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Hypothesis

The Journal of the Research Section of MLA



Hypothesis

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COLUMNS

Co-Editors' Column
Deidra Woodson and I. Diane Cooper..... 4

Chair's Column:
Information Delivery Advances Bring
Research Opportunities
I. Diane Cooper..... 5

Literature Review Column
Ruth Fenske 6

The Research Mentor:
Creativity in Research: An Introduction
Jonathan Eldredge..... 11

Dissertation and Thesis Round-Up
Ellen Detlefsen..... 13

ARTICLES

Judging Research Posters and Papers at the
2010 MLA Annual Meeting
Kristine Alpi and Ruth Fenske 16

RESEARCH SECTION NEWS

MLA 2010 Meeting Research Awards 18

CHAPTER NEWS

South Central Region Recognizes
Excellence in Research 23



Cover art (from the *Images from the History of Medicine* database by the National Library of Medicine):

People are in a line to the side of a consultation free, doctor's office booth; men are sitting at a drug store counter; a graphic insert is the outside of the building with the window sign saloon crossed out and drug store written underneath.

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CO-EDITORS' COLUMN

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After a brief summer hiatus, the *Hypothesis: The Journal of the Research Section of MLA* has resumed publication with two new editors: Deidra Woodson, Metadata & Digitization Librarian at the Louisiana State University Health Sciences Center-Shreveport Medical Library, and Diane Cooper, Informationist at the National Institutes of Health Library and Chair of the Research Section. The new editors would like to present their first *attempt* at producing the *Hypothesis*. With their first attempt, comes a new look for the journal, along with a few new sections.

Although they featured an historical image on the cover keeping with tradition of previous issues, the editors decided to change the overall design of the journal by introducing a new color scheme: a soothing green palate. The co-editors also included the same familiar columns that have become established parts of the *Hypothesis*: the "Chair's Column," the "Literature Review" by Ruth Fenske, the "Research Mentor" by Jonathan Eldredge, and the "Dissertation and Thesis Round-Up" by Ellen Detlefsen. In addition to the recurring columns, the editors have included two new sections: the "Co-Editors' Column" so that the editors can introduce each issue and the "Chapter News" section so that the Research Committee Chairs of the MLA chapters can report news from the regional level.

Cooper introduces the issue with her column about new technologies changing the way information is delivered, which in return provide librarians with unique research opportunities. Fenske follows with her review of current topics discussed in the Library

and Information Science literature. In this issue's column, she reports on new reference classification systems, handheld devices used to access library resources, and consumer health information. Eldredge begins a new series in his column entitled "Creativity in Research," in which he will attempt to define creativity and discuss how it might be applied to the rigid structure of research. Detlefsen provides a bibliography of dissertations and theses across multiple disciplines, published within the last year, that are of interest to library professionals.

Kristine Alpi and Ruth Fenske, Awards Committee Co-Chairs (2009-2010), submitted an article that discusses a few problems encountered with the judging process at the MLA 2010 Annual Meeting, namely the issues with judging the newly-introduced lightning posters and a flaw with the 'research indicator' used to identify research presentations at the conference. Following their article is a list of the research award recipients at the MLA 2010 Annual Meeting and a list of the Elizabeth K. Eaton Research Award winners at the South Central Chapter of the Medical Library Association (SCC/MLA) 2010 Annual Meeting, which is the first installment of the new "Chapter News" section.

The new co-editors would like to congratulate all of the winners and are honored to feature their names in *their* first issue of the *Hypothesis*.

Winning is the science of being totally prepared.
George Allen, Sr.

CHAIR'S COLUMN

I. Diane Cooper, MSLS, AHIP
National Institutes of Health Library

Information Delivery Advances Bring Research Opportunities

Smartphone sales rose nearly 100% in the third quarter of 2010 compared to the same period in 2009. The first palmtop computer-style smartphone, Nokia 9000, had been introduced in 1996, and a flood of innovations followed. In 2002, the Blackberry was introduced. It was optimized as a tool for email, advertised for the business person, and was very successful. The iPhone came out in 2007 and with its debut came a high consumer demand because of the different software applications (apps) available. Now these smartphones are replacing other consumer devices such as the MP3 players, digital cameras, handheld video games, GPS devices, regular cell phones, watches, PDAs, and even PCs [1]. For many, smartphones will also become their principle portal to the medical library.

I remember when my job as a medical librarian was to be in the library and wait for the clinicians to either come to the library or call me for information. That was not too long ago. Now many clients who come to our library for orientation want to know the latest library apps to access information themselves with their smartphones.

The way we, as librarians, provide information changes along with availability of new technology such as the smartphone. I don't wait in the library so much anymore. We are creating apps for our patrons. When not doing that, I am often outside of the library on rounds or at conferences where I find information for clinicians in their work environment and send it to them electronically. I can see for myself that more and more of our patrons want information at their fingertips, electronically and quickly. And more often than not, they have their smartphones in their lab coats. It's a different world from not too long ago.

Besides smartphones, another advance that can affect us is electronic health records (EHR) for patient care. The Medicare agency expects EHRs to be in place and used by 75% of clinicians within six years. Of interest to librarians, a mandated element in EHRs is that it must have at least one decision support tool. That means it's very likely that clinicians at your workplace will be using decision sup-

port tools, and while we may or may not be the ones to supply the tools, we should have enough knowledge to discuss them and be prepared to participate in local research that evaluates them.

The push toward EHRs and the development of apps for mobile devices now makes it easier for clinicians to access information immediately. Most apps now can work on multiple device platforms, the Blackberry or the iPhone, for example. Smartphones are proving to be particularly useful because of their connection capability to the Internet, according to Dr. Joseph Kim, an internist and blogger on medical apps for physicians [2]. He notes that more physicians are now using their smartphones just for the Internet connectivity, where they can quickly pull up an article within 30 seconds via a Google search. A client of our library, an Indian Health Service physician in rural Alaska, accesses clinical information at work with his computer but does not have broadband access outside of the main clinic. He uses an iPad and a cellular network to connect to information he needs elsewhere.

It seems most of a clinician's professional life will soon be either directly interacting with patients or looking at a screen, and more often it will be a handheld screen. The smartphone Internet capability, along with a few apps for drug information and for peer-reviewed, evidence-based clinical data, and the PC or other connectivity for EHRs in offices and hospitals are transforming how information is being used in the clinical setting.

This changing technology provides new challenges and opportunities for health sciences librarians to create, manage, and disseminate information. Challenges are not new for us. The concept of facing a new world of information technology has always been a part of librarianship. A look through the archives of the *Hypothesis: the Journal of the Research Section of MLA*, shows this challenge and its connection to research in our field.

- In the 1992 winter issue, Ruth Holt commented "a process can be defined for identifying the information needs of the customer. Problems

CHAIR'S COLUMN, continued

identified by the customer can be diagnosed and resolved using the appropriate analytic tools.”

- In the 1995 fall issue, Jocelyn Rankin, in her Research Section's Chair column wrote, “How often do we ask ourselves if a particular library project [service] effectively responds to the needs of a particular client? These questions form the background for what, when formalized and placed in a study design framework, becomes... research. In today's Information Age, the research problems are certainly there for us in abundance.”
- In the 2008 fall issue, Jon Eldredge interviewed a seasoned library researcher, Jo Dorsch. When he asked her where she found ideas for research projects, she responded that she had to look “no further than her work.” She continued, “Measuring the results and effectiveness of projects and sharing it through research articles adds value to my contributions. Librarians

should be contributing to the evidence base of our profession.”

The rate of change in our world is accelerating. We have the chance to connect users to clinical information when and where they need it. These advances offer opportunities for evaluation of how the information is provided. It is up to us to understand and examine the new challenges of our new world. Who better to be experts in this revolution than librarians? These new technologies offer us a means to contribute to our profession by defining the questions, finding the evidence, appraising the evidence, and applying the results of appraisal to change and to continue the redefinition of our library profession.

1. 24/7wallstreet.com. The ten businesses the smart-phone has destroyed [Internet]. 2010. [cited 15 Nov 2010]. <http://247wallst.com/2010/11/11/>
2. Kim, J. Interesting stats about the “mobile dev ice explosion” [Internet]. 2010. [cited 15 Nov 2010]. www.medicalsmartphones.com

LITERATURE REVIEW

Ruth Fenske, PhD, AHIP

Grasselli Library, John Carroll University

Neville TM, Henry DM. *Reference classification—is it time to make some changes?* *Ref User Serv Q.* 2009 Spr;48(4):372-83.

Gerlich BK, Berard GL. *Testing the validity of the READ scale (Reference Effort Assessment Data): qualitative statistics for academic reference services.* *Coll Res Libr.* 2010 Mar;71(2):116-35.

Two articles about tests of new reference classification systems have appeared.

Neville and Henry, of the University of South Florida at St. Petersburg, conducted a comparison of the ease of use and consistency of the traditional Katz system (directional, ready reference, specific search, and research) with the 2001 system suggested by Warner. The Warner system classifies

questions into nonresource-based, skill-based, strategy-based, and consultation. Warner developed this system while working at the East Carolina University Health Sciences Library.

The present study was conducted in two stages. First the two authors wrote down each reference question they answered and immediately assigned a Warner code. Questions were entered into a spreadsheet and given to the other author without the originally assigned code. Codes were then compared. Results were that only 189 (13%) of the codes for 1473 recorded questions varied between the two coders. Further, each coder had an internal consistency of approximately 90%. No details about which types of questions caused the inconsistencies are given.

LITERATURE REVIEW, continued

The second part of the study was an online survey sent out on libref-l, public, and the Florida Library Association discussion lists. One hundred fifty-three usable responses were analyzed. In this study, participants were first given an explanation of the Katz categories and then asked to classify twenty questions. Respondents were also able to say they didn't consider a question to be a reference question or that they were unable to classify a question. They were then given an explanation of the Warner categories and asked to classify twenty matching questions. Responses were nearly equally divided between public and academic libraries. Age of respondents was consistent with the population of librarians, and years of professional experience represented a good mix. Respondents were not able to classify 5.5% of the questions into Katz categories and 1% of the Warner questions. Technology questions caused most of the problems with the Katz system, and a library security question was a problem with both systems. Consistency among respondents was much better for the Warner system. In both systems, questions having to do with OPAC searching and complex searching resulted in considerable variation. The authors speculate that this may be related to differences in perceived difficulty, based on librarians' expertise, experience, and available resources. Responses to an open-ended question did not reveal any clear-cut preference for one system over the other. The article contains a number of references to work being done on the classification of reference questions.

Gerd and Berard tested the validity of the READ (Reference Effort Assessment Data) tool, developed at Carnegie Mellon, for recording reference statistics. The READ system is a 6-point scale that considers effort, knowledge, skills, and teaching used in answering reference questions. It can be used in conjunction with the traditional time-of-day and mode of asking (in person, phone, e-mail, etc) data collection forms. Although a sample form is given, it's not clear exactly how data are collected. Librarians are directed to record both on- and off-desk questions. The READ method does not separate out nonresource-based questions, but it can be used with systems that distinguish between directional and reference questions.

One hundred and seventy librarians at fourteen universities of varying sizes participated. No information is given about how participating libraries were

recruited. First, onsite coordinators conducted a training exercise designed to familiarize librarians with use of the scale. Here again, they found the most variation in rating for the middle categories. As did Neville and Henry, they concluded that the degree of difficulty is in the eye of the beholder.

Then the fourteen libraries collected data from February 4-24, 2007. Seven continued data collection for the entire spring semester. A total of 9970 transactions were recorded. Most on-desk questions during the three-week study were classified in the two lowest categories. Although only seventeen librarians did record off-desk questions, 1531 off-desk questions were recorded. Off-desk questions required a much higher level of effort, knowledge, and skills. Over 15,000 questions were recorded by the seven libraries that collected data for the whole semester. Required level of expertise, knowledge, and skill increased as the semester went on. Participants were sent an online survey about the ease of use. There were 102 responses. Just over 50% did not find the READ scale to be difficult to use, and about the same percent found it easy or very easy to apply. Eighty percent felt the method added value to reference statistics data collection. Distinguishing between the middle two of the six categories was the most difficult. Eighty percent would recommend its use in their library, with or without modification. Twenty-four respondents made a suggestion for modification.

Although these two articles present different ideas about how the definition of categories for the description of services at a reference desk should be changed, they both point to the fact that change is possible. Their discussion raises thought provoking points worthy of the attention of reference librarians who record data on reference use.

Stephens MB, Waechter D, Williams PM, Williams AL, Yew KS, Strayer SM. Institutional support for handheld computing: clinical and educational lessons learned. Med Ref Serv Q. 2010 Jan-Mar;29(1):25-36.

The Uniformed Services University of the Health Sciences has been distributing PDAs to incoming medical students since 2000. In 2007, a group of authors from the Department of Family Medicine surveyed the 2003-2007 classes on the nature and amount of use of their PDA. The survey is described

LITERATURE REVIEW, continued

as being “semistructured.” The article doesn’t include a copy of the questionnaire.

Of 1091 individuals contacted by e-mail, 567 (52%) responded. The most frequent advantage of having the PDAs, cited by 70% or more of both student and alumni respondents, was improved efficiency. Improved quality of care, facilitated learning, and improved clinical knowledge also scored high with both groups. The biggest problem was lack of training, especially among the student respondents. It is unclear if the lack of training refers to the lack of training in how to use the device or if it is lack of training in accessing the information available on the PDA. The most common clinical uses were to check medication doses, to access medical references, and to do medical calculations. Table 4 lists specific software requests for use with the PDAs. It is unclear if this refers to software that was not on the PDA or what.

It is unclear if respondents were asked to respond in reference to their current use of the PDA issued to them as a student or if they were responding to any use they had ever made of the PDA issued to them as a student. The study is described as being a “prospective study,” but it is unclear what this means.

Despite these unanswered questions, this study shows that a significant proportion of the respondents are using an electronic device for various clinical applications, including accessing information. This validates the push among health sciences librarians to provide information services via mobile devices.

Nazi KM. Veterans’ voices: use of the American Customer Satisfaction Index (ACSI) to identify My HealthVet personal health record users’ characteristics, needs, and preferences. J Am Inform Assoc. 2010 Mar;17(2):203-11.

Leroy G, Mitter T. Perils of providing visual health information overviews for consumers with low health literacy or high stress. J Am Inform Assoc. 2010 Mar; 17(2):220-3.

Leithner A, Maurer-Ertl W, Glehr M, Friesenbichler J, Leithner K, Wirdhager R. Wikipedia and osteosarcoma: a trustworthy patients’ information? J Am Med Inform Assoc. 2010 Jul-Aug;17(4):373-4.

Harris R, Henword F, Marshall A, Burdett S. “I’m not sure if that’s what their job is”: consumer health information and emerging “healthwork” roles in the public library. Ref User Serv Q. 2010 Spr;49(3):239-52.

Zionts ND, Apter J, Kuchta J, Greenhouse PK. Promoting consumer health literacy: creation of a health information librarian fellowship. Ref User Serv Q. 2010 Sum:49(4):350-9.

Several articles about consumer health information and literacy have appeared.

Nazi reports on a formative evaluation of the Veterans Health Administration My HealthVet personal health record introduced in 2003. The goal is to empower the veterans as health care consumers. Among other services, access to “trusted” patient health education, including topics of special interest to veterans, is included. From October 2007 to October 2008, pop-up surveys were presented to a four percent random sample of users who visited four or more pages. It is not clear if participants had visited four or more pages in that one session or if they had a cumulated use of four or more pages. There were 100,617 (17.2%) responses. The average satisfaction rating was 8.3 on a 10-point scale. This is very high for a service that doesn’t offer access to medical records and doesn’t allow scheduling and viewing appointments. The most frequent reason for the visit (75%) was to refill a prescription. Eighteen percent were looking up information about a medication. No data are presented on the use of any other health education resources that might have been there. Ninety-one percent of the users had access to high-speed internet; perhaps users don’t see the need for health education or they bypass the “trusted” health education information in favor of looking on the open internet. It would be interesting to know more about the nature of the information offered, the extent of use of these health information resources, and the online learning modules that are offered. Personal health records would seem to be an ideal venue for provision of links to health information relevant to a particular person.

Leroy and Miller developed what they call a health topics overview (hto). Noun phrases in texts were automatically matched to Unified Medical Language System and Consumer Health Vocabulary concepts

LITERATURE REVIEW, continued

and semantic types. Information was then grouped into broad categories such as body parts and drugs and chemicals. Categories are presented as a type of table of contents which proceeds from the broad categories to the more specific terms. Clicking on a specific term leads to a one-line text snippet which in turn links to that passage in the text. The authors tested the effects of using the hto, health literacy, and stress on reading comprehension, as measured by a question answering task. Each member of the convenience sample was presented one set of questions on a text that used the hto and one that didn't. Each subject got one set of questions on galactosemia and one on hypothyroidism topics. The order of topics and the order of presentation of the two conditions varied from subject to subject. Prominence of the links was also varied. Subjects also answered some demographic questions and took the Rapid Estimate of Health Literacy and the Perceived Stress Scale-10. Participants were penalized for wrong answers to the fifteen reading comprehension questions.

The forty-eight participants answered 11.8 questions correctly without the hto and 11.5 questions with it. For the five hto questions for which there was a prominent link to the answer, the score was 4.3; when there was a normal link, the score was 3.6; and for the five questions with no link to the answer, the score was 3.5. This difference was statistically significant. Eighty-one percent of the subjects had completed some graduate school, making them much more educated than the population as a whole. Thirty-one of the forty-eight subjects had health literacy scores of high school level or above. Within both the non-hto group and the hto group, those with high health literacy scored higher (10.6 and 12.5 for the non-hto and 8.7 and 13.0 for the hto condition). Having more prominent hto links helped the low health literacy group but not the high group. Looking at stress, people with low and high stress scored about the same without the hto, but low stress scored higher in the hto condition. Again, having prominent links helped the high stress group but did not affect the low stress group.

Although the hto with prominent links helped people with low health literacy and high stress, it is hard to tell exactly how this system could be implemented in real life. The hto algorithm would need to be applied to documents containing information relevant to the patient. Possibly, the real problem with the low

health literacy group is some kind of learning disability or low general literacy. In that case, perhaps the information should be presented orally or audiovisually. For those with high stress, trying to read text presented in an unfamiliar format might serve to increase their stress rather than lower it. That may explain why they scored lower with the hto than without it. Another problem with this study is that there were so many subgroups that there were only very few people in some of the groups that were analyzed.

Leithner et al looked at the scope, completeness, and accuracy of information on osteosarcoma in Wikipedia and on the health professional and patient versions of the National Cancer Institute website. Three independent observers (two MDs and a medical student) answered twenty standard questions on a scale of 0-3, based on the information given on the sites and in Wikipedia. The health professional version of the NCI site got 50 of 60 possible points; the patient version, 40 points; and Wikipedia, 33 points. All three found Wikipedia to be the easiest to use. The authors suggest Wikipedia should include well-maintained links to more definitive and comprehensive aggregate and summary web resources and that medical specialists should pay attention to health information on the internet. This article adds to the growing trend toward improving the Wikipedia rather than disparaging it.

Harris et al looked at the expectations of users and library staff of the public library's role in providing health information. The study took place at a public library in the UK. Two hundred and two people who told a researcher at the door that they were there for health information that day volunteered to fill in a 34-question survey. Although over three-fourths of the respondents said they were most likely to go to the internet or their doctor for health information, 31% would be likely to go to health books and magazines and 27% to the public library. Public librarians ranked second only to doctors as trusted sources of information. This particular library is described as being run as a 'self-service' facility; however, they do have a reference desk staffed by professionals and paraprofessionals. Only four percent of the respondents expected to consult a reference librarian; most expected to look at or borrow books. Fifty-nine percent felt they had found what they were looking for that day.

LITERATURE REVIEW, continued

They also did follow up interviews with reference staff members, senior managers, and a random selection of the original respondents who volunteered to be interviewed. All three groups viewed the library being as being a first-step, available at no cost, in a neutral and non-threatening manner. They also feel that doctors don't have time to provide the information the patient needs. Library managers and staff drew the line at interpreting health information, but none of the users even brought this up.

The users, managers, and reference staff identified aspects of the collection as being the "most important resource the library provides in support of information seeking." Users were unsure about what they could expect from the library staff. In keeping with the self-service model, reference staff were expected to spend limited time with each user. Users appeared to realize that librarians didn't have much time to work with them. Staff were frustrated by the self-service model and some provided extended help to this group of users. Users also had complaints about the arrangement, availability, and depth of the health sciences collection. Although library staff seemed to know these users had special needs and wanted to meet those needs, they often did not have the required skills.

The authors were "struck by the invisibility of librarians and their work" in this self-service library. Although users had "a great deal of faith in the public library as a source of information," librarians in this library simply were not able to deliver. This is particularly egregious because Britain's national health policy has an explicit expectation that patients participate in their own care, without providing them with the needed information.

The authors are careful to point out that this is a case study, not generalizable to all public libraries. This study does a nice job of pointing out the drawbacks of empowerment, be it patient empowerment or library user empowerment.

Zionts et al address the issue of public librarians not being able to meet the expectations from the many people who turn to the library for health information. This article is an evaluation of the Pittsburgh Health Information Fellowship program.

Although public librarians are an obvious source of help for consumers seeking health information, they

often don't have the training to help. The Health Information Fellowship was created in 2006 to help public librarians in attaining "the knowledge and skills necessary to productively direct consumers to reliable health information."

After polling the front-line about what health subjects the public was asking about, an eleven session training program was designed. Twenty librarians were chosen to participate in the eleven four-hour sessions presented in early 2008. Five of the sessions were site visits to local health care facilities, agencies, and libraries. Others are listed as being online sessions presented by "NLM staff." Participants kept a journal and did readings. The final project, done by the group as a whole, was development of a procedure for reference interviews on health topics. A copy of the procedure was included as an appendix. Participants were also asked to get the Level 1 Non-Health Sciences Librarian Consumer Health Information Specialist certification from MLA. It would have been useful for what this involves to be explained in more detail. Some participants also developed a database of useful websites. That list was also included in the article. Participants have continued to meet at least quarterly and have identified and developed four additional resources. A pre- and post-survey showed considerable improvement on all five dimensions measured. Currently a replication of the program is being planned for libraries in all of Allegheny County. Three of the four authors are from the Jewish Healthcare Foundation, which did some of the needs assessment and provided the funding. This may account for the apparent confusion between MLA and NLM in the article. Nevertheless, this appears to be a successful, albeit somewhat expensive model.

With the push toward patients' participation in their own care, it is important that there be a means for consumers to find valid health information they can understand. These articles present a variety of perspectives on consumer health literacy and access to information. On one level, empowerment of the consumer is a good thing; however, empowerment without sufficient access to valid information that each consumer can understand could serve to create another huge inequity. Librarians can certainly have a major role in preventing this kind of inequity from happening.

THE RESEARCH MENTOR

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Creativity in Research: An Introduction

Researchers tend to be portrayed as peculiar people who oftentimes engage in arcane pursuits. At least that image permeates the popular imagination. The mass media moreover tends to reinforce this stereotype. Our profession places most of us in close contact with actual researchers so we generally hold far richer, nuanced, diverse, and more complex understandings of researchers and their research.

How do we in our profession conceptualize research as an activity itself? Numerous conversations with colleagues over the years suggest that we (the author sometimes included) have conceptualized research in narrow terms. These perceptions might be preventing us from a fuller understanding of research, however. Many of us have viewed research as a rigid, perhaps repetitious or even stifling, tedious, rule-based pursuit filled with bland thought. Do these images of research match reality? Those involved with research recognize the importance of strict adherence to ethical principles and guidelines. We also know that research can (and often does) operate according to firm rules that pertain to research design, hypothesis testing, and statistical tests. We additionally have to possess self-discipline to avoid introducing biases into any aspect of our research. It has taken this author many years of conducting his own research to appreciate fully that while these observations largely permeate much research endeavors, other aspects of research involve many dimensions of creativity.

The possibility that creativity can be legitimately integrated into our systematic investigations has broad implications for how we might approach research. In this first installment in a series on "Creativity in Research" in *Hypothesis* the author will first recount a travelogue that describes the unlikely catalyst for this series. He next will offer a core definition of creativity to inform subsequent installments in this series. Future columns will discuss how creativity has a tangential relationship to other subjects such as precociousness and genius. In addition, there will be speculations on the multiple junctures

in the research process in which creativity might aid productive inquiry. One future column will describe how creativity even might enhance the Evidence Based Library and Information Practice (EBLIP) process.

Perennial Creativity in the Artist Joan Miró

Following the Fifth International Evidence Based Library and Information Practice Conference (EBLIP 5) in Stockholm in 2009, the author vacationed in Spain. He based his stay in Madrid and Tarragona, making day trips from these two locales. The author had followed Spanish modern art since his teenage years, so he eagerly visited a handful of art museums in Madrid and Barcelona. At the Fundació Joan Miró in Barcelona [1], the author was able to study representatives of nearly the entire life's paintings [2] of Joan Miró (1893-1983) instead of the limited samples previously available to him in the US. By spending most of a dreary rain-soaked day in the Fundació, the author came to realize in new ways the depth and *sustained creativity* expressed in Miró's paintings beginning in his youth and continuing well into Miró's final elderly years.

When confronted with such a lengthy career of creativity one can only wonder about where such inspiration originates. What makes one person creative and an otherwise similar person in background not at all creative? How does one person sustain creativity for many years as did Miró, while another person exhibits limited expressions of creativity during a career? Is creativity a learned skill or an innate aptitude?

The stack of 1-2 inch thick books on Joan Miró that sat upon the author's coffee table while writing this column offered only a few clues to answering this perplexing question. Lancher depicts the question as unanswerable, writing, "As with all great artists, the mystery of Miró's creative process cannot be unraveled..." [3]. Malet attributes this creativity to his family ancestry of a hands-on people who lived

RESEARCH MENTOR, continued

from the earth or their physical labor coupled to “his eternally restless character that led him to investigate all the possibilities to be found in materials, forms, and colors...” [4]. Malet also reports that Miró’s passion for staying physically fit, a regimen he shared with friend Ernest Hemingway, might have given him a prolonged healthiness into old age, and that trait might have kept him youthfully creative. Beaumelle and Lubar both point to a key period in Miró’s career at mid-age when Miró resolved to completely destroy all previous conventions of existent painting and start his career afresh [5,6]. One can detect the influence of the many art schools surrounding him early in his career. At that point, one can find traces of Impressionism, Fauvism, Cubism, and Surrealism in his early artworks. After this radical transition, Miró proceeds with his own distinct style, complete with a unique visual language he termed “constellations” that remained incorporated into most of his later works.

Definitions of Creativity

Social and behavioral scientists are recurrently intrigued with studying creativity. They view it as a solvable mystery and have done much to classify and analyze what Miró’s biographer, Lancher, otherwise deemed as undecipherable. Depending on the specific disciplinary contexts, such as music or engineering, definitions of creativity as well as their expressions vary. The psychologists Sternberg, Kaufman, and Pretz have advanced probably the most durable definition this author has found for creativity as it relates to research:

Creativity is the ability to produce work that is novel (i.e., original, unexpected), high in quality, and appropriate (i.e., useful, meets task constraints)...Creativity is a topic of wide scope that is important at both the individual and societal levels for a wide range of tasks. At an individual level, creativity is relevant, for example, when solving prob-

lems on the job and in daily life. At a societal level, creativity can lead to inventions, new scientific findings, movements in art, and social programs. The economic importance of creativity is clear because new products or services – such as the Internet—create jobs. [7]

This definition incorporates many of the dimensions of creativity cataloged by various other investigators. Creativity offers original thought that transcends the mere random or incidental rearrangements of existing ideas. Creativity additionally harnesses an approach that tailors innovation to the needs of the people involved in specific contexts. Finally, creativity spans a continuum from small “c” creativity in everyday circumstances to the broader-scale implications of large “C” creativity. The author will use this definition throughout this series on creativity in research. The author furthermore hopes that this series will lead *Hypothesis* readers to find appropriate ways to incorporate creativity into their own research.

1. Fundació Joan Miró. Available from: <<http://www.fundaciomiro-bcn.org>> Accessed 20 October 2010.
2. Fundació Joan Miró. Selected paintings. Available from: <http://www.fundaciomiro-bcn.org/colecciojm_pintures.php?idioma=2>Accessed 20 October 2010.
3. Lancher C. Joan Miró. New York: The Museum of Modern Art; 1993: 9.
4. Malet RM. Joan Miró. New York: Rizzoli International Publications; 2003: 6.
5. Beaumelle A. The challenge of Miró’s ‘X’. In: Beaumelle A, Ed. Joan Miró 1917-1934. Paris: Centre de Pompidou; 2004: 19-29.
6. Lubar RS. Miró in 1934: Cubism and the subject of vision. In: Beaumelle A, Ed. Joan Miró 1917-1934. Paris: Centre de Pompidou; 2004: 52-9.
7. Sternberg RJ, Kaufman JC, Pretz JE. The creativity conundrum: a propulsion model of kinds of creative contributions. New York: Psychology Press; 2002: 1.

DISSERTATION AND THESIS ROUND-UP

Ellen Detlefsen, DLS

School of Information Sciences, University of Pittsburgh

What follows is 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-2009 to mid-2010, as found by searching the PQDT (ProQuest Dissertation & Theses) database, as well as a search of the in-house database of master's papers done at the University of North Carolina-Chapel Hill's School of Information and Library Studies. The items describe the work of both doctoral scholars (primarily those with PhD and Ed.D. degrees) and master's degree recipients (primarily those with MLIS, MA, and MPH degrees).

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 papers (marked with a *), consult the index available at <http://silis.unc.edu/research/publications/masters-papers>, and use the researcher's name for accessing the abstract and the PDF of the thesis.

As has been seen in previous compilations, there are only a few papers which deal specifically with library science or the practices of librarianship. The majority of the theses and dissertations deal with issues related to consumer or patient information behaviors and/or resources, (including health literacy and bibliotherapy), with a second large group on issues related to medical informatics, the Internet, Web 2.0, and social networking. Also, as in the past, most of this research has been done in schools and departments that do not have library and information science as their focus.

The sorting and classifying of the theses and dissertations 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 in this year's crop are the master's thesis from the University of Maryland at College Park entitled "'Beans are Bullets' and 'Of Course I Can'," which is about war-era posters from the collections of the National Agriculture Library; and the dissertation entitled "Physician in-

formation seeking behaviors," which attempts to answer the ever-popular question "Are physicians successful searchers?"

Studies on the information behaviors/practices of patients and health consumers:

A cross-cultural examination of the needs and behaviors of female caregivers of cancer patients at the end of life: A theoretical elaboration, by Johnson, Lenora, Dr.P.H. The George Washington University, 2010, 193 pages; AAT 3390643

The role of consumers in the success of the consumer driven healthcare movement, by Miller, Vail Marie, Ph.D., Case Western Reserve University, 2010, 208 pages; AAT 3394974

A church based health promotion program for older adults: Impacts on participants' religiosity, spirituality, and social support, by Pope, Katherine Holland, Ph.D., University of South Carolina, 2010, 200 pages; AAT 3413236

Mobile technologies & socio-economic opportunities for disadvantaged women: A study of information behavior in a developing nation context, by Potnis, Devendra Dilip, Ph.D., State University of New York at Albany, 2010, 231 pages; AAT 3409224

Examining sibling communication during parental health crises using social support, relational maintenance behaviors, family communication pattern, and relational outcomes, by Carwile, Amy Muckleroy, Ph.D., The University of Alabama, 2009, 105 pages; AAT 3356453

Warning---side effects may not include paying attention: Variables that effect attention to warning information in direct-to-consumer advertisements, by Fondren, Wesley Eugene, Ph.D., The University of Alabama, 2009, 101 pages; AAT 3369741

In search of a message to promote personal health information management, by Jacobs, Ellen B., Ph.D., University of Nebraska Medical Center, 2009, 248 pages; AAT 3361042

DISSERTATION AND THESIS ROUND-UP, continued

Connecting: The use of information and communication technologies by older adults in a retirement community, by Linton, Norma J., Ph.D., University of Illinois at Urbana-Champaign, 2009, 321 pages; AAT 3406779

Family and peer communication as determinants of human papillomavirus vaccination uptake, by Poston, Sarah Marisa, Ph.D., The University of Alabama, 2009, 85 pages; AAT 3356462

Effect of an educational intervention on hospital acquired urinary tract infection rates, by Smith, Sharon Lanier, D.N.P., University of North Florida, 2009, 81 pages; AAT 3374372

Studies on health literacy:

Health communication and functional health literacy: Impact on Medicare beneficiaries, by Aruru, Meghana V., Ph.D., University of Illinois at Chicago, Health Sciences Center, 2009, 253 pages; AAT 3394319

Systematic review: Wide scale evidence-based research on health literacy and health outcomes in the United States, by Consul, Anthony Jayson, M.S., California State University, Long Beach, 2009, 84 pages; AAT 1481812

Consciousness raised: Women increasing health literacy from "Our Bodies, Ourselves" to breastcancer.org, by Currie, Lindsay M., M.A., Rutgers The State University of New Jersey - New Brunswick, 2009, 95 pages; AAT 1473119

Access, health, and literacy: On becoming an informed patient, by Lackey, Dundee Carroll, Ph.D., Michigan State University, 2009, 200 pages; AAT 3381277

Revisiting health literacy and its impact on patient-physician communication, by Reddy, Reena Seelam, M.P.H., The University of Texas School of Public Health, 2009, 37 pages; AAT 1462292

Promoting health literacy concept, measurement & intervention, by Smith, Sandra A., Ph.D., Union Institute and University, 2009, 170 pages; AAT 3375168

Studies on bibliotherapy:

Use of bibliotherapy as an adjunctive therapy with bereaved children: A grant proposal, by Oppenheimer, Carol, M.S.W., California State University, Long Beach, 2010, 66 pages; AAT 1486463

Poetic justice---writing for health and emotional freedom: Creating a therapeutic writing program for the chronically ailing poor, by McGee, Rosemary S., D.M.H., Drew University, 2009, 263 pages; AAT 3364851

Bibliotherapy: An examination of school counselors' attitudes and use, by Townsend, Karen S. Moore, Ph.D., The University of Alabama, 2009, 114 pages; AAT 3390599

Studies on medical informatics:

Impact of task, structure, and environment on electronic health record adoption, use, and interoperability in hospitals, by Park, Young-Taek, Ph.D., University of Minnesota, 2010, 161 pages; AAT 3411870

Foundational studies for measuring the impact, prevalence, and patterns of publicly sharing biomedical research data, by Piwowar, Heather Alyce, Ph.D., University of Pittsburgh, 2010, 121 pages; AAT 3417405

Creating a biomedical ontology indexed search engine to improve the semantic relevance of retrieved medical text, by Taylor, William Phillip, II, Ph.D., Clemson University, 2010, 113 pages; AAT 3402558

A new biomedical image search and visual literature navigation system, by Xu, Songhua, Ph.D., Yale University, 2010, 259 pages; AAT 3414973

Interactive graphics for communicating health risks, by Ancker, Jessica S., Ph.D., Columbia University, 2009, 162 pages; AAT 3374085

An automatic method for classifying medical researchers into domain specific subgroups, by Cecchetti, Alfred A., Ph.D., University of Pittsburgh, 2009, 163 pages; AAT 3375261

Designing biomedical informatics infrastructure for clinical and translational science, by La Paz Lillo,

DISSERTATION AND THESIS ROUND-UP, continued

Ariel Isaac, Ph.D., University of Illinois at Chicago, 2009, 290 pages; AAT 3364616

Using automated methods to identify connections across biomedical terminologies, by Patel, Chintan, Ph.D., Columbia University, 2009, 139 pages; AAT 3393592

Development of a visualization and information management platform in translational biomedical informatics, by Stokes, Todd Hamilton, Ph.D., Georgia Institute of Technology, 2009, 167 pages; AAT 3414706

Studies on the Internet, Web 2.0, social networking, etc.:

Adolescents' cyberconnections: Identity definition and intimacy disclosure on a social networking site, by Jordan Conde, Zayira, Ph.D., Iowa State University, 2010, 110 pages; AAT 3403812

Is what you see what you get? Exploring the role of virtual reference icons on academic library websites, by King, Martina Murphy, M.A., University of Alberta (Canada), 2009, 193 pages; AAT MR54151

Acceptance of health services on mobile phones: A study of consumer perceptions, by Loo, Jeffery Lawrence, Ph.D., The University of North Carolina at Chapel Hill, 2009, 203 pages; AAT 3387742

Online health consultation: An analysis of CHES -- Ask an Expert service, by Lu, Hsueh-Yi (David), Ph.D., The University of Wisconsin - Madison, 2009, 153 pages; AAT 3384363

Factors affecting the successful use of Web sites, by Matheus, Anne, Ph.D., State University of New York at Albany, 2009, 123 pages; AAT 3387603

*The use of interactive text-messaging with patients by clinical research staff, by Ruswick, Claire, MLIS, The University of North Carolina at Chapel Hill, 2009.

Studies on the information behaviors/practices and education of health professionals:

Outcomes assessment in accredited health information management programs, by Bennett, Dorine,

Ed.D., University of South Dakota, 2010, 125 pages; AAT 3412232

A study of transformational change at three schools of nursing implementing healthcare informatics, by Cornell, Revonda Leota, Ed.D., University of South Florida, 2009, 277 pages; AAT 3394140

Toward an understanding of the epistemic values of biological scientists as expressed in scholarly publication, by Dunn, Kathel, Ph.D., Rutgers The State University of New Jersey - New Brunswick, 2010, 219 pages; AAT 3418758

Information practices of disaster response professionals: The preparedness phase, by Folb, Barbara L, M.P.H., University of Pittsburgh, 2010, 88 pages; available at <http://etd.library.pitt.edu/ETD/available/etd-04112010-220003/>

Willingness of nurses to learn with the use of technology: An exploratory mixed-methods investigation, by Pilcher, Jobeth, Ed.D., Northcentral University, 2010, 164 pages; AAT 3401553

Physician information seeking behaviors: Are physicians successful searchers? by Swiatek-Kelley, Janice, Ph.D., Nova Southeastern University, 2010, 276 pages; AAT 3397836

Informatics methods to understand interdisciplinary communication related to common goals in the Intensive Care Unit, by Collins, Sarah Anne, Ph.D., Columbia University, 2009, 294 pages; AAT 3386136

*Find the pulse: An analysis of the learning management system needs assessment process at the UNC School of Medicine, by Moynihan, Brian F., MLIS, University of North Carolina-Chapel Hill, 2009.

The effects of leadership and authority on cross-boundary information sharing in response to public health crises: A comparative study between the United States and Jordan, by Mulki, Fawzi H., Ph.D., State University of New York at Albany, 2009, 374 pages; AAT 3372183

Information retrieval strategies of millennial undergraduate students in Web and library database searches, by Porter, Brandi, Ph.D., Nova

DISSERTATION AND THESIS ROUND-UP, continued

Southeastern University, 2009, 126 pages; AAT 3380422

Studies on medical and special librarianship:

Library anxiety of law students: A study utilizing the multidimensional library anxiety scale, by Bowers, Stacey L., Ph.D., University of Denver, 2010, 161 pages; AAT 3411940

Development of an interactive virtual library tour, by

Hao, Shuang, M.S., Western Illinois University, 2010, 77 pages; AAT 1480044

Evaluation of the skills and qualities for a senior library director, by Garrett, William A., Ed.D., Nova Southeastern University, 2009, 142 pages; AAT 3401928

*Librarians' roles in evidence based dentistry education in the U.S. and Canada, by Gu, Xiaomei, MLIS, The University of North Carolina at Chapel Hill, 2009.

JUDGING RESEARCH POSTERS AND PAPERS AT THE 2010 MLA ANNUAL MEETING

Kristine Alpi, MPH, AHIP

William R. Kenan, Jr. Library of Veterinary Medicine, North Carolina State University

Ruth Fenske, PhD, AHIP

Grasselli Library, John Carroll University

New formats and new strategies cause some growing pains for the Research Section judging process. Beginning in 2009, a research symbol indicator appears in the conference program by presentations and posters indicated as research by the submitting author. The Research Section had advocated for the inclusion of this indicator in order to streamline the process of identifying research content for judging and to assist members who wanted to focus their attendance on research presentations. This was the first year we were able to use the indicator to identify research content prior to the annual meeting. As we proceeded to judge the identified research content at the meeting, we noticed several high-quality research posters that had not been marked as research in the program. Conversations with those authors indicated that many recalled applying the research indicator to their work. Unfortunately, we were not able to identify what caused the indicator not to appear for certain presentations. By the time we identified the problem, there was no fair way to identify and judge the affected content from those presentations, since the score sheet includes factors on the presentation style and quality.

This year was also the first year for lightning posters. Technical problems occurred with the onsite and online visuals for some of the research lightning posters, making it difficult for the judges to evaluate them. One example of this was Peggy Gross' poster "Making Sense of Breast and Ovarian Cancer in Theory and Practice: Online Information Seeking by First-degree Relatives, Survivors, and Others." In addition to these technical problems, we realized that the existing poster judging form was not appropriate for lightning posters, which are truly more like papers, but sufficiently compressed that they would need their own evaluation form rather than just using the regular form used for papers.

We decided to try to give the research posters that had been skipped a chance to be judged again by the judges of the posters that received the highest scores in the onsite judging. With MLA's assistance, we emailed all poster presenters and asked them to contact us if they presented a poster that they had indicated was research but did not receive the designation. We received 12 resubmissions (listed at the end of the article in no particular order) and distributed them to the judges using the same

poster judging form but not scoring item 14: "Does the presenter communicate significant knowledge of the research, including being responsive to questions, and provide for interested people to get more information?"

The judges found that they were much more critical in evaluating posters from the digital versions without the time constraints induced by the in-person judging and therefore none of the posters judged in the second round garnered higher scores than in the original onsite judging of posters. Having seen several of these posters in person without judging them, it seems that they might have been competitive with the award winners had they been judged onsite. We apologize to these authors. We are working diligently with MLA to resolve this issue and ensure that the research indicator will reliably guide members and our judges to the high-quality research content that MLA members contribute at the annual meeting. For 2011 submissions, instead of a checkbox indicating research, authors are required to select the type of research or "not research" from a pull-down menu and that information will appear with the submission.

Lightning posters were difficult to judge because they went by very quickly and the slides were not always easy to read. Advance or post-event judging of lightning round presentations was not feasible this year. In order to facilitate future judging, all slides need to be available further in advance of the meeting and with more flexible viewing tools to see the details that would have been evident during the live presentation.

List of Resubmitted Posters Author-Designated as Research

- ***Changes over Time in Number of Journal Articles Read, Use of Information Resources, and Confidence in Critical Appraisal Skills for Resident Physicians***

Martha F. Earl, AHIP, Assistant Director; **Cynthia J. Vaughn, AHIP**, Clinical Information Librarian, Preston Medical Library; **Eric Heidel**, Graduate Research Assistant; **Eddie Moore**, Professor and Associate Dean, Office of the Dean; Graduate School of Medicine, University of Tennessee, Knoxville, TN

- ***Mapping the Vision Science Literature.***

Maureen M. Watson, AHIP, Optometry Librarian, College of Optometry, Ferris State University, Big Rapids, MI; **Judith S. Young**, Librarian, Dixon Library, School of Nursing, Abington Memorial Hospital Dixon, Willow Grove, PA; **Gale A. Oren, AHIP**, Librarian, Kellogg Eye Center, Henderson Library, University of Michigan, Ann Arbor, MI; **D. J. Matthews**, Director, Library Services, M. B. Ketchum Memorial Library, Southern California College of Optometry, Fullerton, CA; **Elaine Wells, AHIP**, Library Director, Harold Kohn Vision Science Library, College of Optometry, State University of New York, New York, NY; **Cindy Hutchison**, Director, Library Services, Library, New England College of Optometry, Boston, MA; **Rosemary Gordon**, Assistant Director; **Nancy Galtlin**, Emeritus Librarian, Library, Southern College of Optometry, Memphis, TN; **Jackie Stapleton**, Liaison Librarian, Library, University of Waterloo, Waterloo, ON, Canada; **Douglas Freeman**, Head Librarian, Optometry Library, Indiana University, Bloomington, IN

- ***Assessment of Information Processing Skills in a Graduate Medical Education Program***

Amy E. Allison, AHIP, Clinical Informationist; **Anna Getselman**, Associate Director; Woodruff Health Sciences Center; Emory University, Atlanta, GA

- ***P-Index: A New Method in Bibliometrics***

Stuart Spore, Associate Director, Systems, Health Sciences Libraries, New York University, New York, NY

- ***Comparing and Contrasting Physical Therapy-related Article Tags from a Social Bookmarking Site to Library Database Terminology***

Dennis Fell, Chair, Physical Therapy Department; **Judy F. Burnham, AHIP**, Director, Biomedical Library; **Kali Adams**, Student; **Kelley Greathouse**, Student; **Brittany Shaw**, Student, Physical Therapy Department; University of South Alabama, Mobile, AL

- ***Medical Student Perspectives on Evidence and Evidence-based Medicine Resources***

Mark MacEachern, Liaison Services Librarian; **Gurpreet K. Rana**, Clinical Education Librarian; **Whitney Townsend**, Liaison Services Librarian, Health Sciences Libraries; **Rajesh S. Mangrulkar**, Clinical Associate Professor, Department of Internal Medicine; University of Michigan, Ann Arbor, MI

- **Connecting Rural Clinicians to Health Information**

Rick Wallace, AHIP, Assistant Director; **Nakia Cook, AHIP**, Clinical Librarian; Quillen College of Medicine Library; East Tennessee State University, Johnson City, TN

- **Information Processing: Assessing the Skills and Competencies of Incoming Medical Students**

Mia S. White, AHIP, Reference Librarian; **Anna Getselman**, Associate Director; Woodruff Health Sciences Center Library, Emory University, Atlanta, GA

- **Research by the Numbers: Assessing the Performance of Three Products for Citation Analysis**

Marisa L. Conte, Clinical and Translational Science Liaison; **Jean C. Song**, Research and Informatics Coordinator; **Whitney Townsend**, Liaison Librarian; Health Sciences Libraries; University of Michigan, Ann Arbor, MI
Effect of Free Access on Citations in the Vision Literature

Pamela C. Sieving, AHIP, Biomedical Librarian/Informationist, Information and Education Services, NIH Library, National Institutes of Health, Bethesda, MD; **Bette Anton**, Head, Fong Optometry and Health Sciences Library, University of California, Berkeley, CA

- **Reflecting and connecting through change and technology - undergraduate genetics at the University of Florida**

Michele R. Tennant, AHIP, Bioinformatics Librarian and Assistant Director, Reference, Education and Information Management, Health Science Center Libraries; **Michael M. Miyamoto**, Professor, Department of Biology; **Martine G. Horrell**, Graphics Artist, Health Science Center Libraries; University of Florida, Gainesville, FL

- **VIVO: A Resource for Research Discovery at the Local and National Level.**

Kristi L. Holmes, Bioinformaticist, Bernard Becker Medical Library, School of Medicine, Washington University in St. Louis, St. Louis, MO; **Michele R. Tennant, AHIP**, Assistant Director, Reference, Education, and Information Management and Bioinformatics Librarian, Health Science Center Libraries and UF Genetics Institute; **Chris Barnes**, Development Manager, Clinical and Translational Research Informatics Program, University of Florida, Gainesville, FL; **Nicholas Cappadona**, Interface Designer; **Brian D. Caruso**, Programmer; **Jonathan Corson-Rikert**, Head, Information Technology Services, Albert R. Mann Library, Cornell University, Ithaca, NY; **Valrie I. Davis**, Outreach Librarian, Agricultural Sciences, Marston Science Library, University of Florida, Gainesville, FL; **Medha H. Devare**, Bioinformatics and Life Sciences Librarian, Albert R. Mann Library, Cornell University, Ithaca, NY; **Chris Haines**, Developer, CTRIP, University of Florida, Gainesville, FL; **Dean B. Krafft**, Chief Technology Strategist, Cornell University Library, Cornell University, Ithaca, NY; **Yang Li**, Development Team Leader, CTRIP, University of Florida, Gainesville, FL; **Brian J. Lowe**, Programmer, Albert R. Mann Library, Cornell University, Ithaca, NY; **Narayan Raum**, Development Team Leader, CTRIP; **Sara Russell Gonzalez**, Physical Sciences Librarian, Marston Science Library; **Stephen V. Williams**, IT Expert and Systems Support, CTRIP; **Mike Conlon**, Principal Investigator and Interim Director, Biomedical Informatics, University of Florida, Gainesville, FL

RESEARCH SECTION NEWS

MLA 2010 Meeting Research Awards

Congratulations to the 2010 MLA Annual Meeting Research Award recipients selected by the Research Section Awards Committee and Judges! Here are the abstracts of the winning papers and posters. There were many other excellent research presentations this year, several of which were not

marked as research in the program and abstract book. We encourage you to look beyond the research indicator to see what other high-quality research was presented at the annual meeting. A separate article about the awards judging process also appears in this issue of the *Hypothesis*.

RESEARCH SECTION NEWS, continued

Contributed Papers

1st Place:

Authors: **Katrina Kurtz**, HSLs Biomedical Informatics Trainee; **Ansuman Chattopadhyay**, Head, Molecular Biology Information Service; **Carrie L. Iwema**, Information Specialist in Molecular Biology; Health Sciences Library System; University of Pittsburgh, Pittsburgh, PA

Title: *Going against Goliath: Knowledge Discovery Using a Library-developed Specialized Search Tool Versus General Web Search Engines*

Section Program: New Voices Paper Session

Objective: The Online Bioinformatics Resources (OBRC) is a library-developed, freely available, manually curated tool providing annotated information on and access to thousands of bioinformatics tools. We propose comparing information-seeking experiences using the specialized OBRC and generalized search engines to determine whether the OBRC is fulfilling an otherwise unmet need for quickly and easily locating bioinformatics software and databases.

Methods: Using a task-directed method, we will observe subjects as they search for bioinformatics tools using Google, an additional search engine of their choice, and the OBRC. These subjects will include: information specialists with domain expertise, information specialists without domain expertise, and non-information specialists with domain expertise. Subjects will be recorded as they narrate their information-seeking process, following the "Think Aloud Protocol." The quality of both the search experience and search results will be rated and commented on by the subjects. Time spent, search queries used, and results will be recorded. The purpose of this work is to determine if users prefer the OBRC to other search engines for the task of discovering relevant bioinformatics tools. Our ultimate goal is to support the idea that health sciences libraries can and should provide specialized information services that general search engines cannot. **Results and Conclusions not reported in OASIS.**

2nd Place:

Authors: **Julia Esparza**, AHIP, Clinical Medical Librarian, Medical Library; **Daniel Banks**, Department Chair and Professor, Department of Medicine; **Marianne Comegys**, Chair and Associate Professor, Medical Library; **Jerry McLarty**, Director, Cancer Prevention and Control, and Professor, Feist-Weiller Cancer Center; **Runhua Shi**, Associate Professor, Feist-Weiller Cancer Center; **Ulysses S. Wu**, Associate Fellowship Director, Section of Infectious Diseases, and Assistant Professor, Department of Medicine; Louisiana State University Health Sciences Center, Shreveport, LA

Title: *The Effect of a Clinical Medical Librarian as Part of an Internal Medicine Team on Hospital Length of Stay and Costs*

Section Program: Information Reform

Objective: The hypothesis is that the internal medicine team with a clinical medical librarian (CML) will be associated with reduced length of stay, lower costs, and fewer readmissions.

Methods: The department of medical library science and department of medicine have collaborated in the past to affirm the value of library services in patient care. In October 2007, the departments began another collaborative effort to address the impact of a CML on the care of internal medicine patients. Length of stay, hospital costs, and readmission rates in patients are being compared between an internal medicine team rounding with a CML and an internal medicine team without a CML. Using propensity scoring, comparisons will also be made between cases for which the CML answered questions and for which the CML did not. Statistical issues relevant to assessing the value of services will be addressed.

Results: Data collection was for a period of 17 months. The CML attended rounds with an internal medicine team and provided evidence-based responses to questions posed by the health care team. The CML answered 334 questions that addressed the care of 258 internal medicine patients. The CML spent 513 hours on hospital rounds with the internal medicine team and spent 123 hours answering reference questions during the study. Re-

RESEARCH SECTION NEWS, continued

sults will examine if the presence of a CML on an internal medicine team reduced length of stay, lower costs, and fewer readmissions. Data were collected and will be presented on who asked the clinical question, how the answers were provided (point of care or email follow-up), and what resources were used to answer the questions. Other CML workload issues will also be discussed.

Honorable Mention:

Author: Lorraine Toews, Veterinary Medicine Librarian, Health Sciences Library, Libraries and Cultural Resources, University of Calgary, Calgary, AB, Canada

Title: *The State of the Information Infrastructure Supporting Evidence-based Veterinary Medicine: A Comparison with Human Medicine*

Section Program: Diseases Without Borders: Information for Global Epidemiology

Objective: To map out the characteristics of the information infrastructure supporting the practice of evidence-based veterinary medicine in order to identify areas for further research and new development. Given the critical linkages between animal health and human health in today's world, the development of a robust information infrastructure to support evidence-based practice in veterinary medicine is crucial.

Methods: This comparative study employed a literature search of MEDLINE and CAB Abstracts, as well as selected gray literature sources in order to map out the current characteristics of the following information infrastructure elements in veterinary medicine: clinical research registries, organizational support for the production of systematic reviews, state of review articles, point-of-clinical care databases, search filters in PubMed and CAB Abstracts, indexing of clinical research study designs in CAB Abstracts and PubMed, and use of structured abstracts and clinical research reporting standards, such as CONSORT and QUORUM, in veterinary medicine journals. The literature retrieved was analyzed for similarities and differences between the information infrastructure of veterinary medicine and that of human medicine.

Results: The information infrastructure supporting evidence-based veterinary medicine practice in

most of the eight elements evaluated is in embryonic stages relative to the corresponding information infrastructure in human medicine.

Conclusion: The lack of a mature evidence-based veterinary medicine information infrastructure creates serious barriers to research uptake and application by veterinary medicine practitioners.

Hospital Librarian Research Award (poster)

Authors: Isabel Sulimanoff, Senior Reference Librarian; Marisol Hernandez, Senior Reference Librarian; Donna Gibson, Director, Library Services; MSKCC Library; Memorial Sloan-Kettering Cancer Center, New York, NY

Title: *Clinical Medical Librarian Program: The Memorial Sloan-Kettering Cancer Center (MSKCC) Experience*

Objective: To demonstrate how reference librarians support patient care, education, research, and publishing efforts of physicians, nurses, and other health care professionals as a member of the team.

Methods: A survey was distributed to members of the nursing staff and psychiatry service via email, requesting feedback on the clinical medical librarian (CML) program and effectiveness of the program in meeting their information needs, as well as how the CMLs are viewed as active team contributors.

Setting/Participants/Resources: The MSKCC Library serves the hospital (approximately 470 beds) and research institute. From this population, the focus will be on 2 client groups: nursing department and psychiatry service. Currently, over 1,700 nurses work in the areas of acute care, ambulatory care, critical care, perioperative services, administration, and nursing education and development. Psychiatry service is a much smaller group, with 6 clinical fellows, 10 psychiatrists, and 5 psychologists.

Results: This survey was undertaken to determine and evaluate the clinical medical librarians' effectiveness in this outreach service model with two user groups with varying information needs, requests, and group size. There exists common information requests from both groups; however, it has been noted that the groups' cultural environments and levels of information literacy, as well as services implemented by the librarians also differ. The expect-

RESEARCH SECTION NEWS, continued

tations of the nursing and psychiatry communities and what they deem as “value-added” has guided each of the CMLs to customize information and research activities to best deliver excellent and on-target customer service.

Conclusion: The survey provides insights on how the CMLs are perceived in their groups, how they effect change in their groups’ information-seeking behavior, and how they integrate themselves as valued team players in support of the institution’s mission.

Posters

1st Place:

Authors: **Kathleen Amos**, Adjunct Assistant Librarian/NLM Associate Fellow, Spencer S. Eccles Health Sciences Library, University of Utah, Salt Lake City, UT; **Lou Wave Snyder Knecht**, Deputy Chief, Bibliographic Services Division, National Library of Medicine, Bethesda, MD

Title: *Observations about the Retraction of Biomedical Literature: An Analysis of Publications Cited in MEDLINE*

Objective: To investigate trends in retracted publications cited in MEDLINE, with respect to a variety of factors including time to retraction, number of authors, publishing journal and subject area, prior links to errata or comments, initiating factor for retraction, retractor, and reason for retraction.

Methods: An analysis of publications cited in MEDLINE and later retracted from the published literature was conducted. Samples consisting of all standard retraction notices processed by the National Library of Medicine’s Bibliographic Services Division (BSD) in fiscal years 1985, 1995, 2005, and 2008 were compiled using BSD Quarterly Reports and searches of PubMed. MEDLINE citations for these retraction notices and for the publications retracted were examined to obtain information related to publication dates, authors, publishing journals, and prior MEDLINE links to errata and comments. Published retraction notices from publisher websites, PubMed Central, and printed journals were reviewed for data related to initiating factors for retraction, retractors, and reasons for retraction. Collected data were categorized and grouped by year to facilitate com-

parison over time. Descriptive statistics were calculated, and the results visualized in graphical format. **Results:** A comparison of publications retracted in fiscal years 1985, 1995, 2005, and 2008 demonstrated an increase in the percentage of MEDLINE citations representing retracted publications. In general, time to retraction decreased and the average numbers of authors associated with retracted publications increased, but these values fluctuated over the four samples studied. A variety of journals issued retractions in a range of subject areas, and the majority of retractions did not contain prior links to errata or comments. There was a decrease in the percentage of voluntary retractions and an increase in the percentage of publications retracted due to editorial investigations. The percentage of retractions involving journal representatives as retractors increased. Percentages of duplicate publication and misconduct both increased, with plagiarism playing a role in recent misconduct retractions.

Conclusion: Characterizing MEDLINE retractions as a representation of the field of biomedical publishing painted a picture of increasing incidence of both retraction and misconduct.

2nd Place:

Authors: **Jonathan S. Young**, Library Student, Information and Computer Sciences Department, Library and Information Science Program, University of Hawaii, Honolulu, HI; **Diane M. Kunichika**, Medical Librarian; **Walter R. Benavitz III, AHIP**, Medical Librarian; **Mabel A. Trafford**, Director, Medical Library; Tripler Medical Library; Tripler Army Medical Center, TAMC, HI

Title: *Evaluation of a Clinical Librarianship Program: A Prospective, Quantitative Study of the Impact of Librarian Morning Report Attendance on Clinical Decision Making and End User Search Satisfaction: A One-year Assessment*

Objective: Evaluate the perception and performance of a clinical librarianship (CL) service with health care providers in three different medical fields. The primary goals are to determine if this service (1) increases the breadth of library resource utilization, (2) improves the satisfaction of end-user searching, and (3) impacts future clinical decisions.

Methods: Medical students, residents, and attend-

RESEARCH SECTION NEWS, continued

ing physicians in family medicine, internal medicine, and pediatrics were provided a CL service twice per week at a large teaching hospital. The core of the service was librarian attendance at morning report, where recent cases were presented and clinical questions raised, with the generation of a web page providing relevant resources within three hours. A prospective study using quantitative survey questions covering library use, end-user searching satisfaction, and clinical decisions, with data collected at four month intervals, was implemented to evaluate the impact of this service. The ten-question survey was designed to obtain quantitative results on physician perceptions of their end-user searching, their use of library resources, and the impact of the CL service on patient care decisions. Additional data were collected in the form of web usage statistics and qualitative feedback from users. **Results and Conclusions not reported in OASIS.**

Honorable Mentions: (both Lightning Posters)

Authors: Andrew T. Creamer, Graduate Student; Myrna Morales, Graduate Student; Graduate School of Library and Information Science; Simmons College, Cambridge, MA

Title: *Assessment of Biomedical and Science Librarian E-science Learner and User Needs to Develop an E-science Web Portal and Support Library and Institutional E-science Initiatives and Collaborations*

Objective: To determine biomedical and science librarians' need for an e-science web portal and to gather data on their user needs and Web 2.0 preferences in order to design a e-science web portal and support the development and strengthening of libraries' e-science initiatives and collaborations.

Methods: Using feedback from librarian interviews from attendees of an e-science symposium and boot-camp, we researched and developed questions to survey learner needs. We created the survey using SurveyMonkey. A small group of medical librarians then tested the survey. Based on the feedback of the testing, the survey was revised. The survey was administered to 178 health sciences librarians. After 3 weeks, 73 data sets and responses were collected and analyzed.

Results: Preliminary results reveal a small yet sig-

nificant number of diverse biomedical and science libraries actively engaged or actively pursuing e-science collaborations. These results indicate librarians have urgent needs for online scientific content and data tool tutorials to support and facilitate the exchange of e-science knowledge and experience among colleagues. In addition and important to note, the results indicate a significant need for and lack of awareness of online e-science resources. **Conclusion:** Thus, to support the e-science initiatives, biomedical and science librarians need an interactive e-science web portal designed by librarians that integrates e-science web resources and scientific content development. Additional areas for future research include identifying and examining the specific types of e-science collaborations and endeavors among biomedical and scientific institutions and their libraries and librarians and studying the future effectiveness and/or impact of the web portal and its resources and Web 2.0 tools on these collaborations and endeavors.

Author: Nancy A. Bianchi, Health Sciences Librarian, Dana Medical Library, University of Vermont, Burlington, VT

Title: *An Analysis of Clinical Questions Asked at Professor Rounds: An Update*

Objective: Clinical questions asked at residents' educational conferences and the resources used to answer them can present intriguing learning and liaison opportunities. This ongoing study updates research exhibited at MLA '07 to analyze clinical questions asked at pediatric professor rounds. This research has implications for medical curricula development, library collections and library liaison activities.

Methods: Professor rounds is a biweekly educational conference in pediatrics attended by residents, medical students, medical faculty, community preceptors, and a clinical informationist. Each conference highlights a general pediatric, pediatric intensive care unit, neonatal intensive care unit, or outpatient case presentation, followed by a didactic session. The informationist participates at professor rounds by actively listening, noting pertinent patient details, and gathering questions that arise during the case presentations and discussions. These questions may be direct requests for information, or they may be queries embedded in the discussions that

RESEARCH SECTION NEWS, continued

the informationist recognizes as an information need. Back at the library, she searches the literature for answers to these clinical questions and returns her findings to the chief resident. A six-year review of these clinical questions and the resources used to answer them was conducted to further the development of medical curricula and informationist roles in liaison programs.

Results: The informationist collected 213 clinical questions at professor rounds during the 6-year time period. Of these, 123 (58%) questions were classified as “received” or direct inquiries. The remaining 90 (42%) questions were captured as “perceived” information needs from the case discussions. Using the evidence-based clinical practice model of “background” and “foreground” questions, the 213 clinical questions included 157 (74%) background questions and 56 (26%) foreground questions. Answers were found for 194 (91%) of the 213 questions using journal articles (86%), textbooks (10%), textbook and journal articles (8%), and Google (3%),

with some overlap.

Conclusions: Clinical questions are frequently encountered at educational conferences such as professor rounds. Most of these queries can be answered using print and electronic medical knowledge resources available through the library. These questions and the resources used to answer them present ideal opportunities for expanding clinical case-based learning, while utilizing the expertise of a clinical informationist.

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Awards Committee Co-Chairs

CHAPTER NEWS

South Central Region Recognizes Excellence in Research

The Elizabeth K. Eaton Research Awards are an important part of the annual meeting of the South Central Chapter of the Medical Library Association (SCC/MLA). Funded by the South Central Academic Medical Libraries Consortium (SCAMeL), these awards are presented to the authors of those posters and contributed papers presented at the annual meeting that exemplify valid research investigation that is relevant to health science libraries and librarianship. Members of the SCC/MLA Research Committee are responsible for evaluating the research papers and posters and tabulating the results. The following recipients were honored at the 2010 annual meeting, recently held in Austin, Texas.

Contributed Papers

1st Place (\$300)

“Effect of a Clinical Medical Librarian as Part of an Internal Medicine Team” by Julia Esparza, Daniel Banks, Marianne Comegys, Jerry McLarty, and Runhua Shi / Medical Library, Louisiana State University Health Sciences Center at Shreveport

2nd Place (\$200)

“Connecting with Hospital Nurses through MINE: Reflections on a New Method of Instruction” by David C. Duggar, Julia Esparza, Kimberly Pullen, John Cyrus, Montie Dobbins, and Mararia Adams / Medical Library, Louisiana State University Health Sciences Center at Shreveport

CHAPTER NEWS, continued

3rd Place (\$100)

“Information Literacy: Significance in a Graduate Medical Education Population” by Sarah Knox Morley / Health Sciences Library and Informatics Center, University of New Mexico

Posters

1st Place (\$200)

“Link-Checking the E-Journal Portal: Trust, but Verify” by Alexis Ackel and Clayton Crenshaw / Gibson D. Lewis Library, University of North Texas Health Science Center

2nd Place (\$100)

“Are We There Yet? An Analysis of Web 3.0 Technologies and Academic Health Sciences Libraries in the South Central Region” by Sharon Lee, Ana D. Cleveland and Jodi Philbrick / Health Informatics Program, College of Information, University of North Texas

3rd Place (\$50)

“The Evidence-Based Scholarly Communications Conference: Capitalizing on the Unique Role of Information Professionals in Translational Research” by Philip J. Kroth, Holly Phillips and Jonathan D. Eldredge / Health Sciences Library and Information Center, University of New Mexico

Honorable Mention

“Looming Ethical Dilemmas: Emerging Mobile Technologies and Prospective Roles for Medical Librarians” by Mark Baggett and John Cyrus / Medical Library, Louisiana State University Health Sciences Center at Shreveport

“Weird Science: Anatomy of An Internship” by Brenda Gunter / Health Informatics Program, College of Information, University of North Texas and Houston Academy of Medicine-Texas Medical Center Library (internship)

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