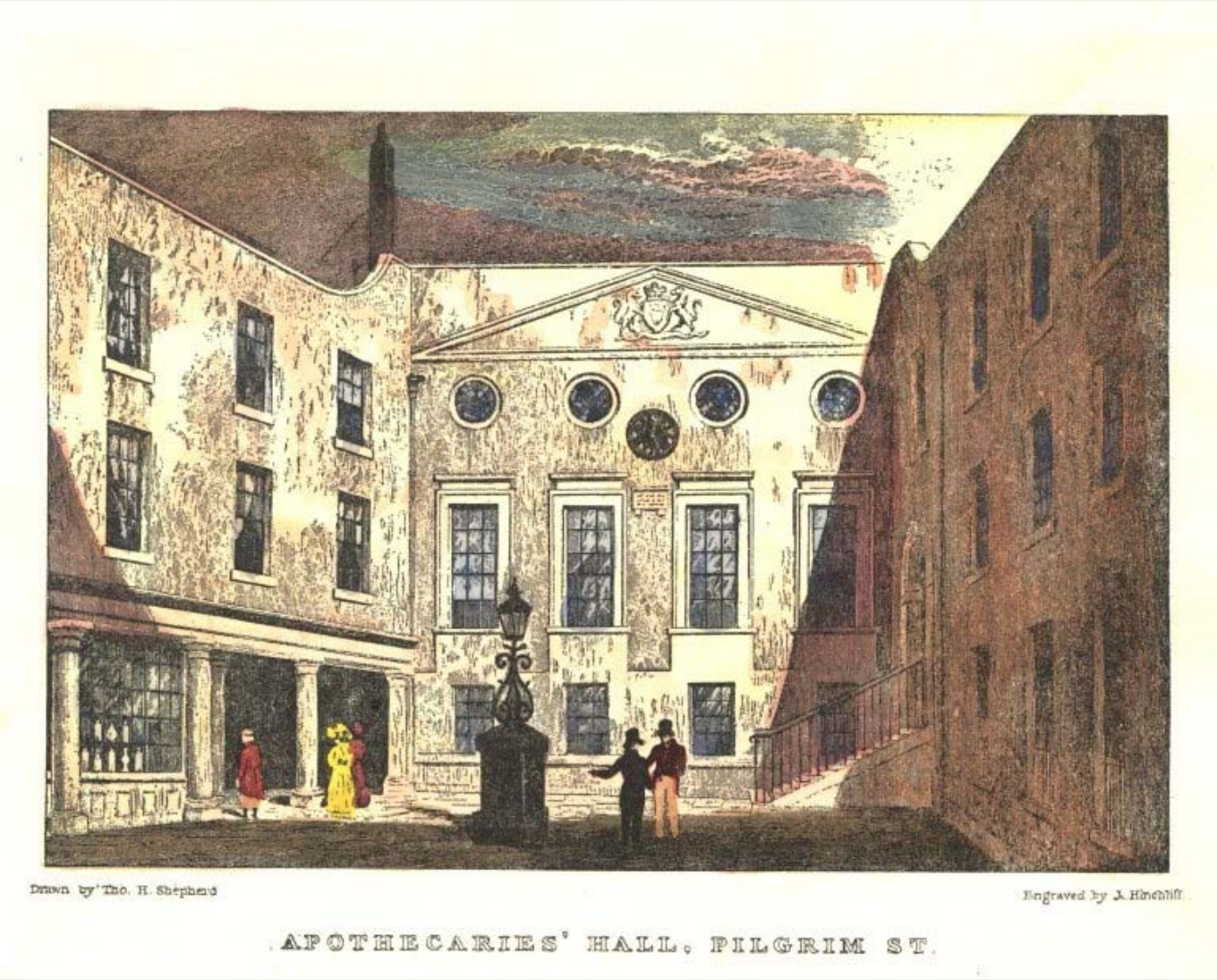
Volume 23, Issue 1

Spring 2011

Hypothesis

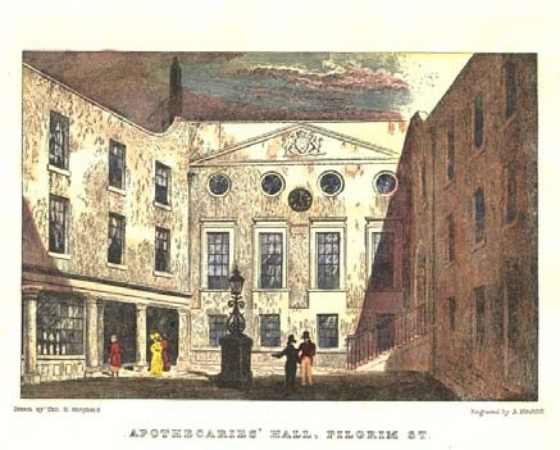
The Journal of the Research Section of MLA



Hypothesis

The Journal of the Research Section of MLA

COLUMNS



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

View of the façade and courtyard of the Apothecaries' Hall . Drawn by Thomas H. Shepherd and engraved by John James Hinchliff.

ARTICLES

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

Co-Editors

Editorial Board

Officers & Executive Committee

CO-EDITORS' COLUMN

Deidra Woodson, MLS, MA, MT (ASCP)
Louisiana State University Health Sciences Center-Shreveport, Medical Library

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

This spring was fraught with rushed attempts to complete grant projects coming to an end, preparations for the upcoming MLA meeting, finalizing professional service projects before the MLA conference, combined with all other job responsibilities and otherwise assigned tasks. As a result, the Spring Issue of the *Hypothesis* was moved to the bottom of the "To Do" list until it cried out "I must be published before the MLA meeting!" Then, on top of an already delayed issue, technology crashed causing yet another impediment. Now, just a few days away from trekking to Minneapolis, the Spring 2011 *Hypothesis* finally makes an appearance.

The first featured article is written by Endre Aas, a medical librarian in Norway. He recounts how he and his colleagues successfully developed evidence-based information practices within their library to meet the goals of the large hospital system they serve to treat all patients with the same disease with the same evidence-based care. His article is prefaced with an introduction by column editor Jon Eldredge. The Research Section Mentoring Program Executive Committee Co-chairs wrote the second featured article, in which they describe the background and development of the Research Mentoring Program.

This issue also includes the familiar Chair's Column, Literature Review Column, and the Research Mentor Column. In her column, Diane Cooper, Research Section Chair, highlights meetings and events of the Research Section at the MLA 2011 Annual Meeting. Ruth Fenske provides summaries of recent library and information science literature covering a variety of topics, from observing the way patrons navigate their way through the library to an analysis of AAHSL statistics to young librarians' perception of the library organizational culture, with several more topics of interest nestled in between. Finally, Jon Eldredge continues his series on "Creativity in Research" in the Research Mentor Column. In Part 2, he explains the different types of creativity and identifies how these types can be applied to research studies.

Although this issue of the Hypothesis may be "fashionably" late, arriving just days before the MLA Annual Meeting, the content of this issue will not disappoint.

How did it get so late so soon?
It's night before it's afternoon.
December is here before it's June.
My goodness how the time has flewn.
How did it get so late so soon?
Dr. Seuss

CHAIR'S COLUMN

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

Rethink

It is officially Spring and MLA's annual meeting is right around the corner. MLA-11 will be held in Minneapolis this year and the theme is "Rethink." We are asked to rethink our roles; rethink the technology we use; rethink our information services; rethink all of our work as librarians.

This is also a good time to rethink how we can best contribute to a body of evidence-based librarianship with research. Information sciences research is important to define ideas, technologies and programs that work and don't work in libraries. But more importantly, it is a good time to rethink how we do research. We need more than "this is how we do it" papers. Let this meeting help us to begin to think how we can do credible research to build a body of evidence-based literature in our field.

To help us at this year's MLA meeting, on Sunday, May 15 from 4:30 to 6:00 PM, the MLA Research Section will present a panel presentation and round-table break-out sessions on library research. The session is titled, ***"Refining Research: From Start to Finish."*** Carole Gilbert, Chair-Elect has put together an interesting panel of speakers who will talk about the process of defining the research question, matching the methods to the idea and question, refining the process, collecting and analyzing data, and summarizing the results.

Four experts in information research will discuss specific research components.

1. Defining the question and matching the method to the question (Michelynn McKnight)
2. Refining the process (Ellen Detlefsen)
3. Collecting and analyzing the data (Ana Cleveland)
4. Summarizing and publishing the results (Joanne Marshall)

The Research Section is also co-sponsoring sessions with two other MLA sections.

With the Public Services Section, we will co-sponsor the session on **"Rethinking Assessment"** at 10:30 – 12 Noon on Monday, May 16.

With the Medical Library Education Section, we will co-sponsor **"New Voices"** at 3:00-4:30 PM on Monday, May 16. Please come to this session to encourage new library students as they present their first research papers at a national conference.

More Research Section activities at MLA:

The *Research Section Awards Judging Process Revealed* (Kris Alpi) is Sunday, May 15 from 7:00 - 9:00 AM in Room M100D, Mezzanine level at the Convention Center.

The *Research Section Business Meeting* (Diane Cooper, Chair) is Monday, May 16, 7:00 – 9:00 AM in M100J, Mezzanine level at the Convention Center.

LITERATURE REVIEW

Ruth Fenske, PhD, AHIP
Grasselli Library, John Carroll University

In contrast to most versions of The Literature Review, the eight articles reviewed this time were almost all published by practitioners. Most concern very practical issues facing libraries.

Mandel LH. Toward an understanding of library patron wayfinding: observing patron entry routes in a public library. Libr Inf Sci Res. 2010 Apr;32(2):116-30.

Van Beynen K, Pettijohn P, Carrel M. Using pedestrian choice research to facilitate resource engagement in a midsized academic library. J Acad Libr. 2010 Sept;36(5):412-9.

Two Articles about how people navigate through libraries have appeared.

Mandel takes a "wayfinding" approach. Wayfinding "refers to the ability of users of the built environment (i.e.. a facility) to navigate through that environment to find specific destinations." Signage should facilitate wayfinding. Services are no good if they cannot be located easily. Feeling disoriented increases stress and is dangerous in the event of an emergency.

This study took place at a medium-sized public library in Florida. Data were collected for three hours on each of six days for one week in the fall of 2008. One hour shortly after opening, one hour toward the middle of each day's hours, and one hour toward closing were selected. A single researcher, sitting in a mezzanine, recorded the path each person or group took as they entered the library and navigated through the entry area. Data were recorded on blank copies of the library floor plan, one for each case. One thousand four hundred fifteen cases were recorded. It is difficult to understand how one person could accurately record all this data, and she does say that some cases may have been missed. GIS software was used in the analysis.

Although a lot of data were collected, the results are primarily of interest to the library at which the data were collected. She cites several previous studies done in academic libraries on wayfinding, signage, and use of academic libraries—some with GIS software. Those studies probably would be of more use to us in health sciences libraries.

Van Beynen and her co-authors also concentrated on the first floor of their library. In this case, the library was a mid-sized academic library in Florida. The authors tell us that their university does not yet have a student center; this may affect what goes on in this particular academic library.

Pedestrian choice research has been used to study public spaces, such as museums, looking at both the characteristics of the visitors and the characteristics of the the space and the exhibits. They also cite the general value principle and the economy of movement principle which look at the visitor experience as a weighing of costs and benefits.

It appears there were three observation periods—one in each of three semesters in 2007 and 2008. Changes in library space were made after each observation period. No information is given about when during the semester or the time of day when observations were made. They do tell us that during the observation period every third visitor or group who entered the library was observed for a maximum of five minutes. This resulted in 603 observations. Observers tracked each visitor's movement on a map of the first floor and noted where they stopped and what they did at each stop. Three focus groups with a total of 22 students were also held.

They conclude that "the convenience and proximity of locations to the library entrance, or the desirability of landmark destinations a greater distance, is a dominant force determining visitor stopping locations . . ." It is only when visitors have specific destinations in mind that they go beyond the first floor. In so far as these conclusions are based on the objective observation data on 603 visitors, they are probably valid. However, assessment of costs and benefits (e.g. convenience) could come only from inference from the observation data or from the 22 visitors involved in focus groups. Nevertheless, these data give the library useful insights that could be used to redesign both the areas close to the entrance and the rest of the library.

LITERATURE REVIEW, continued

In so far as health sciences libraries in the 21st century are physical places, studies such as these are potentially of use.

Buhler AG, Ferree N, Cataldo TT, and Tennant MR. External reporting lines of academic special libraries; a health sciences case study. Coll Res Libr. 2010 Sep;71(5):467-94.

Several librarians at the University of Florida did a wide-ranging study of external reporting lines for academic health science library directors. Information came from three sources: (1) the 1977-2007 Association of Academic Health Sciences Libraries (AAHSL) annual statistics, (2) an online survey of AAHSL directors, and (3) phone interviews with six directors.

Analysis of thirty years of AAHSL annual survey statistics is complicated by the fact that the external reporting response categories on the survey changed frequently in the early years of data gathering. In 1998-99, it was announced that since there were few changes from year to year, reporting line data would be reported only every five years. Since then, the question was asked only in 00-01 and 06-07. It appears that there has been a precipitous decline in numbers reporting to the health sciences center since 1998-99. It appears that fifty of the 124 participating AAHSL libraries have undergone some kind of change in external reporting structure since 1990. Thirty-four made a major change and sixteen remained with the health sciences center but report to a different position.

All AAHSL directors were sent a 26-question online survey in the summer of 2007. Sixty-eight responses (48.6%) were received. Twenty-four of sixty-eight (35%) had experienced a change in reporting structure during their tenure as director. In all likelihood, those who had undergone a change in reporting are overrepresented in the response group because the topic of changes in reporting is more salient to this group. Six of forty-seven respondents who volunteered for follow up interviews were interviewed by telephone, using a standard list of 14 questions. Copies of both the online survey and the interview protocol are included in the article.

Detailed results for all three methods of data collection are presented. Since the annual statistics survey represents the population of AAHSL libraries, these results are most credible. Results for the online survey and the follow-up interviews are extremely interesting but not necessarily generalizable to all AAHSL libraries. Nevertheless reading through the pages and pages of results could be very useful to academic health sciences library directors and those to who the health sciences library director reports. Placement of this article in a journal directed to academic librarians in general may have been a strategic move on the part of these authors.

Winterman B, Hill JB. Continued viability: a review of the life sciences library at Indiana University in a time of institutional change and proposed branch library downsizing. Sci Techol Libr. 2010;29 (3):200-15.

In 2008, the Life Sciences Library at Indiana University was reviewed as part of a campus-wide review of a number of science libraries. Qualitative and quantitative data were gathered from use data and user and library staff surveys. Use data showed the number of annual visitors had increased, as had reference activity. Print circulation has stabilized. No data on use of electronic resources is given.

A nine-item survey (copy included) was distributed to faculty and staff. Mode of distribution is not clearly stated and the number of respondents is not given. Faculty indicated fewer visits to the physical library and greater dependence on electronic access. Students visited the library regularly and appeared to enjoy having a place to use computers and to study close to their classrooms. Users were satisfied with the collections and services and not satisfied with access to computers and study space.

Despite all this, the size of the Life Sciences Library was considerably reduced, because the Biology Department needed the space for teaching labs. A basic collection of 4000 books remains. Remaining study space is all in one big open space. Computer access is about the same as it was. No information is given about the number of staff before or after the changes.

Interestingly, this is a case where faculty saw less need for a physical facility than did students. It appears that the needs of the Biology Department for teaching lab space took priority over the students'

LITERATURE REVIEW, continued

expressed desire for study space close to their classrooms.

Maloney K, Antelman K, Arlitsch K, Butler J. Future leaders' views on organizational culture. Coll Res Libr. 2010 Jul; 71(4):322-45.

Shepstone C, Currie L. Transforming the academic library: creating an organizational culture that fosters staff success. J Acad Libr. 2008 July;34 (4):358-68.

Maloney et al used the Competing Values Framework (CVF) to assess future library leaders' perceptions of current organizational culture and their preferred future culture. The CVF divides organizational cultures info four culture types, based on the dimensions of internal/external focus and low flexibility vs high flexibility.

Two hundred forty future leaders were identified through nomination by associate directors and participation in competitive academic library leadership programs such as the Frye Institute. The survey was sent to 220 of the nominees in October 2008. One hundred sixty-five valid responses were received for a 72% response rate. Ninety-three percent answered one or more of the open-ended questions at the end of the survey. The survey asked about the respondents' current and preferred organizational culture and about the current and preferred management style in the organization. These are two of six dimensions in the Organizational Culture Assessment Instrument (OCAI).

Results show significant differences between current and preferred culture for all four culture types and significant differences for management style in three out of four of the culture types. They conclude that this shows dissatisfaction with the current organizational culture. In both organization culture and management style, respondents wanted less hierarchy and more flexibility and external focus.

Respondents were also asked if they felt their organization's structures limited their effectiveness. The outcome was that respondents feel more effective in organizations that are externally focused and flexible and less effective in organizations that are internally focused and inflexible. Results also show that those who are most frustrated are the most likely to consider leaving libraries.

Their overall conclusion is that the culture preferred by future leaders is more capable of "sustaining a continuous tempo of change."

In their literature review, Maloney et al mention a previous study by Shepstone and Currie which used the Competing Values Framework. Maloney et al report that Shepstone and Currie, working at the University of Saskatchewan, "found a significant gap between current and preferred cultures, and differences between longer-term and newer librarians." As it turns out, I had prepared a review of that article for an earlier edition of The Literature Review. That review was not published due to space constraints. I am including that review here, because it is closely related to the Maloney et al article.

Shepstone and Currie call the flexibility/inflexibility dimension "control orientation." They measured all six dimensions of the aforementioned Organizational Culture Assessment Instrument (OCAI), whereas Maloney et al only measured two dimensions. The six dimensions are these: dominant characteristics of the organization, leadership style, management of employees, organization glue or bonding mechanisms, strategic emphases, and criteria of success. Each staff member answered several demographic questions and six questions designed to measure the six dimensions of the current organizational culture and six similar questions designed to assess how the respondent thought the library should be in five years. Scores are calculated and graphically represented to show dominant cultural characteristics of the organization. Maloney et al made similar graphs.

Overall response rate for librarians was 67% with 92% of the pre-tenure librarians responding and 52% of the tenured librarians. Staff response was 29%--too little for meaningful analysis. Results show that the library currently falls into what they call the market quadrant. In a market culture, there is more external than internal focus and stability and control take precedence over flexibility and discretion. The preferred future culture was for a pronounced shift away from stability and control toward flexibility and discretion. There was a much less pronounced desire for a shift toward a more internal focus. Maloney et al found a similar desire among future leaders for more flexibility but also a more pronounced desire to go from an internal to an ex-

ternal focus. It is interesting that Shepstone and Currie found that those who had been at the University of Saskatchewan longer were more strongly in a favor of an external focus than the newer librarians. Possibly this can be explained by considering that in CVF, internal focus indicates integration and unity and an external focus indicates differentiation and rivalry. It appears that younger librarians want more flexibility and less control. It is not clear if they want this in combination with a more competitive or a more unified environment.

Shepstone and Currie found that tenured and pretenure librarians were in harmony as far as their desired future culture goes. However, there was a wide discrepancy between those who had been there less than six years and those who had been there 16-20 years, who wanted things to stay as they are. The authors then discuss how the library can effect the desired changes.

These two studies effectively show that libraries are not in harmony with the preferences of the younger generation of librarians. Unfortunately they also point to libraries not being well positioned with a future filled with change.

Considering that there have been limited opportunities for younger librarians in health sciences libraries in recent years, due to our skewed demographic, it causes me to wonder if the next generation will be prepared to lead or if they will have become discouraged working in such a stifling organizational culture.

Winterman MA. The informationist: ten years later. J Hosp Libr. 2010 Oct;10(4):363-79.

The author reviews the literature on the informationist concept and presents the results of a survey of 390 respondents recruited from two large Canadian and United States listservs directed to medical librarians. The survey was conducted over a ten month period in 2009 and 2010. He estimates his response rate to be 16.5%. His results show that 78% of the respondents don't use the informationist model, fully or partially. Informationist is defined as being "a specialized type of clinical medical librarian who works on clinical floors, has specialized training and works in a clinical context." He also asks about a hybrid model which combines work on the floors with work in the library. It may be that additional respondents might not have said they are informationists because they don't have "specialized training." He concludes that there are not many informationists and they practice primarily in large organizations. Although he didn't specify complete separation from the physical library or the possession of specialized subject knowledge in his questionnaire, he seems to see these points of difference between clinical medical librarians and informationists as being more important than I would consider warranted in the context of the delivery of excellent health sciences information services.

Stewart C. Whither metrics?; tools for assessing publication impact of academic practitioners. J Acad Libr. 2010 Sep;36(5):449-53.

This article concerns measuring scholarly output of academic library practitioners at the individual and the institutional level. Although it is not clearly explained early in the article, impact is not directly measured. Rather, the author looked at numbers of peer-reviewed articles written by LIS practitioners in ten high impact LIS journals.

First the author identified 467 "research articles" which were published in the 2009 issues of the ten journals. "Research" appears to include all substantive articles, regardless of whether they were truly research-based. Of these 467 articles, 289 (61.9%) were written by practitioners. Two of the ten journals publish mostly research articles written by LIS faculty; the other eight publish primarily substantive articles written by practitioners.

Analysis of the data on articles written by practitioners shows that 20% of the articles are from those affiliated with six universities. The remaining 80% were published by authors at 149 different institutions.

Although the title of this article says the author is assessing publication impact of LIS practitioners, it is actually measuring scholarly output in journals that have high impact factors. The impact factor of a journal is the number of citations to articles in a journal divided by the number of articles published in that journal during the period of analysis. Just because an LIS practitioner publishes in a journal having a high impact factor, it does not mean that article had any actual impact on LIS practice. In order to contribute to a high impact factor for a journal,

LITERATURE REVIEW, continued

an article has to be cited in a subsequent article. Practitioners could well be influenced by articles but never cite them in a publication. The author suggests that counting the number of downloads of articles from a journal might be a valid way to measure impact on professional practice. This makes sense to me. It would be interesting to try doing a study on downloads by practicing librarians. This of course would not be an entirely accurate assessment of use, because some articles are read from paper copies and some would be downloaded for academic, rather than practitioner purposes.

THE RESEARCH MENTOR

Jonathan Eldredge, MLS PhD AHIP
Health Sciences Library and Informatics Center, The University of New Mexico School of Medicine

Creativity in Research, Part 2: Classifying Creativity

We defined creativity in the last column as an original and appropriate contribution to improving a process, service or an outcome. Creativity cannot be just a matter of random incidence (i.e., "dumb luck") but instead must be a change that reflects a mechanistic or other type of insight on the part of the creative person on how the world actually works.

Creative people typically demonstrate certain core characteristics in how they make their unique and valued contributions. Kaufman and Baer note that many creative people display a "divergent thinking ability, task motivation, openness to experience, tolerance of ambiguity" (p. 13) and other possible traits [1]. Singer depicts the common tools of the creative person as:

> Their imaging abilities, analogic and abstract thought, mental modeling, and sharp observation of the world around them. They show a common sense of excitement in confronting new information and novelty, and try as much as possible to avoid being constrained by the conservative nature of their overlearned schemas and scripts. They are risk takers…(p. 202) [2]

While high intelligence or even genius might be associated with creativity, most psychologists explicitly separate the concept of creativity from these other traits. Creativity instead forms its own special research focus in the field of Psychology. Other fields such as the social and management sciences also conduct focused research into creativity [3]. This distinct focus represents one of the many counter intuitive paradoxes one encounters when reviewing formal research studies on creativity.

Researchers over the past half century have attempted to provide conceptual frameworks for understanding creativity. This column will outline two such schemas for classifying creativity due to their potential for augmenting our understanding the roles of creativity in research.

The Propulsion Model of Research

Steinberg, Kaufman, and Perez [4] depict creativity as "propulsive" because it "moves a field from some point or region in the multidimensional space to another." (p. 10) The Propulsive Model elicits the image of motion, specifically a purposive forward motion in a field. They create an eight-part taxonomy of creativity that resides under three even broader categories on the expressions of creativity. Their taxonomy seems to be particularly relevant to the topic of this series of columns on creativity in research. These three broad categories of propulsive creativity pertain to working within an existing paradigm, rejecting a paradigm, or synthesizing two distinct paradigms.

The first broad category of propulsive creativity involves researchers who accept and attempt to extend the boundaries of the current research paradigm. A paradigm represents a theoretical model for better understanding some phenomenon. For example, some researchers will attempt to replicate past research under different circumstances to test the durability of the paradigm. In our profession many user studies in collection development and the pretest/post-test evaluations in user education replicate past studies with different populations. As our technologies for tracking usage change in collection development, moreover, replication involves harnessing these new tools to verify established principles.

Within this same broad framework researchers also might try to redefine the currently-accepted paradigm. In our profession this might occur when a researcher alters a past research question. Or, it might occur when someone uses a new research methodology to answer a well- established research question. Finally, researchers might extend the current boundaries of the current paradigm either incrementally or in dramatic leaps. Examples of this kind of paradigm-extension creativity in our field might be difficult to identify, however. Gary Byrd's journal use study that was highlighted in the spring 2009 "The Research Mentor" column probably reflects this kind of boundary-pushing creativity [5].

The second broad type of creativity involves researchers rejecting the current paradigm. In the process they are trying to discover and promote a new paradigm. This form of creativity takes place on a broad scale. Research or even perhaps policy leaders in the field lead the way in this form of creativity with the majority of researchers following, provided that the leader's vision of a new paradigm has any merit. A field does not change its paradigm regularly, probably not even once during a generation, so there are few examples to illustrate this pattern in library and information practice. This broad type of propulsive creativity might (1) redirect a field from its current trajectory, (2) reconstruct the field anew, or (3) redefine the starting point of all research inquiries within a field.

In our profession we can detect redirection historically through a number of leaders' vision of where we need to be headed with research. In the 1890s John Cotton Dana, the "Experimenting Librarian," redirected our field *away* from libraries and librarians and focused our attention instead on *users* as the center of research inquiry [6-8]. Indeed, the majority of our current collection development, systems, reference, and library education research studies focus on our users. Similarly, when observational research methods were not answering important questions about librarian effectiveness during the 1960s and 1970s, Joanne Marshall introduced the randomized controlled trial research design to resolve the controversy and to redirect our research inquiries [9-10]. The reconstruction form of creativity might be illustrated during the 19th Century by John Shaw Billings' investigations into the then current medical literature. Billings' research led him to create the novel form of subject access to the journal literature with *Index Medicus*, the ancestor for our present day PubMed™. We take the subject access approach for granted now. Yet, Billings' subject access probably was a paradigm-reconstruction form of creativity at the time [11].

The third broad type of creativity in the propulsion model involves synthesizing two or more paradigms into a single unified paradigm. The author lacks the comprehensive knowledge of our field's research history so he cannot offer an example of this form of creativity in research. While this author might have misclassified specific library and information practice examples for the propulsive model conceptual framework, he hopes that the reader still can sense the relevance of this model when trying to understand creativity in research.

Creativity and Subject Domain

Division 10 of the American Psychological Association published a 2004 compilation titled *Creativity: From Potential to Realization* in an attempt to make sense of a burgeoning body of research evidence on the general topic of creativity in its many forms. This column of *Hypothesis* began with an overview of certain personal characteristics found in many creative people. The (Subject) Domain Specific Model insists that while we might identify common characteristics of creative artists or scientists, such as openness to experience or perseverance in the face of challenges, creativity almost always must manifest itself in the context of a specific subject domain. While we might even cite examples of artistic scientists or scientific artists, these individuals who are able to cross subject domain boundaries are as rare as geniuses [12].

This subject domain specificity framework represents another surprise when reviewing the rigorous body of studies on creativity. As Feist [13] has noted, "Creative talent is expressed in each evolved implicit domain and is specific to its domain rather than general." (p. 64). In other words, there probably is no such thing as a creative personality apart from expertise within a specific subject.

Why this paradox? The evidence in Psychology suggests that it takes a minimum of a decade for someone to master a subject domain such as one of the arts or sciences. The emerging creative person makes unique contributions in response to her or his growing expertise within that specific subject domain. The aptitudes, skills, and sensibilities of an expert in a subject domain such as one of the sciences simply are not the same as the aptitudes, skills, and sensibilities of an expert in one of the arts. Creativity in a science occurs within the subject context of science and creativity in an art occurs within the subject context of that art [14].

What are the major subject domains identified by researchers on creativity? Most agreement centers upon these core subject domains:

Arts
Behavioral and social sciences
Biology
Linguistics
Mathematics
Physics [15]

The subject domains of bodily, interpersonal relations, and music also appear to be other areas identified by some researchers on creativity.

From our own individual experiences we can observe that humans tend to respond to a subject domain along a continuum ranging from dilettantism to developing a focused subject expertise. We often associate immaturity with dilettantism and expertise with maturity. Still, we cannot conceive of a mature person not passing through the necessary stages of dabbling in various subjects to become a well-rounded, well-grounded adult. These superficial involvements in a number of domains apparently make possible cross-subject domain connections later in one's career. These cross domain wanderings early in life might aid the future creative person in making connections between subjects regardless of their domain expertise. This stage therefore appears to be a normal developmental step in the journey into adulthood. In contrast, expertise implies a sustained focus of one's energies for many years.

Researchers in our field wishing to leverage their potential creativity should develop and sustain an area of subject expertise. According to the best available research-generated evidence in Psychology, this expertise will unveil the opportunities for us to express our emerging and maturing creativity.

References

1. Kaufman JC, Baer J. Hawking's haiku, Madonna's math: why it is hard to be creative in every room of the house. In: *Creativity: from potential to realization*. Edited by RJ Sternberg, EL Grigorenko, and JL Singer. Washington, DC: American Psychological Association, 2004: 3-19.
2. Singer JL. Concluding comments: crossover creativity or domain specificity? In: *Creativity: from potential to realization*. Edited by RJ Sternberg, EL Grigorenko, and JL Singer. Washington, DC: American Psychological Association, 2004: 195-203.
3. Kahl CH, Hermes da Fonseca L, Witte EH. Revisiting creativity research: an investigation of contemporary approaches. *Creativity Research Journal* 2009; 21 (1): 1-5.
4. Sternberg RJ, Kaufman JC, Pretz JE. *The creativity conundrum: a propulsion model of kinds of creative contributions*. New York, NK: Psychology Press, 2002: 10.
5. Byrd GD. Medical faculty use of the journal literature, publishing productivity and the size of health sciences library journal collections. *Bulletin of the Medical Library Association*. 1999 Jul;87(3):312-21.
6. Kingdon F. *John Cotton Dana*. Newark, NJ: The Public Library and Museum, 1940.
7. Dana JC. Hear the other side. *Library Journal* 1896 Nov. C1-5.
8. Eldredge J. Hear the other side: John Cotton Dana. *Wilson Library Bulletin* 1992 Apr; 66 (8): 48-9.
9. Marshall JG, Neufeld VR. A randomized controlled trial of librarian educational participation in clinical settings. *Journal of Medical Education* 1981; 56(5): 409-16.

RESEARCH MENTOR, continued

10. Eldredge J. Do Clinical Librarians Matter? The First Randomized Controlled Trial in Librarianship. *Evidence Based Library and Information Practice* 2007; 2 (4): 84-7. Available from: < http://ejournals.library.ualberta.ca/index.php/EBLIP>. Cited 14 February 2011.
11. Chapman CB. *Order out of chaos: John Shaw Billings and America's coming of age*. Boston, MA: Boston Medical Library, 1994.
12. Root-Bernstein R, Root-Bernstein M. Artistic scientists and scientific artists: the link between polymathy and creativity. In: *Creativity: from potential to realization*. Edited by RJ Sternberg, EL Grigorenko, and JL Singer. Washington, DC: American Psychological Association, 2004: 127-51.
13. Feist GJ. The evolved fluid specificity of human creative talent. In: *Creativity: from potential to realization*. Edited by RJ Sternberg, EL Grigorenko, and JL Singer. Washington, DC: American Psychological Association, 2004: 57-82.
14. Clarke B. Mountains on the moon: the role of imagination and style in science. *International Journal of Surgical Pathology*. 2002 Jul ; 10(3): 171-3.
15. Feist GJ, Ibid., p. 59.

EVIDENCE-BASED PRACTICE AND THE HOSPITAL LIBRARY: A REPORT FROM NORWAY

A case study of evolving librarianship

Endre Aas
Innlandet Hospital Trust, Norway

Background

Innlandet Hospital Trust covers approximately 20,000 square miles (approximately 32,200 square kilometers)[1] of eastern Norway. It is a 100% government-funded public health trust serving a population of approximately 390,000 people. While one of Norway's largest hospitals with over 22,000 patients in treatment at any given time, Innlandet serves an area with low population density by Norwegian standards. The national government finances hospitals in Norway through yearly grants. In contrast to the US, Norwegian citizens do not pay for healthcare aside from modest administrative or prescription fees. The Norwegian healthcare system generally parallels the Kaiser Permanente or the US Veterans Administration systems with their salaried staffs. Population satisfaction with health care, and physician job satisfaction in Norway is good and increasing (in both primary and specialist care). There is also population-wide consensus on the major expenses that goes into free health care for all[2].

Innlandet Hospital Trust consists of six major hospitals, mostly spread around Lake Mjøsa, Norway's biggest lake, 70 miles north of the capitol of Oslo. There are a total of 1,227 hospital beds with a budget of approximately $4.5 billion US dollars[1] a year. Only five librarians serve a large area trust with 390,000 people.

The Challenge

In 2008 the Norwegian government selected Innlandet Hospital Trust (IHT) as a pilot site for implementing its new national Evidence-Based Practice (EBP) plan. This plan sought to ensure that all patients receive the same treatment for the same illness according to best practice. The plan called for increasing professional competence among the health personnel and the development of best practice guidelines. We wondered –"What can the hospital library do to make this goal a reality?"

EVIDENCE-BASED PRACTICE, continued

Fig. 1: Hospitals and treatment centers of Innlandet Hospital Trust.

The University College of Bergen had already demonstrated leadership in EBP for Norway. Our colleagues there already had established a department of Evidence-Based Practice.[3] The College was offering a new master's level degree on EBP for librarians. If at this time we had not had a forward-looking Head Librarian who recognized this initiative in terms of an opportunity, this case study would have been very different. Although we did not know about the national EBP project at the time, we had for several years made efforts to develop the library's long term strategic focus of being a knowledge center within the IHT organisation. We had based our work and teaching on mostly Norwegian curriculum (we have three librarian educational programs in Norway) and literature[4,8]. Retrospectively, we did a good job as a medical library, although we practiced in a very traditional manner. But by the time four fifths of our librarians graduated from the EBP course at the College of Bergen, we had been presented with so much new research, that we came back full of new and exciting ideas. Our ideas encompassed both our teaching[5,6] and EBP in general[7,8]. We particularly embraced Hayne´s 5S model - later elaborated upon into the 6S model [7,9] and it would become important for our new activities.

Of course we desired to use our resources and efforts for the maximum benefit. Yet, as in life general, the natural consequence of introspection prompted us to wonder: "what are others doing"? We decided to engage some more with the international community. We started reading research papers on a more regular basis, piloted a journal club initiative, became more proficient in reading research[10] and followed discussions online. We also started conducting our own original research. We wrote a paper that we presented at the Fifth International Evidence Based Library and Information Practice (EBLIP 5) Conference during 2009 in Stockholm[11]. And little by little, we acquired new assignments and new projects within the organisation. In addition to the expected standard library instruction classes, we began to teach EBP in day-long seminars. The courses were oriented to the employees at IHT as well as a part of the specialist education courses for doctors and nurses. With our new EBP approach, we decided to base our curriculum on the Hayne´s 6S model approach to presenting research[7,9], the searching strategies from the American Medical Association's "Users Guide to the Medical Literature"[12] and Trisha Greenhalgh´s "How to read a paper"[10]. Our teaching materials all came from highly acknowledged sources of evidence for the topics we were teaching. Also a new Norwegian book, "Working and teaching evidence based" became a central part of the lecturing[8].

We extended the quality, amount ,and the number of topics of our teaching. We also developed our own teaching methods: from pretty standard standalone lecturing towards more interactive teaching techniques – even trying out for a period of time being present at clinicians' morning meetings, integrating teaching directly into the problem situation, inspired by Kahn and Coomerasamy´s study from 2006[6]. We also became involved in the work for improving the hospital practice guidelines. Most importantly, we started working closer with our primary users - the health personnel.

Recent Developments

Over the past two years we have taken many steps further. The library service has grown to be more uniform. Our users know more of what they can expect from us and they appreciate our competence in librarianship. We have started conducting our own

surveys and studies[11,13] to further examine and understand our practice[14]. This pursuit has led to a "sharper" library profile within the parent organisation as we have suddenly shown up on the IHT scientific publication list.

There have been some inevitable setbacks. We now have heavier workloads and understaffing issues. Being able to follow up on the "close-to-clinic" teaching has become difficult because of this, and we have been forced to moderate some of our initial goals. All in all, however, we have improved our services and we have experienced a great increase in activity when it comes to lecturing with a jump from 82 lecturing hours in 2007 to 121 in 2008 and stabilizing at around 115 in 2009/2010. We are now granted access instead of existing as bystanders in external processes. Leading to involvement in the development of a new "Microsoft Sharepoint"-hosted publishing solution for a new hospital information web system. On the downside we have had a decrease in the traditional book loans at about 25 percent[15].

Even if some goals have been reprioritized, we are still trying to be innovative. Our newest project is a EBP search-engine called "The Knowledge Egg"[16] partly in collaboration with McMaster University Canada. The search engine builds upon the ideas of Hayne´s 6S pyramidic model, although aiming more pragmatically, and is amongst other databases, integrating the knowledge resource called "the MacPlus,"[7.] a high-quality knowledge product of the McMaster University's HIRU (Health Informatics Research Unit). The idea is to present critically-appraised research in a user-friendly way. We present everything from single studies, to systematic reviews, guidelines and the hospital's own evidence-based procedures. The best-quality evidence is presented at the highest levels in the "Knowledge Egg" and successively downwards as the quality decreases. Making it easy for our users to see where they should search for the best answer to their question. This is a project still under development, and we plan to launch a version 3.0 soon.

Lessons Learned

Looking back, one of our greatest success factors has been the skilled leadership and the ambitious group of library professionals that we have. The combination of generating research and acting upon it has showed the hospital administration that we can bring much knowledge to the table, even outside our traditional library domain. Using innovative solutions as pragmatic adaptations to ongoing changes in the institution's priorities, we have been able to pull many of our goals through. Securing governmental support for our pilot project through the regional health authority, we have also managed to keep the ball rolling and paved the way for further support.

Conclusion

This case study outlines the concrete steps we have undertaken to become more evidence-based practitioners. And by doing so, our hospital library has changed and has become a more vital part of our organisation. EBP explains much but not all of the success of our hospital library. EBP has been an incentive for us to think about the Library in a new way and has given us the direction we needed to start "doing" library in a new way – Made possible due to a consensus-driven highly motivated and skilled team of professionals.

References

1. Innlandet Hospital Trust [Internet]; Brumunddal. 2010 [cited 2010]. Available from: http://www.sykehuset-innlandet.no/modules/module_123/proxy.asp?D=2&C=347&I=10281&mids=166
2. Befolkningens tilfredshet med helsetjenesten og legers tilfredshet med arbeidssituasjonen. [Population satisfaction with health care and physician´s job satisfaction] Tidsskr Nor Laegeforen. 2009, 26;129(5):405-7.
3. Center for Evidence Based Practice [Inernet]. Bergen: College of Bergen. 2010 [cited 2010]. Available from: http://www.hib.no/senter/kunnskapsbasert/
4. Bjørndal A, Flottorp, S, & Klovning, A. Kunnskapshåndtering i medisin og helsefag. 2nd ed. Oslo: Gyldendal Akademisk; 2007.
5. Flores-Mateo G, Argimon JM. Evidence based practice in postgraduate healthcare education: a systematic review. BMC Health Serv Res. 2007;7:119.
6. Khan KS, Coomarasamy A. A hierarchy of effective teaching and learning to acquire competence in evidenced-based medicine. BMC Med Educ. 2006;6:59.

EVIDENCE-BASED PRACTICE, continued

7. Haynes RB. Of studies, syntheses, synopses, summaries, and systems: the "5S" evolution of information services for evidence-based healthcare decisions. Evid Based Med. 2006 Dec;11 (6):162-4.
8. Nortvedt MW, Jamtvedt G, Graverholt B, Reinar L.M. Å arbeide og undervise kunnskapsbasert - en arbeidsbok for sykepleiere. [Working and teaching evidence based – a workbook for beginners] Oslo: Norsk Sykepleierforbund; 2008.
9. Dicenso A, Bayley L, Haynes RB. Accessing pre-appraised evidence: fine-tuning the 5S model into a 6S model. Evid Based Nurs. 2009 Oct ;12(4):99-101.
10. Greenhalgh T. How to Read a Paper: the Basics of Evidence-based Medicine. 3rd. ed. Malden, MA: Wiley-Blackwell; 2006.
11. Aas E, Opheim, E. What's good enough?: identification of differences in search strategies between librarians and clinicians and their implications for further teaching programmes. 5th International Evidence Based Library and Information Practice (EBLIP5) Conference: Bridging the Gap; Jun 29 – Jul 3; Stockholm, Sweden. Stockholm; 2009.
12. Guyatt GR, Drummond. Users' guides to the medical literature: essentials of evidence-based clinical practice. Chicago: American medical association; 2002.
13. Eiring Ø, Aas E, Eggen, R, Fosseng, HP, Nylenna, M. Blogg, RSS og podkast i medisin og helsefag. [Blogs, RSS feeds and podcasts in medicine and health]. Norwegian. Michael. 2008;5:24.
14. Straus SE, Green ML, Bell DS, Badgett R, Davis D, Gerrity M, et al. Evaluating the teaching of evidence based medicine: conceptual framework. BMJ. 2004 Oct 30;329(7473):1029-32.
15. ABM-utvikling [Internet]. Oslo: Norwegian National Statistics, statistics for medical and research libraries. 2010 [cited 2010]. Available from: http://www.abm-utvikling.no/bibliotek/statistikk-for-bibliotek/statistikk-for-fag-og-forskningsbibliotek
16. The Knowledge Egg [Internet]. Brumunddal: Innlandet Hospital Trust. 2010 [cited 2010]. Available from: http://www.kunnskapsegget.no
17. HIRU [Health Information Research Unit], Mc Master University [Internet]. Hamilton: Mc Master University. 2008 [cited 2008]. Available from: http://www.macmaster.ca/hiru

DUE PROCESS FOR CREATING A MENTORING PROGRAM

Elizabeth LaRue, PhD, MLA, AHIP
School of Nursing, University of Pittsburgh
Research Section Mentoring Program Executive Committee Co-Chair

Heather Holmes, MLIS, AHIP
Summa Health System
Research Section Mentoring Program Executive Committee Co-Chair

Introduction

"The Research Imperative: The Research Policy Statement of the Medical Library Association" vignette with Betsy Humphreys states that "Librarians know and understand research" and contribute to research by assisting people in finding the 'right' information. (Medical Library Association "The Research Imperative: The Research Policy Statement of the Medical Library Association
Creating a Culture of Research: The Vision ") The Policy Statement also lists research goals for health sciences librarian. One of the goals is to "add to the health information science knowledge base by carrying out research that is broadly relevant to the organization, delivery, use, and impact of information on health care, biomedical research, and health professionals' education." (Medical Library Association "Using Scientific Evidence to Improve Information Practice Policy Statement") This is an especially lofty goal since most librarians are trained on how to find information and how to conduct a reference interview, but not always trained in how to do research. In fact, depending on what type of institution and library one works the words, cross-sectional or ethnographic study, may never be heard. They are only stumbled upon when one gains an interest in research and personally begins to analyze the research literature. Recognizing the words that define study types will certainly help in doing literature searches but the understanding of the processes that go on in a research study so the study can be labeled as cross-sectional or ethnographic are not easily perceived. To assist in learning and understanding research study designs and methodology, the Research Section has revitalized its Research Mentoring Program.

Revitalization History

The incoming chair and chair of the Research Section in 2007 brought the concept of mentoring to the forefront by listing it as a goal under two separate areas 1) Life Long Learning, and 2) Creating and Communicating our Knowledge. There was much discussion in 2008 about mentoring and a general query to all Research Section members for their interest in starting a formal 'mentoring' program within the section. The individuals that responded were contacted by the section chair to measure their true level of interest. In early 2009, there was a charge put forth to create a 'Research Mentoring Program Planning Task Force' that would serve for one year in the Research Section. There were seven tasks put forth to this task force, and they all addressed recommending, creating, and identifying various aspects of what MLA and the Research Section can do to establish a more formalized mentoring program.

Task Force Outcomes

The task force spent half of one year learning about existing mentoring resources and programs within MLA. The best discovery was perhaps the existence of the mentoring database hosted on the MLA website under "MLA Mentoring" (http://www.mlanet.org/mentor/). MLA Headquarters was consulted for accuracy and due process of maintaining the database. The task force then manually reviewed all records within the database to document those mentors with expertise in biomedical research support or librarianship research.

The documentation that MLA provides on their website for mentoring was also reviewed. Many sections within MLA and regional MLA chapters have established mentoring processes. The current leaders of those groups were consulted and informally interviewed on the successes and problems with their mentoring programs.

The task force consulted with the Research Section Chair during the mid-point in the year sharing what they had learned and proposed the development of a newly structured Mentoring Program within the Research Section.

MENTORING PROGRAM, continued

The 2009 Annual MLA Research Section meeting recognized the work the task force completed during the previous year and provided input for the future. Recognizing the effort and work to satisfy the charge of the task force, the Section moved to make the Task Force a formalized two year appointment Mentoring Program Executive Committee beginning in 2010.

Research Section Mentoring Program Executive Committee

The Mentoring Program Executive Committee consists of two Research Section members currently acting as co-chairs. When the program gains in popularity the co-chairs will incrementally step down after assuming one of the two committee chairs. One chair will be Coordinator and the other will become Vice-Chair. Each position may only be held for one year. Thus, the Vice-Chair is the mentee for the Coordinator and automatically assumes the Coordinator role at year end.

Presently the Committee is running a research study and hopes to share the study results at the 2012 MLA Annual Conference. In efforts to meet the Research Policy mentioned in the first paragraph, members of the Executive Committee are proposing to MLA ways to inform medical librarians of research study types and methodologies. There is a possibility of establishing a formal research mentoring program within MLA. Turning librarians into researchers would move the librarian from a participant in the research process to a data collector, analyzer, developer and ultimately a creator of knowledge.

References

Medical Library Association. "The Research Imperative: The Research Policy Statement of the Medical Library Association

Creating a Culture of Research: The Vision". 2007. (September 14, 2007): web page. Medical Library Association. March 4 2011. <http://www.mlanet.org/research/policy/policy-03.html>.

---. "Using Scientific Evidence to Improve Information Practice Policy Statement". 2007. web page. Medical Library Association. March 3, 2011 2011. <www.mlanet.org/research/science4.html >.