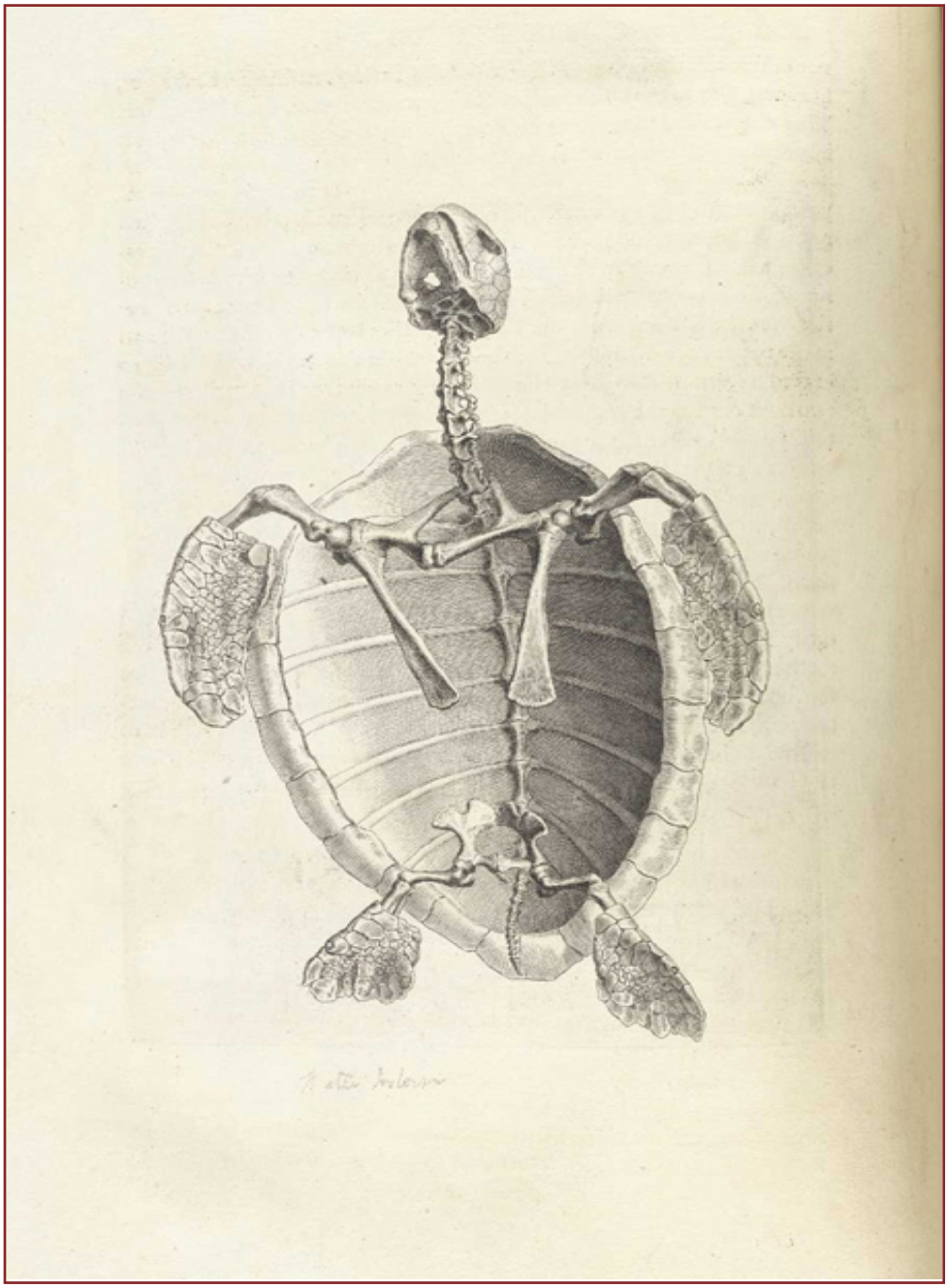
HYPOTHESIS

The Journal of the Research Section of MLA



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HYPOTHESIS

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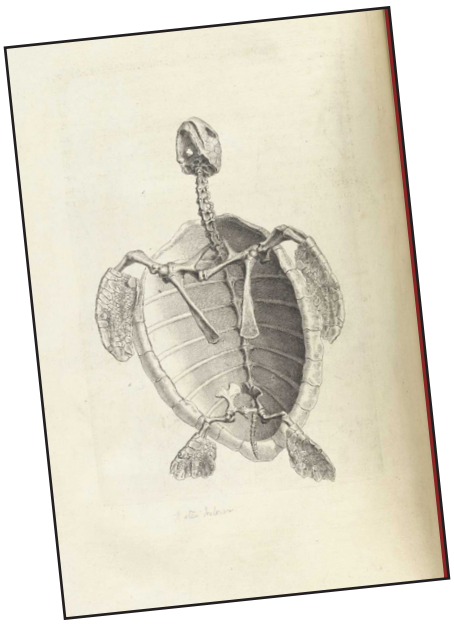
COLUMNS

ARTICLES

NEWS



Cover Art (Courtesy of the National Medicine):

The image of an water tortoise above is from William Cheslden's *Osteographia, or the anatomy of the bones,* published in 1733. For more information and images visit the NLM's Historical Anatomies on the Web. This digital project includes numerous high quality images from the library's important anatomical atlases.

Have an image you'd like see on the cover? Please let Co-editor Lisa know!

HYPOTHESIS (ISSN 1093-5665) is the official journal of the Research Section of MLA. It is published three times a year by the Section: Spring (March), Summer (July/August) and Fall (November). Items to be included should be sent to the Co-Editors by the 15th of the preceding month (i.e., February 15th for Spring, June 15th for Summer, and October 15th for Fall). Copy is preferred by e-mail but will be accepted in other formats. HYPOTHESIS is indexed in the Cumulative Index to Nursing and Allied Health Literature™ and the CINAHL® database. HYPOTHESIS is available online at http://www.research.mlanet.org/hypothesis.

CHAIR'S COLUMN

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The Research Section has a committee structure to accomplish the purposes of the section:

1. to foster research related skills of individual health sciences librarians;
2. to promote interest in research and an awareness of research needs among members of MLA;
3. to recommend and promote MLA programs and policies which advance research development and excellence; and,
4. further, in concert with other MLA groups and committees, to serve as an action group for the advancement of library related research.

Standing committees of the Section, along with the elected officers, conduct the business of the section and these include the Executive Committee, the Nominating Committee, the Membership Committee, the Bylaws Committee and the Strategic Planning Task Force. Other committees manage the programs of the Section and these include the Awards Committee, the MLA 2010 Program Committee, the Continuing Education Committee, the Research Agenda Committee, and the Research Mentoring Task Force. There are also appointed liaisons for Government Relations and International Research. And we have editors for the member listserv, the newsletter, The Hypothesis, and the section Website and web presence. In this issue, you can read reports from the International Research liaison and the Awards Committee.

In the July issue of the Journal of the Medical Library Association, The Research Agenda Committee reported the research methods they used to recommend a research agenda to the MLA Board of Directors, which is their charge [Eldredge JD, Harris MR, Ascher MT. Defining the Medical Library Association research agenda: methodology and final results from a consensus process. J Med Libr Assoc. 2009 Jul;97(3):178-85. PMID: 19626143; PMCID: PMC2706444]. They reported the top twelve research questions for medical librarianship in 2008. Please take a look at these. They really express the research questions the profession needs to answer. The article reports that the purpose of this effort is to assist MLA so that it can focus "its limited resources on investigating those research topics likely to be most valued by its members. For example, a research agenda might guide the organization's efforts to advocate for funding research on these topics by external agencies. Or the organization might secure the resources itself to fund research on these topics. On an individual member level, the research agenda can provide guidance to researchers who are trying to their own applied research projects."

Based on this scenario of assisting MLA, a Research Section member could:

- Read the list of top twelve research questions adopted as the MLA Research Agenda and developed by the Research Section Task Force.
- Prioritize their plans for research based on this list.
- Sign up for a Research Mentor in the program being set up now by the Research Mentoring Task Force.
- Develop their research plan.
- Apply for a MLA fellowship, such as the Lindberg Research Fellowship <http://www.mlanet.org/awards/grants/lindberg.html>, deadline November 15.
- Do the research!
- Present the research at MLA and compete for the Research Section Award (as discussed in this issue).
- Publish the results in the JMLA.
- Have their research be used to validate library practice in libraries around the world.

All of these efforts are part of what your Section leadership is working to accomplish. Become part of the team and volunteer to serve as an officer, appointed official or committee member or chair. Looking forward to seeing your research in print, thanks in part to the efforts of the Research Section!

LITERATURE REVIEW

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Laurent MR, Vickers TJ. Seeking health information online; does Wikipedia matter? *J Am Med Inf Assoc.* 2009 Jul/Aug; 16(4):471-9.

Considering the widespread use of Google and Wikipedia, this article cannot help but be of interest to those of us advocating for access to quality health information.

Citing literature that says "the first page of general search engine results is significantly more likely to be accessed by (inexperienced) health information seekers, with an exponential decline thereafter," the authors designed a study which looks at the rate of occurrence of Wikipedia in the first twenty results when searching for health topics using four large, general search engines. Three different sets of keywords were used: (1) 1726 keywords from the health topics index of MedlinePlus, a list which includes common synonyms and abbreviations, (2) 996 keywords from the topic index of the British National Health Service NHS Direct Online database, and (3) 1173 keywords from the National Organization of Rare Diseases (NORD) index. All data were gathered in 2008. Twenty-seven general websites or groups of websites, associated with "notable organizations," which were frequently retrieved when searching using MedlinePlus keywords on Google were chosen for comparison.

Assessments were made using a search optimization tool which checked the position of the English Wikipedia relative to the 27 other websites or groups of website in the first 20 results of searches on the four different general search engines. The software calculated retrieval of each website as part of the first five, ten, or twenty results. All methods and statistics are described in the article.

Primary results for Google searches using MedlinePlus keywords are listed in one big table (Table 1) which extends all the way across from left to right on two pages of the article. This arrangement was not immediately obvious. Of the 27 websites and clusters of websites studied, the English Wikipedia was first on the list of results for 585 of the 1726 MedlinePlus keywords. It was in the top five for 1173 of the 1726 searches, in the top ten for 1285, and in the top twenty for 1352 (78.3%) of the 1726 MedlinePlus keyword searches. MedlinePlus is listed as a separate domain in the results, but is not clear if it is also included in a U.S. government domain cluster. Websites in the U.S. government cluster were ranked first on searches for 420 MedlinePlus keywords and MedlinePlus itself came up first in 289 of the 1726 searches. The English Wikipedia was also significantly more frequently in the top five than the U.S. government cluster and MedlinePlus for the 1726 MedlinePlus keyword searches. The U.S. government cluster tied with the English Wikipedia for retrieval in the top ten and pulled ahead when the top twenty retrievals are considered. MedlinePlus, as a separate domain, is third in all four rankings for searches on MedlinePlus keywords. The fact that MedlinePlus itself is the source of the keywords is not necessarily significant, because these terms tend to be common medical terms. In my mind, the value of using the MedlinePlus keyword list is that it represents the full scope of topics of most interest to consumers.

For the 1173 NORD rare disease keywords, the English Wikipedia was most frequently in first place and in the top five, ten and twenty places. The authors note some significant findings for the English Wikipedia when using only rare disease terms from NORD, but the exact nature of those findings wasn't clear to me as I read the article.

Three smaller studies are also included as part of this article. The WikiProject allows groups of Wikipedia editors to rate the quality of articles in their field at seven levels. The authors identified 49 English Wikipedia articles ranked in the top two categories which had "equivalent MedlinePlus keywords." It is not clear if the match was based on the titles of the Wikipedia articles or what. They then compared the ranking for the quality Wikipedia articles with the ranking for non-quality articles retrieved using MedlinePlus keywords.

When using Google, these 49 quality articles were consistently in the top ten results, which was significantly higher than the results for lower quality articles. In the discussion they say the 49 quality articles considered tend to be on the more common health topics. They point out that this method of measuring quality has not been externally validated.

Turning to page views, Wikipedia articles retrieved when using MedlinePlus keywords were viewed significantly more frequently than the corresponding MedlinePlus topic pages; MedlinePlus encyclopedia pages were viewed only very slightly more frequently.
Page views for Wikipedia topics in the news and topics that varied by season, also were as would be predicted.

The authors point out that their study shows only that Internet consumers are likely to be exposed to Wikipedia in their results and presumably often view Wikipedia articles on medical topics. It says nothing about their level of trust in what they read on Wikipedia. They quote a source which says there are 14,000 Wikipedia articles on medical topics. Considering that only 49 of the articles on the 1726 MedlinePlus topics were considered to be quality by Wikipedia contributors themselves, it becomes obvious that research assessing the quality of Wikipedia articles on medical topics is urgently needed as is continuing education of consumers searching the Internet for health information. Since Wikipedia is extremely popular with the general public, the most effective approach may be to design ways to assure the quality of Wikipedia health-related content.

Woods CR, Kemper KJ. Curriculum resource use and relationships with educational outcomes in an online curriculum. *Acad Med*. 2009 Sep; 84(9):1250-8.

Many medical librarians and their clientele engage in web-based continuing education. This study looked at the relationship between educational outcomes and the use of various curriculum resources. Demographic and professional variables were also considered.

Participants were divided into four groups according to a two-by-two factorial design. Half received small portions of the curriculum over a number of weeks (drip) and the rest received the entire curriculum at one time (bolus). Half of each group received the curriculum by e-mail (push) and half had to go to a web site to get it (pull). Baseline and outcome knowledge scores were calculated through use of a short multiple choice test. Details about the number of questions on the knowledge tests are not clear (p. 1251). Baseline and outcome confidence scores concerning use of herbs and dietary supplements were based on 19 five-point Likert scale questions.

The 780 practicing and student physician, physician assistant, nurse, pharmacist, nutritionist, and dietician enrollees who completed the curriculum were asked how much time they had spent on the course, how many of the forty short modules they had read, how many of the provided links to Internet resources they had followed, and how much they had participated in the class listserv.

Various descriptive and inferential statistics were calculated. Time spent was as expected: 73% read 36 to 40 of the 40 modules and 50% accessed fewer than 30 of the 335 Internet links provided. Listserv participation varied widely. Number of modules read was moderately associated with improvements in knowledge and weakly with increased confidence. Time spent was weakly associated with both outcome scores, and links accessed and listserv participation was not associated with either outcome measure. Those who received the modules in increments were more likely to complete the curriculum, spent more time, and read more modules. Those who got all the modules at once participated in the listserv more. Students and trainees put forth less time and effort than did other participants but showed greater gains on the outcome measures. The authors call into question the value of having a high number of links and suggest having only a few high quality links may be more effective. Likewise listservs may not be worth the time spent.

It is interesting that actual average scores on the baseline and post completion confidence and knowledge scores are not given. Change scores are given. The

authors do say their assessments may have been too superficial. Without information on the actual scores attained, it is hard to tell how generally effective the course was. Data were gathered in 04/05. Possibly enrollees' use of the listserv would have been higher now than it was then.

This study raises some interesting points for librarians taking online courses and contributing to the development of online courses.

Sung JS, Whisler JA, Sung N. A cost-benefit analysis of a collections inventory project: a statistical analysis of inventory data from a medium-sized academic library. *J Acad Libr*. 2009 Jul; 35(4):314-23.

Three authors report on an inventory project conducted at Eastern Illinois University. Using software which was apparently developed locally, staff were able to identify and immediately correct most problems, while also retaining data about the numbers and types of errors found.

Approximately 300,000 books, two-thirds of the monograph collection, were scanned. In addition to gathering data on books with active status (charged or missing) found on the shelves, books not on shelf, label discrepancies, and misshelved books (including the distance misshelved), the authors were able to calculate scanning speed for each section of the collection.

Looking just at misshelved books, 82% of the misshelved books were within 25 books from where they should be; 40% were with 1-2 books from where they should be. Certainly most users would find books only slightly misshelved. Regular stacks staff would probably find books somewhat more at a distance, using established missing book search procedures.

These authors make the point that misshelved books are the very books that are likely to be highly used. The logic of this is that the more times a book is used, the greater the chance it will be misshelved by users or staff. These authors were able to determine that 30% (1560) of the 5200 misshelved books found in the inventory, resulted in 9443 subsequent circulations.

After calculating the costs for replacing missing books and of doing the inventory and using the $30 figure for ILL transactions prevalent in the literature, the authors conclude that "the recovery of mis-shelved books through inventory control is less expensive than repurchasing or borrowing the same number of books" because of labor costs involved in replacing and borrowing books.

How might the results of this study be applied in the health sciences library setting? They do tell us that their misshelving rate was almost twice as high as that reported by Petersen in BMLA in 1989 for a medical school library. Another factor to consider is that, as time goes on, health sciences libraries probably will hold a higher proportion of bibliographic items in digital form than will general academic libraries. Hence, health sciences libraries have proportionally fewer books that could be misshelved. It may be less cost-effective to buy replacements for health sciences libraries because, with the frequency of new editions in the health sciences, it may simply not be cost-effective to spend time searching for titles that soon will be superseded. However, it could also be argued that each single medical book tends to be very expensive. Would it be less expensive to search for missing books than it would be to replace the most vital missing books? And, since health sciences library book collections tend to be small, taking inventory and searching for missing books may not be as big a job as it would be for a larger collection of monographs.

This article is a good example of a local evidence-based study, using methods that could be applied in other academic libraries. Academic and hospital librarians should consider these points when deciding what to do about missing books.

Mackenzie ML, Smith JP. Management education for library directors: are graduate library programs providing future library directors with the skills and knowledge they will need? *J Educ Libr Inf Sci*. 2009 Sum; 50(3):129-42.

Mackenzie and Smith studied the websites of forty-eight ALA-accredited programs in LIS to determine if

they "offer their students the knowledge they will need to enter leadership and management positions within the library profession."

Maintaining that the ALA standards for accreditation define management as managing information, rather than people, they turn instead to the International Assembly for Collegiate Business Education (IACBE) accreditation standard for their definition of management. Those standards include management principles, organizational behavior, human resource management, and operations management. The authors acknowledge that finance, budgeting, and marketing are "valuable business skills" but did not include them, apparently because they aren't part of the IACBE basic management concepts. They state more than once that their focus is on managing people. Managing people is an important part of management but it does not represent the entire scope of management skills necessary for library directors.

Over fifty-six percent of the ALA-accredited programs required at least one management course. The authors believe that doing an internship also is preparation for management. Only 18.8% of the programs required an internship. Nearly sixty-five percent of the programs offered one or more management courses.

They say they selected 24 syllabi from 17 programs for review. They do not say what their criteria for selection were. Of the 30 management related topics they identified, human resource management and "strategy, planning, and process" were each included in over 50% of the 24 courses. They conclude that there is no consensus about "the minimum standards that a library manager's career path requires." They say more research is needed to answer their research question and declare that their next step will be to survey library directors to see what they think.

This article appears to provide accurate information about the prevalence of required management courses. The analysis of the syllabi is hampered by their failure to define selection criteria and their narrow definition of what management is. I suspect that the state of management education in LIS programs is much better than they portray.

Rolla PS. User tags versus subject headings: can user-supplied data improve subject access to library collections? *Libr Resour Tech Serv*. 2009 Jul; 53(3):174-84.

Peter Rolla compared user-supplied tags for books listed on the website LibraryThing and library-supplied Library of Congress Subject Headings (LCSH) for the same set of 45 books. He points out that more and more library users are basing their expectations about searching for information and the display of information on how it is done by Internet search engines, rather than on traditional library catalogs. Many Web 2.0 sites allow users to supply tags to their findings. Would it be useful for libraries to allow adding tags to OPAC findings?

Three simple searches were performed in LibraryThing and the first 15 titles were chosen for analysis. The same 45 titles were searched in WorldCat in order to identify the LCSH.

LibraryThing records contained 42.78 user supplied tags, on average. It is not clear if duplicates and near duplicates were eliminated. The books had an average of only 3.8 LCSH. Every LibraryThing record contained at least one concept not assigned by catalogers for that book. Conversely, for over 50% of the records, librarians assigned concepts that were different from any of the user tags. As had been established in previous studies, a certain portion of user-supplied tags have meaning only to the person supplying the tag. These personal tags are not of general use, but certainly are useful to the person who made the tag.

Taggers are not bound by needing to assign terms that summarize the contents of the books as a whole. If a tagger wants to assign both the broad concept name and a specific name for a subset of the broader concept, that is ok. LC subdivisions helped define periods of time and geographic areas and vague, but useful, concepts such as "social conditions." LCSH controls synonyms and varying grammatical forms. Tags better account for new terminology and terms of specific, per-

sonal meaning to an individual user. Tags provide insight into how users think. Rolla points out that library catalogs do not take full advantage of the hierarchical structure of LCSH. We as health sciences librarians certainly understand the role of the MeSH tree structure in the retrieval of information.

His general conclusion is that a combination of "user tags to enhance discovery and controlled vocabularies to collocate like materials, may well provide the best subject access to the materials in library collections." Health sciences librarians know there is a time to use MeSH and a time to use keywords. Perhaps augmenting keywords with user-supplied tags would also be useful.

This study concerned only books. Similar comparisons could be made for different modes of subject access to journal articles. Some are arguing that LCSH should be abandoned in favor of user tags and keyword searching. Would we be willing to give up MeSH for books? For articles? I don't think so, but it could be that our users would not miss MeSH.

Nicolaisen J. Compromised need and the label effect: an examination of claims and evidence. J Am Soc Inf Tech. 2009 Oct; 60(3):2004-9.

Until recently researchers had not challenged the need development continuum posited by Robert Taylor in the 1960s. The fourth step in his continuum is called the compromised need, the question the user poses at the reference desk. The compromise, in this case, is between what the user really needs and the user's expectation of what an information system can offer. Other researchers call this the label effect. Some think the cause is difficulty in expressing many interrelated concepts in a few words. Others see it as a problem of operating outside a known subject area.

This study examines "to what extent claims about the compromised need/the label effect are supported by empirical evidence." We have all been taught to use the reference interview to establish the true information need. If there is no such thing as a compromised need, then reference interviewing may not be all it is cracked up to be.

Writers who claim that users often compromise their questions either take it as a given or cite a 1982 study by Ingwersen. Nicolaisen points out that that study has serious design problems. He points that a large scale study of public library reference questions done in 1978 by Lynch found that only 13% of 309 questions changed significantly. Possibly there were other instances in which the question asked was not the real question that were not detected during her study of interview transcripts. Later studies by Hauptman and Nordlie are also examined. Hauptman's finding about the lack of reference interviews in 229 negotiations was found to be valid and Nordlie's finding of a 60% rate of substantial modification was found to be lacking.

Although not really a research study, this article calls attention to the importance of questioning the assumptions upon which we base our research and practice.

DISSERTATION AND THESES ROUND-UP

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Herewith, the latest list of doctoral dissertations and master's theses on topics of interest to health sciences librarians and medical information professionals. This compilation covers the period from mid-2007 to mid-2009, as found by searching the *PQDT* (*ProQuest Dissertation & Theses*) database, as well as a search of the in-house database of master's theses done at the University of North Carolina-Chapel Hill's School of Information and Library Studies. The searches primarily used truncated forms of the key words "librar?" and "inform?" and "medic?" and "healt?" and "behav?" and various combinations thereof. The items describe the work of both doctoral scholars (primarily PhD and Ed.D. degrees) and master's degree recipients (primar-

ily the MLIS, MSIS, MA, and MPH).

To obtain copies of any of these papers, or to read the abstract for any item, search the PDQT database with the AAT number or the name of the researcher. For the UNC-CH master's theses (marked with a *), consult the index available at http://sils.unc.edu/itrc/mpi/ , and use the researcher's name for accessing the abstract and the PDF of the thesis.

There are only a handful of papers which deal specifically with library science or the practices of librarianship. The majority of the theses dissertations deal with issues related to consumer or patient information behaviors and/or resources; a second large group reports research on the information behaviors, broadly construed, of health professionals. Other sets of papers cluster around information systems design issues, and on the evaluation of information resources. Many of the papers (aside from the master's theses from North Carolina) have been done in schools and departments that do not have LIS as their focus.

As always, the sorting and classifying of the retrieval is entirely mine, as are the choices of topical areas into which these papers have been sorted. The order within any cluster is reverse chronological and then alphabetical by author's surname.

And, finally, my personal favorites? LaShonda Watts's master's thesis from UNC-CH, entitled *No prescription needed: Use of trust-garnering features by illegal online pharmacies*, and Maureen Tuthill's dissertation, done at the University of Connecticut, entitled *Medical aesthetics of the early American novel* . The latter explored "medical topics in three novels of the Federalist era in America" in order to show that "fictional representations of medical matters in these early American novels convey the values of a society that heals only those who fit neatly into the ideological apparatus of Federalism."

Studies on the information behavior of patient and health consumer populations:

Health literacy: The validation of a short form health literacy screening assessment in an ambulatory care setting, by Haun, Jolie Nancibeth, Ph.D., University of Florida, 2007, 134 pages; AAT 3271143

Information and the cancer experience: A study of patient work in cancer care, by Unruh, Kent T., Ph.D., University of Washington, 2007, 360 pages; AAT 3290610

Science and health Web information utilization: An investigation into knowledge building by everyday life information seekers, by Bird, Nora J., Ph.D., Rutgers The State University of New Jersey - New Brunswick, 2008, 207 pages; AAT 3366148

A grounded theory study of the process of accessing information on the World Wide Web by people with Mild Traumatic Brain Injury, by Blodgett, Cynthia S., Ph.D., The University of Nebraska - Lincoln, 2008 , 188 pages; AAT 3311253

*Where are the patients? - Missed medical appointments and preferred reminders among college students, by Crutchfield, Trisha M. , University of North Carolina/School of Information and Library Studies, 2008

An evaluation of the diabetes healthcare website: An Internet intervention and survey of relationships with perceived risk for diabetes complications, preferred venues for learning, by Eyombo, Leo Bachi, Ed.D., Teachers College, Columbia University, 2008 , 185 pages; AAT 3327052

Internet technology: An investigation of e-health uses by individuals with chronic diseases, by Garcia, Sonia E., Ph.D., Capella University, 2008 , 131 pages; AAT 3297705

Rewriting the "rules" of online networked community information services: A case study of the mycommunityinfo.ca model, by Lambert, Frank P., Ph.D., The University of Western Ontario (Canada), 2008, 294 pages; AAT NR39294

Effects of a tailored web-based educational intervention

on Taiwanese women's mammography-related perceptions and intentions, by Lin, Zu-Chun, Ph.D., The University of Arizona, 2008 , 212 pages; AAT 3297208

The impact of health literacy and patient trust on glycemic control, by Mancuso, Josephine M., Ph.D., Marquette University, 2009 , 198 pages; AAT 3357962

Development of a model of consumer health information technology acceptance of patients with chronic illness by Or, Ka Lun, Ph.D., The University of Wisconsin - Madison, 2008 , 212 pages; AAT 3348754

*Patient education and consumer health information: A study of the Patient and Family Resource Center at the UNC-CH Cancer Center, by Ritter, Lindsey. University of North Carolina/School of Information and Library Studies, 2008

Complementary and alternative medicine (CAM): Discourse in a oncology clinic setting, by Simon, Luceal Jason, Ph.D., Wayne State University, 2009 , 147 pages; AAT 3360183

Studies on the information behavior of health professionals:

A survey of British Columbia family physicians' and nurses' experiences with continuing professional development and technology, by Cote, Diane Maureen, M.A., Simon Fraser University (Canada), 2007 , 90 pages; AAT MR38326

The influence of information technology on multi-professional communication during a patient handoff, by Benham-Hutchins, Mary Margaret, Ph.D., The University of Arizona, 2008 , 134 pages; AAT 3297965

Modeling the consumer health information-seeking behaviors of primary care physicians who treat elderly depressed patients and their caregivers, by Dorsey, Mary Jo, Ph.D., University of Pittsburgh, 2008, 145 pages; AAT 3335747

*Publication behaviors of the signers of the Public Library of Science(PLoS) "Open Letter to Scientific Publishers", by Hughes, Annie M. University of North Carolina/School of Information and Library Studies, 2008

*Why can't it all be on the Web?: The information needs of biomedical informatics scientists, by Vaidhyanathan, Vedana. University of North Carolina/School of Information and Library Studies, 2008

*Comparing the usability of Apple and Palm handheld computing devices among physicians: A randomized crossover study, by Joseph, Anthony. University of North Carolina/School of Information and Library Studies, 2009

Studies on health sciences and medical librarianship:

*An assessment of the readability of recommended popular consumer health titles: Implications for collection development , by Hurst, Emily J. University of North Carolina/School of Information and Library Studies, 2008

*NC Health Info and Go Local: An analysis of web change impacts on metadata quality and a proposed framework for semi-automatic metadata maintenance, by Jin, Jie. University of North Carolina/School of Information and Library Studies, 2008

Exploration of children's hospital-based library resources for families in medical crisis: A qualitative approach, by Johannessen, Whitney McNay, Ph.D., Texas Woman's University, 2008 , 143 pages; AAT 3347069

*Knowledge discovery in a review of monograph acquisitions at an academic health sciences library, by Rodriguez, Marcos A. University of North Carolina/School of Information and Library Studies, 2008

*Evaluating a Medical Library's Print and Electronic Book Collection: The Balanced Scorecard Approach, by Koestner, Bethany A. . University of North Carolina/School of Information and Library Studies, 2009

DISSERTATION AND THESES ROUND-UP, continued

Studies on information systems and design:

Design, implementation, user acceptance, and evaluation of a clinical decision support system for evidence-based medicine practice, by Zheng, Kai, Ph.D., Carnegie Mellon University, 2007 , 264 pages; AAT 3269330

Designing and evaluating a persuasive technology to encourage lifestyle behavior change, by Consolvo, Sunny, Ph.D., University of Washington, 2008 , 323 pages; AAT 3328387

The development of a reference database of health information resources to facilitate informed lifestyle choice, by Cottrell, Genevieve Lee, D.Litt. et Phil., University of South Africa (South Africa), 2008; AAT 0821103

*A system to extract abbreviation-expansion pairs from biomedical literature, by Bapat, Amol J. University of North Carolina/School of Information and Library Studies, 2009

*Detecting disease from administrative data: What diseases can we really detect and implications for clinical decision support, by Johns, Ellis B. University of North Carolina/School of Information and Library Studies, 2009

Studies on the on the evaluation of information resources:

*No prescription needed: Use of trust-garnering features by illegal online pharmacies, by Watts, Lashonda D. University of North Carolina/School of Information and Library Studies, 2008

*The portrayal of sexuality information in adolescent nonfiction sexual health books, by Peacock, Allison. University of North Carolina/School of Information and Library Studies, 2009

A systematic evaluation of search methods, search reporting, and selection methods of reviews of physical activity interventions to prevent obesity, by Anderson, Margaret J., M.P.H., The University of Texas School of Public Health, 2009, 87 pages; AAT 1462385

*Assessing credibility in online abortion information, by Shanley, Caitlin M. University of North Carolina/School of Information and Library Studies, 2009

Historical and literary studies:

Rhetorical labor: Writing, childbirth, and the Internet, by Owens, Kim Hensley, Ph.D., University of Illinois at Urbana-Champaign, 2007, 238 pages; AAT 3290342

Identifying the classics: An examination of articles published in the "Journal of Pediatric Psychology" from 1976—2006, by Aylward, Brandon Scott, M.A., University of Kansas, 2007, 69 pages; AAT 1443715

A classified, annotated bibliography of trumpet articles from selected medical and science periodicals, by Leopold, Gary Adrian, Jr., D.M.A., Arizona State University, 2008 , 140 pages; AAT 3338402

Medical aesthetics of the early American novel, by Tuthill, Maureen, Ph.D., University of Connecticut, 2008 , 268 pages; AAT 3319091

THE RESEARCH MENTOR

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Authorship Part One: Defining the Article Author

Have you ever wondered why some published articles have single authors whereas other articles have over 100 co-authors? Similarly, have you ever wondered why someone might be listed as a co-author rather than be listed in the acknowledgements at the end of a journal article? Both types of listing bring honor to the individuals involved, but how does one make a clear

distinction? This first of two columns devoted to authorship discusses the definitions of an author or co-author.

The International Committee of Medical Journals Editors (ICMJE) sets standards followed by over 700 health sciences journals[1] with resources such as its uniform requirements for manuscripts.[2] ICMJE defines authorship as belonging to someone who fulfills all three of the following criteria:

1. substantial contributions to conception and design, acquisition of data, or analysis and interpretation of data;

2. drafting the article or revising it critically for important intellectual content; and

3. final approval of the version to be published.

Meanwhile, ICMJE notes that all contributors who do not meet the criteria for authorship should be listed in an acknowledgments section. Examples of those who might be acknowledged include a person who provided purely technical help, writing assistance, or a department chair who provided only general support.[3]

These distinctions appear straightforward until one tries actually to apply these guidelines to preparing a manuscript. Each one of the three criteria conceivably could have different shades of meaning across a handful of colleagues associated with a project now rapidly headed toward publication. The three elements of the ICMJE criteria provide a structure for the following text.

Criterion One

This first criterion probably constitutes the most important of the three ICMJE criteria due to its multifaceted characteristics, and because it would appear to be a logical prerequisite of the remaining two criteria.

Conception and Design

Research design represents the essential core of the research project. Research design involves a blend of creativity and intellectual rigor in formulating an important research question, clarifying a hypothesis as well as alternative hypotheses, and integrating the known with a planned exploration of the unknown. Research design also includes operationalizing variables with specific indicators and consulting closely on myriad other measurement issues. A colleague who discusses a research design or even the conceptual framework for a limited time such as under one hour definitely would not qualify for co-authorship status. Similarly, even if a distinguished colleague comments at length at a public presentation of the proposal, or on a funding proposal, this contribution probably best belongs in the acknowledgements rather than as an award of co-authorship. Should the discussions continue in substantive ways and be sustained over time, then the colleague seems far more eligible for co-authorship.

Acquisition of Data

Research requires utilizing data in service to the needs of the research design. In the case of a randomized controlled trial researchers need to carefully define a population then determine how data will be collected in association with that population in rigorous and ethical ways. This activity probably will include determining when a member of the population should continue to be included in the study or excluded for a variety of reasons. Data collected that otherwise would be routinely eligible for reporting in a library's annual report, the Association of Academic Health Sciences Directors (AAHSLD),[4] or the Association of Research Libraries (ARL) does not qualify for co-authorship status. Nor would a manager overseeing others compiling such data qualify for co-authorship status.

Analysis and Interpretation of Data

Many researchers might be familiar with statistical methods from previous coursework or involvement in prior research projects. Yet, most researchers embarking on a research project probably will want to consult with a statistician or a colleague with expertise in statistical methods. This consultation will help ensure that the statistical methods selected for the project are

appropriate for the associated research design. Later, researchers likely will consult with their statistical experts to guarantee that the statistical methods or analyses were administered correctly. These kinds of consults definitely warrant acknowledgement at the end of the manuscript. A statistician or statistics consultant becomes eligible for inclusion as a co-author when she or he has had a more sustained and involved role in the research project. A statistical expert originally brought into the author's recent randomized controlled trial earned co-authorship status when he devoted a total of 20 hours to reviewing the original data, verifying its integrity, pursuing extensive analyses to test the hypotheses, and then writing the text to explain these procedures. When a peer reviewer questioned aspects of the statistical analyses in the submitted manuscript, the statistics consultant wrote the explanation in response.[5]

Criterion Two

Any colleague eligible for co-authorship status on the basis of Criterion One definitely deserves ample opportunities to be involved in the second and third criteria. This second criterion translates into the lead author emailing, calling or otherwise communicating with co-authors to allow them to be involved in the development and approval of the manuscript as a prerequisite event. If a co-author refuses to participate or does not fulfill a commitment to review the manuscript within a reasonable period of three weeks, then the lead author might want to consider dropping such co-authors from the manuscript. Co-authors need to exhibit such professionalism through active participation and not delay progress toward submission of the manuscript. The lead author needs to notify in writing, through various channels, any co-author who refuses to participate that he or she will be dropped as a co-author.

Criterion Two can involve considerable time and effort. This author has perhaps donated as many as 25 hours as the first author in managing multiple subsequent versions a single manuscript. For many co-authors the time devoted to Criterion Two probably ranges from 12 to 15 hours. Librarianship honors authorship in modest ways in contrast to the basic or clinical research areas where million dollar grants or careers might hinge on co-authorship status.[6,7,8] Librarianship tends to honor the intellectual effort represented by a published article so we should be sure to include co-authors who are willing to contribute substantively to Criterion Two.

Criterion Three

Upon reflection, there are actually two dimensions to this last criterion: the final manuscript approved by the co-authors submitted for publication, which precedes the editorial peer review process, and the later process of revision based upon the peer reviewers recommendations. The lead author needs to ensure that the co-authors are provided generous opportunities to be involved in both dimensions of Criterion Three.

Honor and Responsibility

The ICMJE guidelines and the discussion in this column, thus far, only allude to the dual aspects of honor and responsibility emanating from authorship status. Our profession honors authors for their creativity, discipline and methodological rigor to publish a research article. Authorship status implies that one has made a substantive contribution to the evolving and final publication.

Authors also need to take responsibility for their publications. This responsibility means that if others criticize the article the co-authors not only need to defend their article; they also need to support one another. Even after publishing more than 30 peer reviewed journal articles and 20 book chapters this author still feels a solemn gravity when signing an authorship agreement. Some co-authors have retracted their co-authorship because they were not sufficiently consulted about a specific manuscript.[9] Co-authorship implies a trust that one's fellow authors have acted ethically and with requisite rigor in implementing the publication.

Preview

This column illustrates the complexity of the issues surrounding the definition of authorship. Interested readers should consult the World Association of Medi-

cal Editors (WAME) definition of authorship [10] and the American Medical Writers Association (AMWA) statement on contributions to publications[11] in addition to the ICMJE guidelines. In the next column this author will discuss a second issue of co-authorship: the order of authors listed from first to last.

Endnotes

[1] International Committee of Medical Journal Editors. Email communication with author. 21 October 2009.

[2] International Committee of Medical Journal Editors. Uniform requirements for manuscripts submitted to biomedical journals. JAMA. 1997 Mar 19;277(11):927-34.

[3] International Committee of Medical Journal Editors. Uniform requirements for manuscripts submitted to biomedical journals: Ethical considerations in the conduct and reporting of research: Authorship and Contributorship. International Committee of Medical Journal Editors, 2009. Available from: < http://www.icmje.org/ethical_1author.html >. Accessed 10 October 2009.

[4] Houston Academy of Medicine-Texas ical Center Library. Annual statistics of medical school libraries in the United States and Canada. Houston: Association of Academic Health Sciences Library Directors, 2007.

[5] Eldredge JD, Carr R, Broudy D, Voorhees RE. The effect of training on question formulation among public health practitioners: results from a randomized controlled trial. Journal of the Medical Library Association. 2008 Oct 96(4):299-309.

[6] Horton R. The imagined author. In: Ethical issues in biomedical publication. Edited by AH Jones and F McLellan. Baltimore: The Johns Hopkins University Press, 2000: 30-58.

[7] Jones AH. Changing traditions of authorship. In: Ethical issues in biomedical publication. Edited by AH Jones and F McLellan. Baltimore: The Johns Hopkins University Press, 2000: 3-29.

[8] Gøtzsche PC, Kassirer JP, Woolley KL, Wager E, Jacobs A, Gertel A, Hamilton C. What should be done to tackle ghostwriting in the medical literature? PLoS Medicine 2009 Feb; 6 (2): 122-5

[9] Tempfer CB. Retraction of authorship [Letter]. Acta Obstet Gynecol Scand. 2009;88(4):493-4.

[10] World Association of Medical Editors. Policy statement on authorship, 2007. Accessed 4 November 2009. < http://www.wame.org/resources/policies#authorship>.

[11] American Medical Writers Association. AMWA position statement on the contribution of medical writers to scientific publications. 2003. Accessed 4 November 2009 < http://www.amwa.org/default.asp?id=308>.

PRELIMINARY ASSESSMENT OF CONSISTENCY OF JUDGING OF MLA RESEARCH POSTERS AND PAPERS

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Each year the Research Section arranges judging to identify the best research posters and papers being presented at the 2009 Annual Meeting of the Medical Library Association. This year we assigned two pre-conference judges to formally evaluate each poster and paper. The growth in papers and posters and the limited number of available judges made it necessary for pre-conference assessment of research content for judging. Pre-conference judges were asked to identify research papers and posters and to score each research presentation using a standard evaluation form asking for ratings on a scale of 1-5 or N/A for at least 11 items having to do with the contents of the abstract. The forms are available online (1,2).

This was the first year of using author self-report and formal pre-conference evaluation and scoring to identify and prioritize the judging of research posters and

papers. There were discrepancies in what was identified as research by authors, pre-conference judges and the co-chairs of the awards committee. Therefore we assigned onsite conference judges to further assess the following: 1) all 77 author self-identified research works, 2) papers identified as research by any pre-conference judge or the co-chairs of the committee, and 3) all posters which achieved a pre-conference average score of 4 or above. We conducted pre-conference judging on 99 posters and then judged 40 onsite. 43 papers were judged onsite. Of the 83 items judged onsite, 50 (60%) were agreed upon as research by the author and at least one judge.

The availability of scoring from multiple pre-conference and onsite judges provided the opportunity to do a preliminary assessment of the consistency between judges at each stage of the judging process. We hypothesized that there would be larger differences between the pre-conference scores due to the more incomplete nature of the abstracts available pre-conference and that the consistency would stabilize with the onsite judging scores. In some cases, the pre-conference assessment was only on whether the work was research and should be judged onsite and no pre-conference score was assigned. We also assumed that agreement between authors and judges as to what was research would not be high, given the lack of agreed upon definitions used for identification. Lastly, we wanted to capture descriptive information about scoring patterns to provide judges with some feedback.

Methods

There were 36 volunteers (including the award co-chairs) involved with some aspect of the judging process. In many cases, the online abstracts did not have the results and the conclusions as required by the Research Section award criteria. Since the criteria were changed after the abstract submission process, we did not exclude these abstracts from consideration. For pre-conference scoring, pieces of the evaluation form where this information was lacking were not penalized. Items on the form where the content was not available were marked N/A and the number of indicators being averaged was reduced to those with ratings. For onsite judging, if an aspect was not sufficiently evident, it should have received a low score or score of 0 rather than being marked N/A. However, some items were marked N/A and therefore the mean score was used rather than the total score for paper awards. The total and mean scores were calculated from the evaluation forms and entered into Excel where they were further analyzed.

We also indicated whether the author had self-identified the work as research and then compared that assessment with whether the paper or poster was found to be research by the pre-conference and onsite judges. No late-breaking posters were author-identified as research due to the late inclusion into the program planner, so these were not included in the agreement analysis.

Results

Of the 29 papers author-identified as research, 22 were scored by onsite judges as research for 76% agreement. An additional seven papers were identified by at least one of the judges as research even though the authors did not indicate that they were research. In six cases, one judge scored the item as research while the second judge indicated that the work was not research—this occurred primarily with program evaluations, some case reports, and studies without results. Of the 46 posters author-identified as research on display at the meeting, 28 (61%) were considered research by at least one of the pre-conference or onsite judges. Only 12 self-identified research posters had pre-conference judging scores above 4.0. Another ten posters which were not self-identified as research by authors garnered initial scores greater than 4.0. These 22 posters along with 18 other self-identified research posters were judged at the meeting.

There was no significant difference between pre-conference and onsite average scores for papers or posters. Total paper and poster scores differed greatly between pre-conference and onsite judging because only a few of the evaluation form points were addressed in pre-conference judging; therefore these are not reported. The mean difference in pre-conference scores is not

	Papers Mean (SD) (n=26)	Posters Mean (SD) (n=48)
Pre-Conference Average Scores	3.81 (0.68)	3.91 (0.65)
Difference in Pre-Conference Average Scores	(n=8) 0.80 (0.60)	(n=7) 0.91 (0.56)

	Papers (n=43) Mean (SD)	Posters (n=40) Mean (SD)
Onsite Average Scores (0-5)	3.97 (0.60)	4.04 (0.52)
Onsite Total Point Score (0-100)	76 (14)	81 (10)
Difference in Onsite Average Scores	0.58 (0.43)	0.63 (0.46)

very reliable since scores for more than one judge were only available for eight papers and seven posters. The mean difference in onsite average scores of papers was about half a point, while differences in average scores between judges ranged from 0.05 to 1.15 with a single outlier of 2.15. With posters, the mean difference was 0.63, but differences ranged from 0 (one perfect match!) to 1.7 at the largest discrepancy. Although a difference of 1.7 seems small, to put this in perspective, a difference in average score of 1.7 equals a difference of 34 points on the total points scale of 0-100.

Conclusions

Paper and poster scoring were handled differently in 2009, but this is the first year that the data has been formally analyzed beyond tallying the winners. For both posters and papers, the scores provided by the volunteer MLA Research award judges are variable, with an average discrepancy of about 0.6 between scores on the same abstract. In general, pre-conference and onsite scores are high with a mean overall score around 3.8-3.9 for pre-conference and around 4 for onsite. In paper judging of the items on the 20 item form that were scored, the average score is generally high, almost 4 out of 5. However, the average total point score out of 100 is 76 indicates that N/A was assigned for 1 or 2 items on the 20 question evaluation form. The form that judges use and the guidance on its use will be revised to address issues such as indicating that an item is not research and when to use N/A. Some differences in scoring are inevitable given the diversity of the judging pool. The lack of definition of what is research as evidenced by the rates of agreement between authors and judges is a larger issue for the Medical Library Association community to consider. More training and norm setting among the volunteer judges are needed to increase judging consistency for the Research Section Awards. However, the scores show that there are very few research papers that are excellent across all of the judging criteria and that provides a great opportunity for the judges to provide constructive feedback to improve the quality of future research presenting at MLA meetings.

Endnotes

1 Paper Evaluation Form. <http://research.mlanet.org/awards/paperevaluationform.pdf>.

2 Poster Evaluation Form. <http://research.mlanet.org/awards/posterevaluationform.pdf>.

RESEARCH SECTION NEWS

The 5th International Evidence Based Library and Information Practice Conference (EBLIP5): Prize Winners

EBLIP5 was held in Stockholm, Sweden, June 30th-July3rd 2009. As with previous EBLIP conferences "old" and "new" evidence based library and information practitioners and researchers from around the world came together in a friendly, stimulating and supportive environment. Before and after the conference, a range of workshops were offered to allow participants to develop skills relevant to evidence based library and information practice. These included critical appraisal, statistics and writing for publication as well as overviews of evidence based library and information practice.

The overall conference theme of "Bridging the Gap – the who, the what and the how" was addressed by an interesting and varied programme comprising 6 plenary speakers, 35 presentations in parallel sessions and 14 posters, spread over 3 days. The quality of both presentations and posters was high and prizes and awards were on offer for each. Before the conference, members of the Conference International Programme Committee (IPC), judged each presentation on the basis of the submitted structured abstract, those with the highest scores were attended and marked by two members of the IPC during the conference. Poster presentations were also marked by two members of the IPC.

The winning oral presentation was given by Christine Urquhart, Aberystwyth University, UK – Using communities of practice to support evidence based practice

Highly Commended Presentations Included:
Lorie Kloda, Denise Koufogiannakis and Katrine Mallan, Canada – Strengths and weaknesses identified in the LIS literature via EBLIP evidence summaries 2006-2008: a content analysis.
Denise Pan, Mary Somerville and Anita Mirijamdotter, USA, Australia and Sweden – From evidence to action: a shared leadership approach
Joann Witt, Australia – Scaffolding students to an academic standard of information literacy

The winning poster presentation was by Ann-Christin Persson, Maria Lang and Jessica Nilsson, Sweden – How do engineering students and faculty perceive library web sites? A usability study and following redesign of web sites at Lund University, Faculty of Engineering

Highly Commended was Pearl Ly and Alison Carr, USA – Do u IM? Using evidence to inform decisions about instant messaging in library reference services.

The presentations can be viewed on the EBLIP5 website at
http://blogs.kib.ki.se/eblip5/parallel-sessions.html

Conference reflections can be found in the Evidence Based Library and Information Practice Journal (September 2009 issue) and summaries of keynote presentations will be featured in the March 2010 issue of the journal.
http://ejournals.library.ualberta.ca/index.php/EBLIP/index

Submitted by:
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Chair of Awards and Prizes, International Programme Committee EBLIP5

Evidence Based Scholarly Communication Conference

Hypothesis has been an open access journal for the past decade, bringing research reports and articles on subjects to researchers such as explanations of research methods. Beginning with my experiences in 2001 at the First International Evidence Based Librarianship Conference in the United Kingdom, I repeatedly have been struck by how many colleagues outside the MLA Research Section have reported to me how useful they have found *Hypothesis* for their own practices. Many of these colleagues have been from outside health sciences librarianship; a good number of these colleagues have been from outside the US.

Hypothesis has reached many interested colleagues for the very reason that it provides its content free as an open-access journal.

Are you interested in research related to promoting open access publishing, particularly related to translating research into practice? An upcoming conference will focus on this aspect of translational science involving open access publishing. The conference will be of particular interest to information professionals from institutions either applying for or that have been awarded a Clinical and Translational Sciences Award from the NCRR (National Center for Research Resources that is one of the National Institutes of Health).

The Evidence-Based Scholarly Communication Conference on March 11-12, 2010 in Albuquerque, New Mexico will highlight strategies for promoting open access publishing as a method for the quick dissemination of key research findings into practice, otherwise known as "translational" research. Full details can be found at the conference website at < http://hsc.unm.edu/library/EBSCConference/index.shtml>

The deadline for submitting proposals for posters and papers has been extended to December 1, 2009. Please contact Jon Eldredge at jeldredge@salud.unm.edu for more information, or to submit a poster or paper proposal.

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HYPOTHESIS

The Journal of the Research Section of MLA