also appears with the article.

Finally, a special topic section of the *Journal of the American Society for Information Science and Technology* (57(4), 2006) addressed "soft computing," an area of research within artificial intelligence. This special section is highly recommended for anyone interested in learning more about research and analysis of search techniques in various search engine environments, meta-tagging and metadata, personalized Web, and applications of fuzzy logic models to evaluate question-answer databases.

Awards and Grants that Honor and Support Excellent Research

The professional library associations offer many awards and grants to recognize and encourage research. The 2006 awards and grants below are listed under the name of the sponsoring association, and in the case of ALA by the awarding division, in alphabetical order. More-detailed information about the prizes and prizewinners can be found at the association Web sites.

An award to honor the contributions of Mary Jo Lynch, former director of the ALA Office for Research and Statistics, was established by Beta Phi Mu's Distinguished Lecture Program in 2005 and named the Mary Jo Lynch Distinguished Research Award. In 2006 the award, a lectureship, was presented to the Beta Tau Chapter of Beta Phi Mu at Wayne State University and the lecturer was past Beta Phi Mu President Robert Martin. More information about this award is available at http://ci.fsu.edu/go/virtual_host/beta_phi_mu_org/new_events/distinguished_lectures.

American Library Association
http://www.ala.org

Jesse H. Shera Award for Excellence in Published Research
Winners: Helen Georgas and John Cullars for "A Citation Study of the Characteristics of the Linguistics Literature."

American Association of School Librarians (AASL)
http://www.ala.org/aasl

AASL/Highsmith Research Grant
Winner: Judith Dzikowski for "Partners in Achievement: Libraries and Students (PALS) Improving Student Achievement Through Data Use for Library Media Specialists."

Association of College and Research Libraries (ACRL)
http://www.ala.org/acrl

Doctoral Dissertation Fellowship
Winner: Jean E. Dryden for "Copyright in the Real World: Copyright and Archival Material on the Internet."

Samuel Lazerow Fellowship for Research in Collections and Technical Services in Academic and Research Libraries
Winner: Kyung-Sun Kim for "Factors Affecting the Selection of Information Sources."

Coutts Nijhoff International West European Specialist Study Grant
Winner: Dale Askey for "Documenting a Vanishing Culture: German-Language Literature from Czechoslovakia, 1945–1990."

Ilene F. Rockman Instruction Publication of the Year Award
Winner: Michelle Holschuh Simmons for "Librarians as Disciplinary Discourse Mediators: Using Genre Theory to Move Toward Critical Information Literacy."

Library and Information Technology Association/OCLC
http://www.ala.org/lita

Frederick G. Kilgour Award for Research in Library and Information Technology
Winner: Ching-chih Chen

American Society for Information Science and Technology
http://www.asis.org

ASIS&T Best Information Science Book Award
Winner: Geoffrey C. Bowker
ASIS&T Research Award
Winner: Brenda Dervin
ProQuest Doctoral Dissertation Award
Winner: Vivien Petras
Thomson ISI Citation Analysis Research Grant
Winners: Steven Ackerman and Jean Phillips
Thomson ISI Doctoral Dissertation Proposal Scholarship
Winner: Heather O'Brien
John Wiley Best JASIST Paper Award
Winner: Lisl Zach

Association for Library and Information Science Education
http://www.alise.org

Eugene Garfield/ALISE Doctoral Dissertation Award
Winner: Diane Kelly for "Understanding Implicit Feedback and Documents Preference: A Naturalistic User Study."
Research Grant Award
Winner: Marcia A. Mardis for "From One-to-One to One-to-Many: A Study of the Relationship Between the Practicum and the Transition from Teacher to School Library Media Specialist."

Medical Library Association
http://www.mlanet.org

Ida and George Eliot Prize
Winners: Jean P. Shipman, AHIP, Tompkins-McCaw Library for the Health Sciences, Virginia Commonwealth University–Richmond, and Sarah B. Watstein, Charles E. Young Research Library, University of California–Los Angeles, for "Emerging Roles of Health Sciences Librarians."
Donald A. B. Lindberg Research Fellowship
Winner: Indra Neil Sarkar, Division of Invertebrate Zoology and Library Services, American Museum of Natural History, for "Research to Develop a

Federated Resource That Links Biomedical and Biodiversity Knowledge, as Represented in Published Literature."

President's Award

Winners: Renee Bougard, Houston Academy of Medicine–Texas Medical Center Library, National Network of Libraries of Medicine, South Central Region, Houston, and Janice Kelly, Health Sciences and Human Services Library, University of Maryland, National Network of Libraries of Medicine, Southeastern/Atlantic Region, Baltimore.

Janet Doe Lectureship

Winner: Julie J. McGowan. *Topic:* "Swimming with the Sharks: Perspectives on Professional Risk Taking."