

HYPOTHESIS

THE NEWSLETTER OF THE RESEARCH SECTION OF MLA

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HYPOTHESIS:
The Newsletter of the Research Section of MLA
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Research Spotlight

Editor's Note: Doreen Bradley, Patricia Martin, Gurpeet Kaur Rana and Robert Schumacher won the Research Section's Best Research Paper Honorable Mention at MLA 2000 for their presentation "Real-Time Evidence Based Medicine (EBM) Searching Instruction: a Randomized Controlled Trial in the Neonatal ICU (NICU)." The following is an interview with Doreen Bradley on the background, research design, methodology and preliminary conclusions of their project. Also included is an updated abstract of their paper which has been submitted to the Bulletin of the Medical Library Association for publication.

Real-Time Evidence Based Medicine (EBM) Searching Instruction: a Randomized Controlled Trial in the Neonatal ICU (NICU)

An Interview with Doreen Bradley, Head of Education Services at the Taubman Medical Library, University of Michigan-Ann Arbor

1. How did you become interested in the subject of your study?

Evidence-based medicine (EBM) was gaining in both popularity and credibility in the medical and library literatures. Librarians at Taubman Medical Library saw the value of EBM and how we could provide training that would enhance the lifelong learning skills of our students. EBM also had the promise of providing a greater opportunity for collaboration between librarians and the medical school faculty. We were invited to teach a couple of sessions for a Faculty Development Program in the Department of General Pediatrics. Dr. Robert Schumacher, a professor who was present at these sessions, then invited us to attend rounds in the NICU to assist House Officers with searching for EBM literature. This was a one-month trial to see if house staff thought it contributed to their educational experience in the NICU. Response to our efforts were so positive that Dr. Schumacher suggested we try a formal study to assess its value.

2. How did you decide on the research design for the project?

Desiring to obtain the most objective results possible, Dr. Schumacher recommended a randomized controlled trial. So, we worked out the precise details of the study as a group, focusing on the randomization, logistics of meeting with residents after rounds, designing questionnaires, data collection forms, and identifying potential search topics for the standardized searches that each resident would perform. The librarians developed a search strategy

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<http://gain.mercer.edu/mla/research/hypothesis.html>

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MLA Directory or Research Section
Home Page (<http://research.mlanet.org/>)

(Research Spotlight—Continued from page 1)

assessment tool and conducted literature searches seeking to find similar studies or articles discussing end-user training and typical difficulties encountered by end-users searching MEDLINE. Dr. Schumacher consulted with faculty in the Department of Pediatrics and in the Medical Education Scholars Program (MESP), which is a program designed to prepare faculty members for leadership roles in medical education and also provides assistance in conducting research toward improving medical education. We also had access to a statistician through the MESP.

3. How did you actually carry out the research? What was your methodology?

Initial planning for the study began early in the summer of 1999 so we could complete the study in the NICU during September 1999 when Dr. Schumacher would be the attending physician. By August we had a detailed proposal, which had been submitted to and accepted by the MESP. Gaining support from the MESP provided us with assistance from the statistician and limited funding for copying any articles residents wished to obtain. In September, as patient care questions came up during rounds, Dr. Schumacher would suggest that residents try searching MEDLINE to find more information. Librarians went to the NICU 2-3 days per week immediately following rounds. We started with two librarians alternating days with a third librarian observing so that she could participate later in the study. Depending on the number of residents who had questions on a particular day, our time could range from 1-2.5 hours per day plus time for printing off searches that were emailed to us. Dr. Schumacher distributed the questionnaires and three standardized searches that each resident had to complete. Evaluating the standardized searches consisted of the librarians meeting for several half days. This project took approximately 20% of our time in September, so we had to decrease time spent on reference activities. Search strategy and data analysis was spread over several months, so it was easier to accommodate the additional work.

4. What conclusions did you draw from this study?

Residents were very enthusiastic about what they learned and felt that having librarians visit the unit was very beneficial to their rotation in the NICU. Our results indicate that the study was successful in proving that real-time instruction does work and that it can improve the

long-term searching skills of residents. Since our initial study, we have conducted two additional cohorts for which we are currently analyzing data. It is hoped that by repeating the study, our data can be more conclusive.

5. What recommendations would you give to librarians who were interested in conducting similar research?

I recommend selecting a topic for which you have significant interest and which you believe may have value for your institution. It can be quite time-consuming so the potential outcome should answer an important question for your library. EBM lends itself very well to collaborative projects with faculty and graduate students. Offering to speak at departmental meetings, even if it is only for a few minutes, has been extremely beneficial to us. Through collaboration, we had access to additional expertise and funding. For our library, this study was an opportunity to assess the value of librarian instruction. The positive outcome has increased our credibility and led to new opportunities within the medical school.

ABSTRACT

Purpose: Improving house officers' evidence-based medicine (EBM) searching skills through "on-site" instruction in the NICU.

Subjects: House officers in the NICU of a university medical center.

Methodology: Randomized house officers into two groups, one receiving instruction and one group receiving none. Search questions generated from ICU patients. Data collected through observation, search analysis, and individual surveys. Librarians observed searches and collected data on questions, independent searching skills, search problems, plus topics taught to the test group. Unsuccessful searches underwent failure analysis. To determine intervention efficacy, participants performed unassisted searches based on a Cochrane review.

Results: For the test group, the most frequent topics taught were MeSH, limits, and EBM strategies. This group formulated better questions and applied subheadings and limits more effectively. The control group was less satisfied with retrieval and had more searching errors. Test searches revealed three basic patterns of errors. At six months post-instruction, search methods taught are still used.

Thank You!

...to Jan LaBeause for all her support and guidance during this transition.
The bar has been set, and it is high!

Write, email or phone...

...your suggestions, your ideas, your comments and your contributions!
This is your newsletter!

International Research Reviews

—Submitted by Anne Brice

One of the benefits of promoting evidence-based practice is that it brings us into contact with colleagues from different cultures and countries around the world. As the MLA Evidence-Based Librarianship Implementation Committee has shown, we can begin to share knowledge through networks both personal and technological, to enable us to apply the best evidence we can find to meet our organisational aims.

In helping health professionals to learn how to find and appraise high quality evidence, we encourage them not to limit their searches to research evidence only written in the English language. We need to reflect on our own behaviour in terms of where we go to look for information, and the hope is that we too could find much of reliability and applicability from research conducted outside the confines of the English speaking world. This could be particularly important given the lack of high quality research undertaken and reported in our professional literature.

No other organisation or movement has done as much to promote the synthesis and dissemination of research than the Cochrane Collaboration, or indeed to harness international knowledge, expertise and enthusiasm for global benefit. Rather than present an abstract of a single piece of research in the column for this issue, we are focusing on steps being taken by researchers within the Cochrane Collaboration that will help us to improve our ability to be more systematic in finding evidence, and help us to make better-informed decisions. It should also help us to broaden our outlook.

The following extract has been submitted by Anne Lusher, Research Assistant at the UK Cochrane Centre in Oxford.

“Following interesting discussions of evidence-based librarianship during a workshop on Critical Skills Training in Appraisal for Librarians (CRISTAL), it was suggested I send a brief message to update you on the Cochrane Methodology Register as a potential source of useful research on some key issues relevant to evidence-based librarianship.

The Cochrane Methodology Register is published in the Cochrane Library and is updated quarterly. It includes reports of empirical studies of methods relevant to evaluations of health care interventions and systematic reviews of such studies. It includes comparative and descriptive studies of the various aspects of the science of reviewing including search strategy design and choice of sources (e.g. database overlap etc). A few typical titles relevant to the information specialist are:

- Are you searching the right database? An example from mental health.
- Development of an optimal search strategy for the retrieval of controlled trials using PubMed.
- Systematic reviews depend on systematic literature searches.
- Poorly executed and inadequately documented? An analysis of the literature searches on which systematic reviews are based.

Researchers (Sally Hopewell and Mike Clarke) here at the UK Cochrane Centre have just conducted a pilot project to identify additional methodological studies to include in the Register. A series of search strategies was developed for MEDLINE and key methodological journals were also hand searched. The following journals of interest to library and information specialists have been selected for retrospective hand searching and all methodological articles identified will be submitted for inclusion in the Cochrane Methodology Register:

- *Bulletin of the Medical Library Association*
- *Health Libraries Review (Health Information and Libraries Journal in 2001)*
- *Journal of Information Science*

We have obtained funding to finance the retrospective hand search of these journals as the pilot project indicated that they are likely to have a high yield of relevant methodological studies. We should like to hand search other library science journals. If you know of a particular title which is likely to have a high yield of methodological studies, please let me know (alusher@cochrane.co.uk) and we can add it to our list pending funding. Or, if you have conducted a methodological study yourself or have identified suitable methodological research, please send me the details and I can pass it to those responsible for collating the resources to be included in the Cochrane Methodology Register.

As part of the development of the Cochrane Methodology Register a number of Cochrane Systematic Methodology Reviews are currently being undertaken and in completion will be published as part of the Cochrane Methodology Register in the Cochrane Library.

One which may be of particular interest to information specialists wishing to practice evidence-based librarianship in support of researchers undertaking systematic reviews is:

Hopewell, S., Clarke, M., Lefebvre, C. and Scherer, R. Comparison of hand searching vs Electronic Searching to Identify reports of randomized trials. (protocol in the Cochrane Library 2001, Issue 2, review in progress). The aims are to review, systematically, empirical studies that have compared the results of hand searching with the results of electronic searching in identifying reports of randomized trials. And to determine the additional value

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ORIGINAL RESEARCH

TRANSACTION LOG ANALYSIS: WHAT ARE THEY TYPING?

—Submitted by Elizabeth H. Wood, MA, MSLS, AHIP

Education librarians need to know how effective their literature search training has been. Quizzes and exercises during or shortly after training sessions will reveal how well the students have understood the material in its immediate context. What is unknown at that point is how well students can apply the training in real clinical or research situations. A transaction log shows exactly how searching is being done by library users¹⁻⁶.

Transaction log analysis enables librarians to examine everything users have typed, examined, selected, and printed. The log tracks every keystroke entered into the database system, with the time, date, length of the session, database being searched, and results.

Methods

This report describes a transaction log at a major academic health center with a library that serves academic disciplines, hospitals, research institutes, and several thousand health professionals at remote locations. There are approximately 20,000 potential users of the bibliographic and full-text databases. The log was conducted for 24 continuous hours during a weekday in the middle of a semester. Several biomedical databases using the interface from Ovid Technologies™ were available to searchers.

Systems personnel will probably produce the log. The time period chosen should be as "typical" as possible. The length of time will depend on how much data can be handled. The analysis can be done electronically, which allows for quantitative measurements, or by visual perusal. This author found both methods useful. In this

(International Research Reviews—Continued from page 4)

of hand searching journals for reports of randomized trials in relation to carrying our searches in electronic databases. (This review is designed to update a previously published systematic review: Dickersin, K., Scherer, R., Lefebvre, C. Identifying relevant studies for systematic reviews. *BMJ* 1994; 309: 1286-91). Contact details: shopewell@cochrane.co.uk"

We hope that these and similar initiatives help us to broaden our outlook, and encourage further international transfer of knowledge. We would be delighted to receive notification of any good quality research for inclusion in the column. Please send to anne.brice@hclu.ox.ac.uk. •

study, the log printed out to 1½ reams of paper in very small print.

An important caution: since some users, especially those in remote locations, will have personal login IDs and passwords, strict anonymity and confidentiality must be observed. Users' search queries are as private as their book borrowing and all identification must be removed from the log before analysis.

Results

Quantitative and qualitative data are being published elsewhere, but for the present purpose the following is an example of what the log may look like, and some of the questions it will answer. This brief example is a "good" search compared with most examined in this study. Many users found nothing, or only a few of the hundreds that should have been retrieved with more skillful techniques. Other searchers typed in common words that retrieved many thousands of references, but were unable to find ways to refine the search. This is a demonstration, therefore, not necessarily of a typical search, but how the log is read.

```

USER xxxxx TIME 12-apr-98 10:33
LEN 0:09
DB medl SETCOUNT 6 VIEW 20 PRINT 11
SAVE 0
3332 congestive heart failure.tw.
6918 exp heart failure, congestive/
5372 exp *heart failure, congestive/
922 captopril/
85 3 and 4
11 from 5 keep 2-4, 6, 7-10, 15

```

In this brief article, there is not room to explain the Ovid Web interface, but this audience of experienced librarians, even if they have never seen Ovid, will understand the kind of prompts and options the searcher would have seen.

As discussed above, the searcher's name is blanked out.

```

LEN = minutes online
DB = database (MEDLINE, recent years)
SETCOUNT = number of search statements
VIEW = number of references examined (i.e.
        only the first twenty of the 85)

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(Continued on page 18)

CHAPTER RESEARCH COMMITTEES REPORT



Training Partners for Tennessee Public Health

In 1999, the Eskind Biomedical Library (EBL) at Vanderbilt University Medical Center was awarded seed money from the National Library of Medicine under a contract (NO1-LM-6-3522) with the University of Maryland, Baltimore to make public health professionals aware of the applicability and relevance of information resources to their work and to measure the usage and usefulness of online information available to public health professionals. Project staff included Nunzia B. Giuse, M.D., M.L.S., Principal Investigator; Patricia Lee, M.L.S., Co-Investigator; Sandra Martin, Ed.D., M.L.S., Investigator; and Nila A. Sathe, M.A., M.L.I.S., Co-Investigator, Project Manager.

In support of NLM's broad goals, the project's specific objectives have been to:

- Develop partnerships with state and local public health organizations;
- Provide instruction, training, and support in the use of online resources and services to members of the public health community statewide;
- Increase public health professionals' awareness of National Library of Medicine grant opportunities and other methods of bringing online connectivity to their home organizations; and
- Provide an online forum for public health professionals to access relevant resources and communicate with each other.

To achieve these objectives Vanderbilt librarians developed a partnership with state and local public health agencies, entitled Training Partners for Tennessee Public Health. With partner input they conducted an in-depth information needs assessment which investigated public health professionals' information seeking and use behaviors and preferences, access to technology, and computer skills. Using results from these assessments, they developed training sessions in relevant public health resources including CDC Wonder and other data repositories. They gathered training evaluation data before, immediately after, and six months after the sessions. Trainees were expected to disseminate their knowledge to their colleagues, who in turn completed similar evaluation forms for project investigators.

Librarians also developed a comprehensive web site of public health information, hosted a mailing list to foster communication among public health workers, and conducted a teleconference to broadcast resource and grant-writing information statewide.

While the training sessions and other project components were successful and highly rated by attendees, researchers realized that new skills and knowledge, if not consistently applied, would probably fade. To begin investigating ways to overcome this problem of knowledge fade, the Eskind Biomedical Library was awarded a contract extension beginning in December, 2000.

To articulate ways to integrate information use more fully, Eskind has refined their methods for raising awareness of information in the public health community. During this contract extension, they will target selected public health professionals and train them as Power Information Users (PIUs)—members of the public health community with an advanced understanding of information use and resources and the ability to share their knowledge with others. The PIUs' visible presence in the community, coupled with their information expertise, should help to overcome the problem of knowledge fade after training and allow us to continue to pursue our objectives of raising awareness of electronic resources and evaluating resource use and efficacy. Moreover, a fuller immersion in the public health community will allow librarians to move beyond raising awareness. Project investigators can focus on integrating technology into the workflow of the targeted population and articulating a model for information skills training in data-intensive areas of the health sciences.

The proposal employs the following methods which refine the information needs assessment and train-the-trainer approaches employed initially and extend them to offer a firmer foundation of knowledge within the public health community:

- Investigate the workflow and information use in the target population through ethnographic observation
- Develop process analyses delineating key attributes of the public health workflow
- Develop instructional methods and communication strategies to impart knowledge of electronic

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(TPTPH—Continued from page 6)

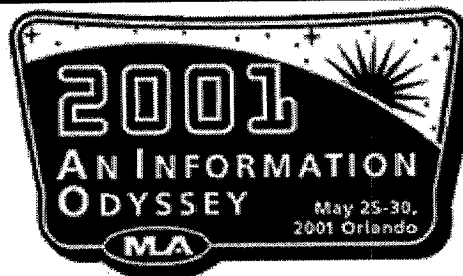
information resources and information concepts to PIUs and facilitate knowledge sharing among PIUs and their communities

- Implement a planning process to develop long-term strategies to foster lifelong learning and continued integration of information into the public health workflow

This Power Information User model incorporates the idea of positively impacting workflow through integrating information skills and awareness. This approach also allows us to concentrate on building centers of in-house expertise. EBL information specialists act as teachers and consultants, but instead of providing one-time, isolated classes that apply broadly to public health, targeted interactions will enable instructors to provide PIUs with a high level of knowledge and confidence in their abilities to utilize technology. The PIU model, through providing further education, fosters a sense of ownership of information that a one-time training class may not. The PIU model also overcomes the knowledge fade problem by developing individuals within the community itself who are committed to acting as information resources and championing information integration.

For more information on this project please visit the web at: <http://www.mc.vanderbilt.edu/publichealth/index.html> or contact Nila Sathe at Nila.Sathe@mcmail.vanderbilt.edu

—Submitted by Martha Earl on behalf of Nila Sathe, Eskind Biomedical Library, University Medical Center—Southern Chapter of MLA



**Join us for
Breakfast and Business!**

Sunday, May 27th, 7:30 am



**The Research Section's
Annual Business Meeting
is open to everyone,
so please join us during
MLA in Orlando.**

Membership Committee News

—Submitted by Sarah Adcock, Membership Committee Chair

The membership committee received several suggestions on how the Research Section might grow through recruitment strategies. The one suggestion that received the most support was the idea to offer free membership to student members of MLA for one year. All student members of MLA were given the opportunity to join the Research Section free for one year. Fourteen student members accepted the offer of free membership to the Research Section. All new student members were contacted to welcome them to the section and to inform them of the Research Section events at MLA 2001 in Orlando. If you run into any of our new student members in Orlando, please welcome them to the Research Section!

The membership committee is always open to any suggestions for recruiting new members. The *Hypothesis*, networking opportunities, and the research mentoring service are just a few of the benefits of Research Section membership. Please forward any recruitment suggestions to Sarah Adcock, Chair of Membership Committee, at sadcock@rowland.umsmed.edu or 601-984-1241.

WELCOME NEW STUDENT MEMBERS!

Nancy Forsberg
Donna Freeman
Jennifer Heiland
Robert Joven
Kelly Klinke

B.C. Loetterle
Charlotte Manges
Jack Stephens
Patricia Thompson
Annamae C. Trypus

Patricia Vinson
Jill L. Woolums
Kathleen (Kay) Yasenachak
Marlo Young

Research Section News

So What Happened...?

Hypothesis readers are well aware of the many excellent articles that appear in the pages of this publication. They most likely also have attended Research Section programs at MLA annual meetings in recent years.

This column reports on some of the other, although perhaps less visible, MLA Research Section activities undertaken this past year.

Awarding Excellence

The Awards Committee has been revising the judging criteria and procedures for its deliberations this year at the MLA Annual Meeting in Orlando. Please contact Chair Bob Wood if you have any questions or suggestions regarding the Research Award.

Virtual Business

The Research Section's Executive Committee, comprised of elected officers and committee chairs, conducted two virtual business meetings in November and March. These virtual meetings, which occurred over the period of about three days each, enabled the Executive Committee to simulate the in-person meetings otherwise made possible only once per year at the MLA Annual Meeting.

No Free Riders

Many MLA members attend our annual programs, and maybe even read *Hypothesis*, but never contribute toward the continued success of the MLA Research Section.

~~ Election Results ~~

Chair-Elect/Program Chair

Alexandra Dimitroff, Ph.D., AHIP
University of Wisconsin, School of Library &
Information Science, Milwaukee, WI

Secretary/Treasurer

Jo Dorsch, AHIP
University of Illinois at Chicago, Library of the Health
Sciences, Peoria, IL

Candidate to the MLA Nominating Committee

Gary D. Byrd, Ph.D., AHIP
SUNY at Buffalo, Health Sciences Library, Buffalo, NY

*Congratulations and thank you for agreeing to serve
the Section in these vital leadership roles.*

MLA Research Section Nominating Committee 2000-01

Jan H. LaBeause, Chair
Jocelyn Rankin, Ph.D.
Ruth Fenske, Ph.D.

Membership Committee Chair Sarah Adcock has been developing ideas for increasing our membership rolls, including some innovative ideas for recruiting students or recent graduates.

Making Points

Ann Weller's Task Force on AHIP points made its recommendations for increasing AHIP points for research and publication, reflecting the great effort behind these important endeavors.

Mentoring

The Mentoring Task Force has completed the mentor web linkage. Be sure to check it out at: <<http://research.mlanet.org/mentor.html>>.

Show Us The Evidence

The Evidence-Based Librarianship Implementation Committee (EBLIC) has been busy. Please see the pages of this and recent issues of *Hypothesis* for details.

A New Hypothesis

By the end of 2001, we intend to devote 70% of each *Hypothesis* issue to original research, interim research project reports, and informative descriptions of research methods. You might have noticed my placing my columns in a less prominent location in recent issues and the name change for this column, consistent with this goal.

Getting Started

Chair-elect Leslie Behm has been busily planning two inspirational annual meeting programs for Orlando on how one might take the first steps in conducting research. Veteran researchers know that these early steps are often the most difficult to pursue.

Kudos

This column tries to capture the many activities that occur between annual meetings and issues of *Hypothesis* in the Research Section. I have tried to highlight some interesting activities, but probably have unintentionally overlooked a few other important items. My apologies in advance if your activity was omitted here. In essence, this column points to the many efforts of the dedicated officers and committee chairs (listed elsewhere in this issue), who make the more prominent activities of the Section even possible. My full annual report appears at the Section's website if you would like the details about any of the aforementioned highlights. At this time I would like to honor the efforts of my predecessor, Gary Byrd, who placed into motion many of the current initiatives of our Section, and to congratulate my successor, Leslie Behm, on her upcoming year in office effective at the end of the MLA Annual Meeting in Orlando. I speak for the entire Section when I thank Jan LaBeause for her many years of dedication to editing *Hypothesis* and in once again welcoming our new Editor Andrea Ball. Thank you.

Jon Eldredge, MLS, PhD, Chair 2000-2001

The Most Relevant and Answerable Research Questions Facing the Practice of Health Sciences Librarianship

—submitted by Jon Eldredge, Ph.D., Chair, Evidence-Based Librarianship Implementation Committee

The Evidence-Based Librarianship Implementation Committee (EBLIC) of the MLA Research Section has been canvassing a variety of medical librarian groups in the US and abroad to identify the most important contemporary research questions facing our profession. Questions came from colleagues from countries such as Estonia and Sweden and Australia so this list is by no means limited to US participants. The following compilation, arranged by broad subject categories, comes directly from medical librarians (plus a few non-medical librarians) themselves with only minimal editing, except for brevity. The name of the originator of the question follows each question, plus the initials of the EBLIC member who received the question. The EBLIC will be refining, consolidating, and prioritizing these questions in the months ahead. We welcome *Hypothesis* readers' thoughts about these questions.

Resources

How can we predict the future usability of a print monograph collection in this electronic environment? Ramune Kubilius (MH)

What are some of the models for weeding of a monograph collection that is not based on monograph circulation (e.g., older items that haven't been retrospectively converted yet)? Ramune Kubilius (MH)

What are the currently most popular/successful models for planning, predicting, and budgeting for non-print collections? CAI, videos, etc are very expensive items whose formats quickly change. Ramune Kubilius (MH)

What are the currently most popular successful models for involving the user population in collection development and planning (i.e., liaison) program vs. library committee vs. ILL requests vs. educational programs vs. other)? Ramune Kubilius (MH)

How could we develop a methodology to determine user preferences about journals (and choices between print, electronic or hybrid)? J Van Loo (ABr)

How many multiple copies of textbooks to buy for students? To develop an algorithm to aid this decision. (Electronic information is making no impact on the constant demand for more print copies of core texts!!) J Van Loo (ABr)

Do students who use electronic library resources have better or worse outcomes than those who use physical libraries? Outcomes of interest would include - academic

results, workload, use of time, user satisfaction, drop out rates. Also compare with those who don't use library resources at all? G Needham (ABr)

At what stage can print subscriptions be discarded if alternatives (E.g., JSTOR) are available? Frank Norman (EA)

What is the lag time between the introduction of a new resource in an institution and its widespread take up of that resource? Frank Norman (EA)

What is the relationship between the strength of demand for documents and the likely delay? [Thinking of ILLs, if it is going to take 24 hours to get a document, then user X wants to order it. But if it will take 72 hours, he will not. This is important as we begin to move from traditional ILL to cross-access arrangements in (e.g.) ScienceDirect etc. I expect that we will see a much greater usage of cross-access than the corresponding ILL level would suggest. It also spurs us to invest in ARIEL etc to speed up ILL] Frank Norman (EA)

What factors and criteria are the most relevant to assess electronic resources for a medical library network? (e.g., checklist with appropriate scales, a resource that would compare and contrast, cost-benefit ratio). Barbara Bartkowiak (JOD)

How can we best measure usability of our library web pages? Karla Block (JOD)

Will desk-top access to databases and full text affect library organization, personnel, and work flow patterns in medical libraries? Jo Dorsch (JOD)

Will subscriptions to databases and e-journals through non-library consortias eventually undermine the 'traditional' function of libraries? Eva Alopaeus (EA)

What is the optimal size in terms of cost-benefit for a clinical collection? Robert P. Holley (JE)

We often hear about the information explosion, but this data is based on studies conducted decades ago; at what rate does the volume of published English-language information resources in the health sciences grow per year or per decade? Jon Eldredge (JE)

What are the documented benefits of the provision of health information on the recovery rates of the ill? Lynn Fortney (JE)

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What's the role of the librarian in a world awash with print and digital information, with publishers wanting to connect directly to non-users, and authors wanting to bypass publishers? Ben Toth (ABr)

How can one conduct usage studies in an electronic environment? Susan Klawansky (JE).

Is a just-in-time policy more effective in terms of user satisfaction than a just-in-case policy? Andrew Booth (ABo)

What are the documented benefits of consumer health information on the continued "good health" of the well patient, i.e. studies to show that consumer health information has a positive impact on prevention of disease? Lynn Fortney (JE)

Are there cost benefits related to the provision of consumer health information? Reduced length of stay/recovery periods, or increased life-expectancy, etc? Lynn Fortney (JE)

Does access to consumer health information shorten convalescence? Jo-Ann Benedetti (LB)

How can a hospital library take advantage of electronic journals when it is within a wide area network that covers several other hospitals and is surrounded by a firewall? Kaye R. Lee (AR).

How does one evaluate the comparative advantages and disadvantages of electronic versus print journals? Terena Solomons (AR).

Do the benefits of a value-added resource such as Ovid databases (and other similar vendor products) outweigh the costs when compared to a free resource such as a PubMed? Terena Solomons (AR).

How does one evaluate the comparative advantages of database vendors in terms of content, software, functionality, features, cost, support, etc? Terena Solomons (AR).

What are the implications of electronic journals and other resources for cooperative collection development and interlibrary lending? Alex Petrie (AR).

Which print journal subscriptions are best to retain in the collection when an electronic version is also available? Ruth Sladek (AR).

In Australia, what proportion of literature required for undertaking a Systematic Review is readily available within the country? Ruth Sladek (AR).

Are libraries providing greater document delivery services to compensate for cancelled journal

subscriptions, and what are the cost comparisons? Ruth Sladek (AR).

Publishers are now getting on the "band wagon" concerning online full-text access, but what about making tables of contents (TACOS) more accessible in terms of providing an "e-TACOS" service to our clientele? What would be very helpful is to have a button at each issue's TOC for "Email this TOC to a colleague". What would be the impact of this feature on the health sciences library in terms of general library usage, utilization of the e-TACOS service, marketing benefits/aspects, staff time and money to invest, and long-term outcome/benefits of providing this service? Evonda Copeland (MH)

Library Skills Education

How could we develop a mechanism to assess the literature searching/finding the evidence skill levels of clinical professionals? Val Trinder (ABr).

What is the most effective way of teaching literature searching skills to induce changing habits so that clinical professionals begin to look for evidence to influence their clinical decision making? Val Trinder (ABr).

What conditions promote the successful learning of information skills in the hospital setting? Cecily Gilbert (ABr).

How do teaching staff's competence in and attitudes to electronic information sources/information literacy impact on their students' development of these competencies and attitudes? Hazel Rothera (ABr)

How do health care students' competence in and attitude to information literacy and evidence-based health care affect their behaviour in these areas in subsequent professional practice? Hazel Rothera (ABr)

(Or, to turn that one round): How are health professionals' competence in and attitude to information literacy and evidence-based health care affected by the teaching in these areas they received during their training? Hazel Rothera (ABr)

Do students who have been taught information skills perform better academically (as measured by exams and other assessment) than those who haven't? G Needham (ABr)

Are students who have been taught information skills more or less likely to continue to further study? G Needham (ABr)

Does teaching searching skills to end-users measurably improve the quality of their searches and the relevancy and recall of their retrieval; how long does the effect last? Connie Schardt (AW)

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How do we assess the impact of our teaching? Doreen Bradley (JOD)

Does teaching information skills at a distance (e.g. web-based delivery) have a better or worse outcome than face to face? G Needham (ABr)

Do library resource classes have an impact on student learning/achievement? If not, is there a better approach we can take instead of the traditional one-time, 50 minute session that faculty usually allow us? Doreen Bradley (JOD)

Do medical students learn searching skills more effectively from library faculty or medical faculty? Jo Dorsch (JOD)

When is the optimal time to introduce EBM instruction into the medical curriculum? Jo Dorsch (JOD)

What are measurable outcomes of EBM instruction in the medical curriculum? Jo Dorsch (JOD)

Do library resources courses improve the information-seeking skills of students? Jon Eldredge (JE)

What persuasive arguments convince teaching faculty that they should allocate time from the regular curriculum (i.e., "sacrifice their valuable class time) for library instruction? David Coleman (JE)

Does Problem-Based Learning enhance the students' skills in information seeking? Anders Rydqvist, Uppsala (EA)

The librarian as teacher - how can we be better? Eva Huss, Norrtälje (EA)

Which type/s of library teaching suits/gives better results with hospital staff? Eva Alopaeus (EA)

How can we measure the effects of library education for hospital staff? Eva Alopaeus (EA)

How do we assess library contributions to the practice of continuous learning? Tamara Lee (JE)

How do we assess that students and other learners actually improve their critical appraisal and search skills once they've participated in health informatics programs? Tamara Lee (JE)

What is the minimum time you can teach people to use MEDLINE for them to achieve acceptable searches in terms of sensitivity/specificity? Andrew Booth (ABo)

How can librarian/searchers contribute to the self-directed learning movement in the training of physicians?

Is teaching them to search MEDLINE using EBM strategies enough (obviously, not) What more can we contribute, based on evidence in other endeavors (such as higher education) that has been demonstrated to be effective? Fran Brahma (JE)

Searching

How can we measure the effectiveness of the services for searching in databases (e.g. OVID Medline, CBC etc.) provided via the Internet? Keiu Saarniit (EA)

How does one measure the effectiveness of literature searches for medical enquiries? Terena Solomons (AR)

Does the emergence of 'non-traditional' skill sets (content development, web design, intelligent scouting, training, knowledge management) indicate a developing role for the profession or an alternative to traditional medical library practice? John Holgate (AR)

How do you measure searching skills? Sue Stigleman (MH)

Is the gold standard of MeSH vocabulary threatened with extinction given an influx of alternative electronic indexing practices (e.g., UMLS), as we continue to merge electronic databases in health and medicine? Anita Lambert Lanning (MH)

Has the shift to end-user searching over the last 15 years or so, and the huge increase in electronic information resources available to users, impacted positively on users? Frank Norman (EA)

What are the relative advantages of precision and recall in using an internet search engine? Robert Holley (JE)

What personality characteristics in a librarian make them a good or a bad searcher? Andrew Booth (ABo)

What is the evidence that it is effective to provide current awareness services in comparison with on-demand literature searching? Andrew Booth (ABo)

Taking into account the existing validated quality filters we use for literature searching already, how could we develop validated "protocols" for searching for specific study types, given the wide range of resources we now have to hand. e.g. with a question such as "I'd like current guidelines for management of community acquired pneumonia" - which source to check first and where to go to next. Julie Anne Watson (ABr)

Clinical Librarians

How do we best integrate knowledge-based resources into the electronic patient record to support decision making in a clinical environment? This can, of course, be broken down into some more specific questions:

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What are the most useful resources to select for integration?

- evidence-based full text databases such as Cochrane or ACP Journal Club?
- pharmaceutical databases such as Micromedex or First Databank?
- bibliographic databases such as Medline or CINAHL?
- practice guidelines whether they be local or nationally approved such as those from the CMA (Canadian Medical Association)? Tim Tripp (LB)

Is clinical librarianship anything more than an attempt to increase the territorialism of the medical librarian? Andrew Booth (ABO)

Is providing a service to clinicians in their clinical setting more effective/efficient than a library-based service? Andrew Booth (ABO)

Do "urgent action" ILLs have more impact in terms of clinical care or research success than those obtained routinely? Andrew Booth (ABO)

If access to information is necessary to provide optimum care, then should hospitals with libraries and librarians provide better care than those who don't? I know this is difficult to show, because often hospitals that have libraries are also teaching hospitals or provide care at a higher level. I've seen references to studies of teaching hospitals compared to non-teaching hospitals, and teaching hospitals seem to do better treating the same things than non-teaching hospitals. Anne Allgaier (LB)

Does the evidence show that a clinical librarian service, attending rounds and/or clinical meetings, is more effective in terms of improved patient care, costs, and staff satisfaction with library services? (If this is the way to go in the world of evidence based health care then we need to provide the evidence in order to support the introduction of such a service.) Elizabeth Bell (AR)

What is the impact of 'document identification' and delivery systems and networks (GRATIS, CIAP etc) on clinical health outcomes? John Holgate (AR)

Increasingly, more hospital personnel are doing their own searches to answer patient-care related questions....most are inept searchers...how do we get them to realize...that what they are doing is not only poor quality but is also potentially dangerous? Barbara Palso (MH)

Role/Impact of the Medical Librarian

Does evidence-based librarianship advance all of librarianship, or just those areas that are easily quantified? Should librarians cease doing all of those functions that experience and craft knowledge have

shown them to be helpful just because the evidence to show that it is so has not been quantified? Is there a bias within evidence-based practice to favour easily quantifiable elements as having more value than those which are more complex and not easily quantifiable? Valda Svede (LB)

I think health librarians (HL) are different from other types of librarians, but are they? What are the outcomes of HL's interventions? Does the existence of, and use of, a health librarian result in life saved, in quality-of-life improved? Do patients fare better when their healthcare professionals make use of a librarian compared to when they search MEDLINE or MD Consult or the Cochrane Library for themselves? Do patients who receive an "information prescription" and visit a CHI library fare better than those left with just their doctor's or nurse's instructions? In other words, do health librarians as a species make a difference to their niche in such a way that their extinction would really be felt? Silvia Cantaluppi Patrick (JE)

Do health librarians provide respite or worsen the information overload for their clients/customers/users? If they provide current awareness services are they just another email or piece of paper or both in overfull in-trays? (as a corollary, how do we market the library and keep it in the frontal lobe of our clients without contributing to their information overload?). Silvia Cantaluppi Patrick (JE)

Can health librarians provide all the back-end of the job (you know the subscriptions, the licensing woes, the collection development, the checking in and out of materials) as well as being there ready to drop everything to be just-in-time and help the user search? Or should it be all back-end, electronic back-end: all resources available arranged in a personalized web page set up to answer all or most questions? Silvia Cantaluppi Patrick (JE)

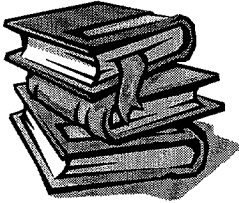
Is there any relationship between library provision and use and student retention? (i.e. are students who use library resources to support their studies more or less likely to complete the course?) G Needham (ABr)

Are students who seek help from library staff in their use of library resources likely to perform better or worse academically than those who do not? (so, do we add value or not?) G Needham (ABr)

How is EBM and medical informatics interrelated from the standpoint of the librarian? Brad Long Scott (MH)

Does librarianship have a dynamic scientific foundation (like medicine or nursing)? Or is it by nature heuristic, anecdotal and intuitive? John Holgate (AR)

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Literature Review

—Submitted by Ruth Fenske, Ph.D.

Searing, Susan E. and Leigh S. Estabrook. The Future of Scientific Publishing on the Web: Insights from Focus Groups of Chemists. *portal: Libraries and the Academy*. 1(1):77-96, January, 2001.

portal is a new journal created in reaction to Elsevier's takeover of several journals in library science. Some of its editorial personnel were formerly with the Journal of Academic Librarianship, now an Elsevier journal. Although the first issue is not particularly research oriented, it does contain a number of articles of potential interest to health sciences librarians. One of the articles is a report of four focus groups conducted with academic and industrial chemists. In order to participate, a chemist had to use the Internet to search for information at least once a week. Although the authors mention a focus group discussion guide, they do not include a list of starter questions. Findings are arranged by authors' use of the Internet, the roles web pages play, chemists' keeping up with the work of colleagues, chemists' disseminating their work outside formal channels, peer review, copyright and authors' rights, expectations for the future, and generational differences. The authors are careful to point out that focus group participants were senior level chemists who had succeeded in the current system. Junior chemists and doctoral students could very well have different opinions.

The focus groups were conducted before the "Principles for Emerging Systems of Scholarly Publishing" were promulgated in March 2000, by the Association of American Universities, the Association of Research Libraries, and the Merrill Advanced Studies Center at the University of Kansas. Since it is important that authors and readers of journals buy into the principles, the authors of this article thought it would be useful to discuss their results in terms of the nine principles. They conclude that this group of scientists would embrace principles that would maintain rigorous peer review, reduce lag time, and "introduce improved, easily earned procedures for searching the literature." Permanent archiving, copyright management, and reasonable costs were less salient to these scientists as authors. Change agents, such as SPARC (Scholarly Publishing and Academic Resources Coalition), need to explain the latter principles in terms that apply to authors' interests.

Ross, Catherine Sheldrick and Kristi Nilsen. Has the Internet Changed Anything in Reference?: The Library Visit Study, Phase 2. *Reference & User Services Quarterly*. 40(2):147-155, Winter, 2000.

Jansen, Bernard and Udo Pooch. A Review of Web Searching Studies and a Framework for Research. *Journal of the American Society for Information Science and Technology*. 52(3):235-246, February 1, 2001.

Ross and Nilsen cite evidence that non-commercial web-based resources can be used successfully to answer reference questions. What difference, if any, have recent

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Management

How do we apply outcomes-based evaluation to services in order to realistically demonstrate the impact of what we do? Jeff Huber (JE)

Is there a way to measure the economic value of the medical library within a hospital? Eva Alopaeus (EA)

How do you evaluate library services comparatively? Joanna Grey (ABr)

Is the search specialist librarian a cost effective member of the busy clinical team? Anne Weist (ABr)

How do we identify/measure competencies for library job roles so that new posts can be assessed with regard to salary grades? J Van Loo (ABr)

OPAC vs. library web sites/databases for e-journal/e-book management—Why are we still running parallel systems? What are the issues? What is the library community consensus? Ramune Kabilius (MH)

How to design tools to collect qualitative information rather than just quantitative data, which are not too time consuming to complete and can be used for things which are not picked up as part of a library management system, such as mediated or end user searches where the information was proven to have been of benefit (including photocopies from collections)? Joanna Grey (ABr)

Should clinical support librarian posts be funded? Anne Weist (ABr)

What percentage of inter-library book loan requests circulated by email on individual regional health library networks, actually result in a book being made available for loan? John Addison (ABr)

How do you determine when you have enough information to make a decision? Robert P. Holley (JE)

How valuable a role does the search specialist play in meeting clinical governance requirements? - (how do we

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changes in technology made in the way reference service is provided and experienced?

Library school students in a beginning reference course at the University of Western Ontario were asked to pose a personally relevant reference question at a library of their choice and to reflect on their experience from a user's point of view. Phase 2 analyzed 161 questions asked at 50 academic libraries and 111 public libraries from Fall 1998 to Spring 2000. The measure of success was if the student would return to this provider with another question. Public library success rates were up considerably from the earlier study in the early 1990s. Academic success was higher and was consistent across the two phases. In some cases, the provider took the question at face value, bypassing the reference interview. In other cases, the librarian recommended a source but did not verify with the user that the source contained a helpful answer. Public libraries tended to go straight to the OPAC. Electronic resources, other than the OPAC were used to answer 14.4% of public library questions and 42% of academic library questions. Frequently when use of the Internet was suggested, the

librarian offered no help or instruction in using the Internet. Librarians sometimes made negative comments about the quality of information on the Internet or about slow connections or inadequate access in the library. Especially for web resources other than databases, providers appeared to assume users would search the web independently at home or on the public access stations. The authors speculate that the librarians viewed the Internet as being unreliable and/or they are insufficiently trained to use it. They conclude that the current generation of reference librarians is "abdicated [its] role as intermediaries" when it comes to using the Internet.

Jansen and Pooch point out that most studies concerning online searching focus on either traditional information retrieval systems or OPACs. In contrast, there are few detailed studies of web or Internet searching. The authors found three studies of searching using web search engines that had a substantial amount of data and addressed a broad range of searching characteristics. Other studies used less data and were narrowly focused. Most used transaction logs.

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measure value in health library information terms?) Anne Weist (ABr)

Do (search specialist librarian) mediated searches save time, and if so, how much time? Anne Weist (ABr)

Do virtual/artificial reference librarians perform better or worse than real ones in terms of accuracy and user satisfaction? G Needham (ABr)

Do interlibrary loan management packages (such as ILLiad, Clio, etc.) improve the efficiency of interlibrary loan operations? Karla Block (JOD)

How can we best measure customer satisfaction with library services such as circulation, reserves, photocopying, and interlibrary loan? Karla Block (JOD)

Do student employees at service desks (circulation, information, reference, etc.) provide effective and efficient service when compared to the time needed to hire, train, and supervise them? Karla Block (JOD)

What ongoing job training/staff development provides the best results for student employees? Professional librarians? Paraprofessional staff? Karla Block (JOD)

How can we best measure if library staff members provide accurate information at service desks? For example, do they accurately explain library policies? Accurately answer factual reference questions? Karla Block (JOD)

Is it most efficient to have a combined circulation/photocopying service desk or separate desks and staff for each function? Karla Block (JOD)

How can we identify the non-users of the hospital-based library, why and what, if anything, can we do about them? Are there groups that are common non-users in the hospital-based library, eg. allied health staff or administrative staff? Elizabeth Bell (AR)

What is the cost of providing the literature to support a Systematic Review? Ruth Sladek (AR)

Are free Interlibrary Loan networks more cost effective than commercial Document Delivery suppliers? Ruth Sladek (AR)

When Government Departments/Organisations cancel their library services, what replaces them and at what cost? Ruth Sladek (AR)

How do we measure the appropriateness and effectiveness of performance management tools in health libraries: e.g. KPI's, benchmarks, best practice scorecards? John Holgate (AR)

Health information centers are a growing trend in hospitals and the medical field. Are they best kept separate from health sciences libraries or is there a benefit to merging the two facilities? Evonda Copeland (MH)

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Traditional information retrieval system searches, OPAC searches, and web searches were similar in that there was little use of advanced searching features. Further, web and traditional information retrieval system users viewed only about ten documents and used only two terms per query. Web sessions were very short with only two queries. Traditional information retrieval sessions were much longer. The authors propose a framework for future analysis of web searching and conclude that people search the web in a different way than they search traditional information retrieval systems and OPACS.

Considering these results and the evidence that the web can successfully be used to answer reference questions, reference librarians should be pro-active in learning web search technique and in teaching and helping users search the Internet.

Covi, Lisa M. Debunking the Myth of the Nintendo Generation: How Doctoral Students Introduce New Electronic Communication Practices into University Research. *Journal of the American Society for Information Science.* 521(24):1284-1294, December, 2000.

The "Nintendo generation myth" is the popular idea that technological innovation is generational.

Today's young adults have grown up having a PC at home, using educational software, and playing computer games. Hence, the new generation of students is more comfortable and skilled with technology than are their faculty advisors and are, therefore, prepared to transform research disciplines as they use the electronic communications skills they grew up with.

This study appears to be based on the author's dissertation. Interviews were conducted with a purposive sample of twenty-eight advanced doctoral students and their faculty advisors at eight diverse research universities. Faculty/student pairs were drawn from the disciplines of molecular biology (9), literary theory (4), sociology (3), and computer science (8). Interviews were conducted in early 1995, using a pre-tested interview schedule.

Covi's examples of electronic communications are e-mail, WWW, electronic journals, bibliographic databases, and OPACs. According to her, two major factors influence doctoral students' ability to have an influence through electronic communications technology: the discipline's general openness to new work practices by doctoral students (as operationalized by paradigms) and level of resources available in the department for experience with electronic communications technology. Paradigms concern a discipline's consensus about theory, methodology, and training. Molecular biology is high paradigm; the other three, low. In high paradigm fields, doctoral students mimicked their advisors' use of electronic communications. Low paradigm doctoral students did introduce new communications practices into the research environment. Molecular biology doctoral students knew how to use computers but had to be trained by their advisors in computer-based research skills. Surfing and other extraneous time spent on the computer was considered a waste of time by molecular biology advisors. Doctoral students did introduce new wet lab techniques that reinforce existing work practices. Literary theorists used both print and electronic techniques. There were a great deal of print and fewer electronic resources available to sociologists.

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Evidence-Based Librarianship Implementation Committee (EBLIC) members:

Eva Alopaeus (EA), Kliniska Centralbiblioteket, Goteborg, Sweden
 Liz Bayley (LB), McMaster University, Hamilton, Ontario, Canada
 Deborah Blecic (DB), University of Illinois at Chicago, Chicago, IL, US
 Andrew Booth (ABo), University of Sheffield, Sheffield, UK
 Anne Brice (ABr), Oxford University, Oxford, UK
 Ann Brooks (ABro), University of North Texas, Fort Worth, TX, US
 Suzetta Burrows (SB), University of Miami, Miami, FL, US
 Pamela Corley (PC), University of Southern California, Los Angeles, CA, US
 Jo Dorsch (JOD), University of Illinois at Chicago, Peoria, IL, US
 Jon Eldredge (JE) (Chair), The University of New Mexico, Albuquerque, NM, US
 Martha (Molly) Harris (MH), Veterans Evidence-Based Research Implementation Dissemination Center (VERDICT), San Antonio, TX, US
 Bruce Madge (BM), The British Library Health Care Information Service, London, UK
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 Jessie McGowan (JM), The Ottawa Hospital, Ottawa, Ontario, Canada
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 Addajane Wallace (AW), Halifax Medical Center, Daytona Beach, FL, US

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Computer science students, as would be expected, used electronic resources extensively, at the expense of print. Computer science advisors did not necessarily use electronic resources as much as the doctoral students but had no objection to their students' use of the new technology. Students were encouraged to experiment and to be entrepreneurial.

Literary theory and sociology were low resource departments. Doctoral students did not have advisors' research grants to support their living stipends and research, as did molecular biology and computer science doctoral students. They worked at home and often had non-research jobs. On-campus offices were shared and were not equipped with the latest technology. Library resources were good.

Covi found that doctoral students were not universally instrumental in introducing the use of electronic communications technologies into the research atmosphere. (She makes the interesting observation that when senior faculty became "energized" by younger people, it was by providing computers and Internet service providers for their own children at home.) Her conclusion is that "the introduction of electronic communications practices in research disciplines by doctoral students is more likely in low paradigm, high resource disciplines." Logically young people in computer science are very oriented to using computers. Are there other low paradigm high resource disciplines that sustain this finding? Would the findings differ radically if the study were repeated now when use of electronic communications technologies is almost ubiquitous in large research universities?

As a medical librarian, I wonder what induced senior molecular biology faculty to adapt new technologies and to teach their doctoral students. What is the source of innovation in electronic communications technologies in education and doctoral study for the health professions? I would expect health sciences librarians play a major role.

Thomas, David H. The Effect of Interface Design on Item Selection in an Online Catalog. *Library Resources & Technical Services*. 45(1):20-46, January, 2001.

This very long article appears to be a summary of the author's 1997 dissertation. He points out that "screen content and layout of online catalog interfaces have been designed almost entirely based on expert opinion, with little use of empirical data on user preferences." In this study he looks at the relationship between content and layout of bibliographic displays and the effectiveness of the interface.

He reviews the literature on library catalog performance, human factors research and interface design, and cognitive aspects of users' use of an interface. Eighty-two freshmen subjects were randomly assigned to one of

four groups. Each subject selected a set of items of potential relevance for a hypothetical term paper and to select items from twenty bibliographic records, based only on screen information, for further examination. Each item viewed was rated useful, not useful, or not enough information to decide. Participants also indicated which MARC fields were useful in deciding. The topic was big band music and the music of Duke Ellington. The same bibliographic records were presented with differing data elements (standard screens or brief screens with enhanced topical content) and screen layouts (labeled or unlabeled). The system logged each participant's actions. Nearly 6000 log entries were analyzed. Screen type (index, brief, or full) was recorded. Length of time spent on each screen and which record was viewed were recorded.

Results for three hypotheses concerning screen content, two hypotheses on screen layout (absence or presence of labels), and two on the relative value of data elements to relevance judgments are discussed. Conclusions are that, for enhanced topical content, brief screens were sufficient to make a decision; having labels did not affect time to complete the task; and the title, subject, and summary, when present, were most frequently used to determine relevance.

In his recommendations for future research, he suggests that the effect of users' knowledge of the content and structure of bibliographic records affects performance. MEDLINE training always includes a discussion of MeSH indexing techniques. Descriptive fields are covered in cataloging classes. Should our end user training include a discussion of citation format and content and MeSH indexing?

Pettigrew, Karen E. and Lynne (E.F.) McKechnie. The Use of Theory in Information Science. *Journal of the American Society for Information Science and Technology*. 52(1):62-73, January, 2001.

Although a number of content analyses done since 1950 on the literature of library and information science overwhelmingly suggest that the vast majority of information science research is not theoretical, Pittigrew and McKechnie feel further work is needed. The current work is a content analysis of 1160 articles published from 1993 to 1998 in *Information Processing and Management*, *Journal of the American Society for Information Science*, *Journal of Documentation*, *Journal of Education for Library and Information Science*, *Library and Information Science Research*, and *Library Quarterly*. These journals were chosen because they "contain peer-reviewed articles that cover most areas of research interest within information science."

Primary author's affiliation, broad subject matter, type of article, source of theory (information science, science,

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social science, or the humanities), and where the theory was mentioned in the article (title, abstract, text) were recorded. If the author proposed a new theory, that was noted. In order to be considered a theory, the author had to describe it as such, using terms such as concepts, framework, grounded, or underpinnings to describe an idea, view, or approach. Although the authors wanted to operationalized theory as broadly as possible, conceivably they may also not have coded some users of theory because of their confining themselves only to the author's descriptive context. They also looked at bibliographic references for the eleven most frequently cited information science theories and searched those references in IS citation indexes to see where the information science theories were being cited. Intercoder reliability was 94.7%.

The primary authors of 54.7% of the theory articles were affiliated with an information science school or library. It is unclear how someone working in a library outside academe would have been coded. Furthermore, it would have been very informative to separate information science practitioners from information science academics. Twenty-one per cent of the mentions were from affiliations described as "sciences." It is unclear if this includes only university scientists, since private sector and government are also categories of affiliation. Three hundred ninety-six articles (34.1% of the articles) used theory (as they define it) in the title, abstract, or text with 1083 total incidents of theory identification. 47.4% of the articles in *Library and Information Science Research* contain theory; 23.9% of *Journal of Education for Library and Information Science*; 26.7% in *Journal of Documentation*; and about 35% in each of the other three journals. The majority of the theories found were from the social sciences, followed by information science, science, and the humanities. Eighty-four authors proposed new theories.

The most frequently cited theories were Bates' Berry Picking, Welkin et al.'s *Anomalous States of Knowledge*, Dervin's *Sense Making*, Ellis's *Information Seeking*, Harter's *Psychological Relevance*, Ingwerson's *Cognitive IR Theory*, Kuhlthau's *Information Search Process*, Salton's *Vector Space Model*, Schamber et al.'s *Theory of Relevance*, Taylor's *Information Needs and Negotiation*, and Wilson's *Situation Relevance*. These eleven theories generated 2098 citations, 79.9% of which were in information science publications. Science had 15.7% of the cites, with only a low number of cites in other fields.

They conclude that theory "may play a stronger role than previously observed in the information science literature." The paper is disappointing in that it does not establish the number of articles that have a theoretical base. Also it is unclear if theory articles are written by academics or practitioners and if academics write predominately theory based articles when they do write. •

MLA

Research Section

Section Web Site Finds a New Home At MLANET

The Research Section Web site has moved to MLANET as of March 2001 and is now located at

<http://research.mlanet.org>

Please update your links and bookmarks to reflect the new URL.

Many thanks to Gary Byrd for hosting the site since Fall 1997 under the auspices of the Library Consortium of Health Institutions in buffalo.

Please contact the Web editor, Kristin Stoklosa, at stoklosa@fas.harvard.edu, if you wish to submit content or have suggestions for the site.

(EBLIC—Continued from page 14)

Can we prove that librarians are more effective at answering reference questions and running literature searches than library technicians? Jessie McGowan (LB)

How much does it cost to provide library services for a new master's program? Sue Stigleman (MH)

How do you measure the effectiveness of reference services (not just via email)? Sue Stigleman (MH)

Is it really beneficial to have the health sciences library, as a department, manage the hospital's book and journal purchases system wide? Evonda Copeland (MH)

How could we design a study to demonstrate the financial impact on a hospital of having information readily available vs. those who do not? [Note: see the discussion at the MLA Executive Board February 2001 meeting where this issue was addressed—JL] Jan LaBeause (JE) •

Please see the bottom of page 15 for a listing of EBLIC members and their affiliations.

(Transaction Log Analysis—Continued from page 5)

Strategy lines are not numbered. Numbers at beginning of lines are numbers of references retrieved by that line of strategy. The last line shows the exact references selected from the first twenty that were examined from the total set of 85.

.tw. = textword
 exp = "exploded" MeSH
 * = "focus" or major MeSH
 /= MeSH

Discussion

This searcher may have been satisfied with this retrieval, even though librarians may find that strange. Of course, the search could have been refined and enhanced by limiting to major journals, document types, and many other parameters. S/he appears to be looking for the use of captopril in congestive heart failure. Ovid suggested "mapping" the textwords to HEART FAILURE, CONGESTIVE and the searcher chose the offered options of exploding and limiting to major MeSH. Reproducing the search may show why the eleven references were selected. Since the retrieval is displayed in descending chronological order, s/he may have found enough good, recent articles in the first twenty references (and in nine minutes).

Questions that may be answered from a transaction log analysis:

- number of searchers in the time period
- minimum, maximum, average number of simultaneous users
- proportion of users on and off campus (dependent on network setup)
- minimum, maximum, average time online
- minimum, maximum, average lines of strategy
- databases searched
- date range of databases searched (especially if databases are divided by date)
- usage of:
 - authors
 - textwords
 - MeSH
 - other fields

- references printed
- retrieval downloaded
- retrieval sent to email
- usage of:
 - "mapping" to MeSH
 - exploding MeSH
 - limiting to "focus" (major MeSH)
- usage of features:
 - limiting to language, human subjects, sex, age, journal subsets, dates, et al.
 - cross-database searching (if available)
 - saving strategy
 - creating SDI – automatic weekly running of strategy

A big question that emerges: how does this reflect on training? Librarians need to ascertain what proportion of potential searchers have attended classes. Is there sufficient documentation online? Or in print materials? Qualitative observations from the analysis may lead to follow-up with previous class attendees to ask what successes or problems they are experiencing. Brown-bag sessions could be arranged, to encourage searchers to share suggestions and bring up difficulties. Librarians who have performed a transaction log analysis will be better informed in designing classes and helping users. •

References

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MLA 2001—Research Section Program

The Research Process: Skills Needed

Invited speakers will discuss the various aspects of the research process—proposal idea, collecting data, analyzing, and reporting on the results.

Sunday, May 27th, 4:00 pm—5:30 pm

From Idea to a Research Plan: How to Get Started

Co-sponsored Session with Consumer and Patient Health Information & History of Health Sciences Sections

Contributed papers on how people have accomplished research: getting started, collecting data, analyzing, and reporting the results.

Wednesday, May 30th, 9:00 am—10:30 am

BYLAWS COMMITTEE REPORT
PROPOSED AMENDMENTS

The following are the proposed Research Section Bylaws Amendments for 2000-2001. The proposed changes bring the Research Section Bylaws into line with the recent restructuring of the MLA Section Council, renumber those Articles affected by the new language, add a new Article concerning the Dissolution of the Section, and correct a few of typographical errors.

These proposed changes will be voted upon by the Research Section membership during the Annual Business Meeting in Orlando. Please address any questions or comments to Andrea Ball, Section Bylaws Chair.

CORRECTION:**ARTICLE III. MEMBERSHIP**

Section 2. Rights and Privileges

All Section members may vote on matters relating only to the Section and for elective officers of the Section. Only Voting Members of MLA shall be qualified to move or to vote on recommendations to the Section Council regarding MLA policies or actions, to vote on the selection of a candidate for the MLA Nominating Committee, or to vote on the selection of the Section's Representative and [*Alternate Representative*] Representative-Elect to the Section Council.

CORRECTION / TYPO:**ARTICLE V. ELECTED OFFICERS**

Section 1. Officers and Term of Office

A. Elective officers of this Section shall be a Chair; Chair-Elect; and Immediate Past-Chair; a Secretary-Treasurer; a Section candidate for nomination to the MLA Nominating Committee; and a [*Representative to the MLA Section Council; an Alternate-Representative to the MLA Section Council,*] and a Representative-Elect to the Section Council. All elective officers shall be Regular Members [of] or Fellows of MLA.

TYPO:

B. The term of office of the Chair shall be one year as Chair-Elect, the next year as Chair, and a third successive year as Immediate Past-Chair to take effect at the close of the Annual Meeting following their election and serve (unless they resign, die, or are removed) until their successors have been chosen and have assumed their duties. No one may serve more than two full or partial successive terms as Chair or Chair-Elect.

CORRECTION:

[*E. The term of office of the Representative to the Section Council of MLA shall be three years beginning at the close of the Annual Meeting following their election and serve (unless they resign, die, or are removed) until the close of the Annual Meeting at the end of the term of office, or until their successors have been chosen and*

have assumed their duties, except that if the Section Representative's term be made shorter by action of the Council or the Bylaws of MLA, the term will coincide with that action.

F. The term of office of the Alternate-Representative to Section Council shall be identical to that of the term of the Representative.]

E. The term of office of the Representative to the Section Council shall be three years, a one-year term as Representative-Elect, and a two-year term as Representative, except that if the Representative's term be made shorter by action of the Council or the Bylaws of the Medical Library Association, the term will coincide with that action.

RENUMBERED:

ARTICLE V, Section 1, Part E – BECOMES – Part F

CORRECTION:

Section 2. Duties

E. The duties of the [*Alternative –Representative*] Representative-Elect of the MLA Section Council are to attend, if possible, all Section Council meetings and to carry out the duties of the Representative when he/she is unable to attend, and to assume the office of Representative and serve out the unexpired term should the Representative become unable to complete the term of office.

CORRECTION:

Section 3. Vacancies

B. A vacancy arising in the office of Representative to the Section Council shall be filled by the [*Alternate Representative*] Representative-Elect, who shall cease to be [*Alternate Representative*] Representative-Elect, and shall serve out the unexpired term of the Representative. A new [*Alternate Representative*] Representative-Elect from the Section shall be selected by the Executive Committee to serve the remaining term of the [*Alternate Representative*] Representative-Elect who is being replaced.

TYPO:**ARTICLE VI. COMMITTEES**

Section 2. Committee Chairs

Chairs of standing and special committees are appointed by the Section Chair with the advice of the Executive Committee.

ADDITION:**ARTICLE VI. DISSOLUTION**

In the event of dissolution of this Section, all liabilities and obligations shall be paid or adequate provision made for payment. Remaining assets shall revert to the MLA General Fund.

RENUMBERED:

ARTICLE VII – BECOMES – ARTICLE VIII

ARTICLE VIII – BECOMES – ARTICLE IX

HYPOTHESIS

THE NEWSLETTER OF THE RESEARCH SECTION OF MLA

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