

2014 Annual Conference Abstracts:

# **Juried Papers**

## “Altmetrics: An Entrepreneurial Approach to Assessing Impact on Scholarship and Professional Practice”

**Presenters:** Laurie Bonnici, University of Alabama and Heidi Julien, University at Buffalo

Social media has had a profound effect on the academic enterprise, providing scholars with opportunities to connect with likeminded colleagues down the hallway or around the globe. These technologies also provide opportunities for academics to promote their work by bringing attention to their publications and other research products. While traditional research impact measures such as citation counts and the h-index are commonly used in academic tenure and promotion decisions, to date social media presence plays little or no role in assessing scholarly impact. Nevertheless, some scholars entrepreneurially and actively promote themselves and their work via social media; others pay little heed to these forms of communication for professional purposes. Universities are beginning to expand their social media focus from a limited view of these technologies as communications and marketing tools, to consider the value of scholars' contributions in the social media sphere. Future scholarly research impact is likely to be evaluated not only through quantity and quality of publication, citations, and influence on policy and practice, but also measured by the social media “buzz” it creates. While many universities are still debating the value of publishing in non-traditional formats and in venues outside of top-tier journals (i.e. – *First Monday*), others have adopted these alternative scholarly outputs as mainstream in recent years.

In like fashion, will social media presence emerge as an important indicator of scholarly impact?

Schroeder et al. (2011) argue (<http://altmetrics.org/workshop2011/schroeder-v0/>) that “only a certain amount of research can be said to have impact without making the very notion of impact meaningless.” These authors ask whether “those dominating the online attention space differ from those who dominate the attention space in the channels of traditional scholarly dissemination? We would expect that although in certain respects, new ‘stars’ emerge online, the main impact of Web 2.0 will be to make their traditionally disseminated work also garner more attention. Further, only work that is assessed by peer review will enter into ‘winnowed’ knowledge, thus making Web 2.0 dissemination ancillary.” In other words, in current form, social media metrics measure marketing of scholarly work rather than impact on other scholars or on practitioner or policy communities. The scholarly impact measured by social media analytics has yet to be determined (Bar-Ilan et al, 2012).

“Altmetrics” is the term applied to measures of impact or influence beyond the traditional. Rousseau and Ye (2013) note that “altmetrics...has not (yet) a precise definition, but refers to the use of social media, particularly Web 2.0 media, in assessing the influence of researchers on all type of users.” However, they argue that “mentions” on the internet amount to popularity measures...hence altmetrics data must be approached with caution, and in the context of multidimensional evaluation exercises...“likes” or “shares” lack authority and scientific credibility so that the use of altmetrics may still be somewhat premature.” Rousseau and Ye propose that “combining informetric data (via a multi-metric approach) and peer review (for the many aspects that are not quantitative, including the interpretation of quantitative data) is necessary for all forms of academic evaluation.” Considering the potential for misinformation, Cheung (2013) reminds us that it is relatively easy to manipulate altmetrics such as number of “downloads” or “likes” by setting up multiple user accounts.

In professional schools such as medicine and law, academic disciplines bridge scholarship and professional application. Such is the case with information-related disciplines such as library and information science (LIS), computer and information science (CIS), and management information systems (MIS). Usage of scholarly works beyond journal citation,

for informing practice, is a potential measure of impact. Lay social media outlets serve as a window for extra-scholarly impact.

The dynamic potential for altmetrics is intriguing and thus motivated the research questions addressed in this study: How do traditional measures of scholarly impact differ from altmetrics for prominent scholars in LIS? In other words, are those scholars who demonstrate impact in traditional ways also impactful in terms of their Web 2.0 presence? How do lay data (e.g., mentions/likes of scholarly publications and projects by students and practitioners on social media, tweets in real time about conference presentations) inform impact measures? More precisely, are lay contributions social, marketing, or scholarly in content? The answers to these questions could inform decisions about appropriate impact metrics in our field.

Altmetrics data is dominated by quantitative measures, specifically by counts of posts, views, downloads, mentions, tweets, and bookmarks. But the numbers fail to reveal how scholarly works are being used and valued. Four case studies of LIS faculty who use social media will provide the context for examination of impact of lay social media outlets. Through aggregation of altmetrics data using the ImpactStory application, the researchers will perform content analysis on the lay social media outlets (Facebook, Twitter, and Google +) to determine:

1. Origination and migration patterns of scholarly content
2. Substantiality (social support, marketing, discussion)
3. Correlation with successful funding for research

The answers to these questions will expand analysis as promoted by Priem and Hemminger (2010) who suggest that analyzing impact via web presence could focus on “seven categories of Web 2.0 tools that might be productively mined: bookmarking, reference managers, recommendation services, comments on articles, microblogging, Wikipedia, and blogging.” The data will also inform how altmetrics may be appropriately applied in disciplines that are responsible for preparing students for practice, such as LIS. While more academically formalized versions of these common social media tools, such as Scholarpedia (scholarpedia.org) or ResearchGate (researchgate.net), may be more useful sources for measuring scholarly impact, lay social media outlets may be more useful for measuring impact on professional practice.

Scholarly impact remains an important and intriguing issue, and the rapidly changing landscape in which entrepreneurial approaches to assessing that impact challenge traditional analyses demands our attention. This study will highlight current practices intended to increase impact as well as identify opportunities for additional entrepreneurship in altmetrics.

#### References:

Bar-Ilan, J., Haustein, S., Peters, I., Priem, J., Shema, H., & Terliesner, J. (2012). Beyond Citations: Scholars' Visibility on the Social Web. Éric Archambault, Yves Gingras and Vincent

Larivière, eds. Proceedings of 17th International Conference on Science and Technology Indicators, Montréal: Science-Metrix and OST. Volume 1, pp. 98-109.

Cheung, M.J. (2013). Altmetrics: Too soon for use in assessment. *Nature* 494,176 (14 February 2013). doi:10.1038/494176d.

Priem, J., & Hemminger, B.M. (2010). Scientometrics 2.0: Toward new metrics of scholarly impact on the social Web. *First Monday*, Volume 15, Number 7 - 5 July 2010.

Rousseau, R. and Ye, F.Y. (2013). A multi-metric approach for research evaluations. *Chinese Science Bulletin*, 2013 ([http://users.telenet.be/ronald.rousseau/altmetrics\\_\\_\\_influmetrics.pdf](http://users.telenet.be/ronald.rousseau/altmetrics___influmetrics.pdf)).

Schroeder, R., Power, L., & Meyer, E.T. (2011). Putting scientometrics 2.0 in its place. Presented at Altmetrics11: Tracking scholarly impact on the social Web. Koblenz (Germany), 14-15 June 2011 (<http://altmetrics.org/workshop2011/schroeder-v0/>).

## **“What Is Entrepreneurship? Alternative Visions for LIS Education”**

**Presenter:** John Budd, University of Missouri

The conference theme of educational entrepreneurship could be read as intentional or ironic. The intentional reading has a phenomenological foundation of employing creativity and innovation specifically to enhance the learning and engagement of students (as “others”). In this sense the object of education is seeking ways to reach people in ways that fit best with, among other things, the cognition (traditional and embodied), learning styles, and modes of apprehension of students. The creativity that is necessary on the parts of teachers includes gaining knowledge of the patterns of thoughts that vary from one individual to another. It also requires that teachers become proficient at communicating with individuals and with groups, and has a decidedly ethical component (in that the relationship between teacher and student is bound by commitments to truth seeking and veritism). In sum, it means (in the fullest semantic and linguistic pragmatic contexts) that teachers are sensitive to the students as learners and that teachers seek the most effective teaching methods so as to optimize learning.

The ironic reading holds that education is a neoliberal act that is part and parcel of the corporate university. The goal according to this reading is to free educational action to seek capital in process and outcome. Learning is secondary to capitalization of education, in part realized by means of maximizing enrollment (see Harvey, 2005, pp.10-11). Every student represents a transaction by which the program and, by extension, the institution gain financially. Harvey (2005) states that neoliberalism “holds that the social good will be maximized by maximizing the reach and frequency of market transactions, and it seeks to bring all human action into the domain of the market” (p.3). One potential outcome of the neoliberal university and library and information science (LIS) is that homogenization—of content and of the student body—will become the norm (see Holligan and Chiang, 2011, p. 254). The danger is that the vision set forth by Lyotard (1984) will come to pass. As he (1984) said, the nature of knowledge “can fit into new channels, and become operational, only if learning is translated into quantities of information” (p. 4). The ironic quality of educational entrepreneurship, according to this sort of reading, is damaging to learning and knowledge acquisition to the point of near obliteration.

The presentation will critique (briefly) the ironic reading and will emphasize (at some length) the necessity of the intentional reading. The aim of the project is to articulate a vision for the future of LIS education that is free of capital constraints and monetarization tendencies that exist today in higher education. As Jaspers (1960) has pointed out, “The university exists through the good graces of the body politic. Its existence is dependent on political considerations. It can only live as and where the state desires. The state makes the university's existence possible and protects it” (p. 132). At the present time the body politic is ailing to the point that it is almost absent in higher education. State support for public institutions has declined to near minimal levels. A key question that the presenter will address, and to which the audience will be urged to respond, is the kind and degree of

legitimacy LIS education now has. An alternative is, as Lyotard (1984) suggests, “performativity,” or the efficiency-oriented processes of business and the state.

The audience will be asked:

- Are you experiencing pressures to increase enrollments (overall and/or within classes)?
- Is there a move to employ MOOCs (massive open online courses) within your program?
- Does assessment rest on modes and measures of efficiency?

The presentation will then turn attention to the intentional reading. “Entrepreneurship” will be defined in terms of learning and knowledge creation by means of exemplary innovation based on the cognitive, epistemological, and professional needs of individuals. By this definition, a variety of experiential techniques, along with modes of content delivery, will be mentioned by the presenter. In particular, the presentation will recount what is required for student learning to be achieved. Underlying the discussion will be the added phenomenological dimension of ethics in education. Specifically, the session follows Ricoeur (1992) in his admonition that we seek a “‘good life’ with and for others in just institutions” (p. 260). Ricoeur’s assertion cannot be overstated with the context of the intentional stance. A “good life” ineluctably includes the unfettered and enhanced ability to learn and discover. The ethics spoken of here resides at the university, program, and individual levels.

The audience, at this point, will be asked:

- Do you, as teachers, have the discretion to set enrollment limits for your classes?
- Does your program encourage innovation with student learning as the primary desired outcome?
- How would you evaluate your environment with regard to ethics and ethical action?

The presenter will address specific elements of both the intentional and the ironic readings discussed above. In this session the presenter will have sought to fulfill Ricoeur’s admonition and will mention the efforts in the course of their presentations. Throughout the session, the presenter will also speak to the ways of creatively reaching students and rejecting performativity and neoliberalism.

## References

Harvey, D. (2005). *A Brief History of Neoliberalism*. Oxford: Oxford University Press.

Holligan, C. and Chiang, K-H. (2011). Browne’s Capgas delusion: The destruction of the public university. *Journal for Critical Education Policy Studies*, 9, 241-59.

Jaspers, K. (1960). *The Idea of the University*. London: Peter Owen.

Lyotard, J-F. (1984). *The Postmodern Condition: A Report on Knowledge*. Minneapolis: University of Minnesota Press.

Ricoeur, P. (1992). *Oneself as Another*, trans. by K. Blamey. Chicago: University of Chicago Press.

**“Twens HackHealth: Working with School Librarians to Engage Disadvantaged Youth in Health Entrepreneurship”**

## Introduction

We are entering a new era in which people are increasingly interested in, and expected to take responsibility for, their own health (Broom et al., in press; Flatley et al., 2010; Johnson & Case, 2012). This interest and responsibility necessitates being able to find personally relevant health information within one's day-to-day life. Today's youth have an unprecedented opportunity to learn about and adopt healthy habits that will help them to maximize their chances for living long, healthy lives. However, this opportunity can only be realized if youth have both the requisite information and digital literacy skills and a strong sense of self-efficacy when it comes to their health.

## Goals

With generous support from the National Library of Medicine, we are leveraging the strengths of school library programs (hubs for development of information, digital and new media literacies) to create and run after-school programs (known as HackHealth) in three Title I middle schools. We encourage disadvantaged youth to become health entrepreneurs by engaging them in (a) conducting scientific inquiry into health maintenance and/or disease prevention and management; (b) acting as health information intermediaries by sharing the information they learn with family members; and (c) taking action based on what they learn through the program.

Our overarching goals for the after-school program are to increase the interest of youth in the health sciences, their health information literacy, their health-related self-efficacy, and their understanding of the crucial link between their daily health-related behaviors and their ability to maintain their health and prevent disease.

## Methods

Working with school librarians in the three middle schools, we are iteratively co-designing and co-developing a set of modules for three 8-week after-school programs that we will use to facilitate participants' acquisition of information (in particular, health) literacy skills. The development of these modules was guided by Eisenberg and Berkowitz's Big 6 information problem-solving model (Eisenberg, 2008; Eisenberg & Berkowitz, 1990). This co-design method, which is also known as cooperative inquiry (Druin, 1999; Guha et al., 2005), is grounded in human computer interaction research and theories of participatory design, contextual inquiry, cooperative design and activity theory (Druin, 2010). The cooperative inquiry method emphasizes three principles throughout the design of a technology or a program: (1) multidisciplinary partnership with users, (2) field-based research and, (3) iterative "low-tech" and "high-tech" prototyping (Druin, 1999).

We recruited 10 to 12 youths in each participating school for our four-phase program. During the first phase, we conducted a baseline survey to gather information from participating youth regarding their level of interest in the sciences and health (Fraser, 1981), their experience using various sources of health information, their perceptions regarding their health-related knowledge and health literacy (NNLM, June 2013), and their feelings of self-efficacy towards their health. We also employed a card-sorting technique (St. Jean, 2012a; St. Jean, 2012b) to elicit participants' relative assessments of the trustworthiness and usefulness of health-related information provided by various types of people, media, organizations, and websites. During this first phase, participating youth were also encouraged to explore online resources in order to identify a personally relevant health issue they would like to focus on during the program.

During the second phase, the modules were deployed and participating youth completed in-class and at-home activities, such as keeping logs of their searches for health information,

and journaling about what they're learning and how they're using it within their day-to-day lives. Throughout these initial phases, we used software to track youths' interactions with their browsers during the after-school sessions.

The third phase of the program consisted of follow-up interviews with the participating youth at the end of the program. The fourth phase involved conducting two focus groups -- one with participating youth and one with their parents -- to obtain feedback about the program.

Additionally, the baseline survey and the card-sorting exercises were repeated to gauge any changes that may have taken place in the youths' interest in science and health, their perceptions regarding their health-related knowledge, and their feelings of self-efficacy towards their health.

### Focus of the Presentation

In this presentation, we will share how we co-designed the modules for the after-school program with the librarians, including the various types of activities we developed to teach the participating youth how to look for and evaluate health-related information online. We will also share our approach to methodology, specifically our data collection methods. All instruments and data collection methods were either adapted from previous studies or designed by the research team. Pre-existing data collection methods (with the exception of a portion of the baseline survey) were not originally designed for youth (and more specifically for disadvantaged youth), but were developed with adult participants in mind. We share these instruments and will present lessons learned from using these instruments with this particular population, including what worked, what did not work, and what changes we decided to make for the second implementation, which is currently underway at the second participating middle school.

The after-school program was designed with the intention of achieving long-term positive impacts on the health of participating youth and their families – thus designating the youth as health entrepreneurs in their households. Instead of using the more traditional models of top-down teaching about specific aspects of health, youth are encouraged to choose an aspect of health that is relevant to their own lives to explore more deeply. The co-development of the modules and associated activities with school librarians, the designing of suitable instruments to track disadvantaged youths' health, digital and information behavior and literacy development, and the iterative revision of our data collection methods and module content, all coalesce to deliver an innovative method of encouraging disadvantaged youth to be health entrepreneurs, developing their health, digital, and information literacy skills and helping them to utilize these skills to manage their health and to serve as information intermediaries for their family members. This project model – including the data collection and activity design – can inform future work with these populations and provide insight to both researchers and educators in these fields.

### References

Broom, A., Meurk, C., Adams, J., & Sibbritt, D. (in press). My health, my responsibility?: Complementary medicine and self (health) care. *Journal of Sociology*.

Druin, A. (1999) Cooperative inquiry: Developing new technologies for children with children.

In CHI '99: Proceedings of the SIGCHI Conference on Human Factors in Computing Systems, pp. 592-599.

Druin, A. (2010). Children as codesigners of new technologies: Valuing the imagination to transform what is possible. *New Directions for Youth Development*, 128, 35–43.

Eisenberg, M. (2008, March) Information literacy: Essential skills for the information age.

Eisenberg, M. E. & Berkowitz, R. E. (1990). *Information Problem-Solving: The Big Six Skills Approach to Library & Information Skills Instruction*. Norwood, NJ: Ablex Publishing Corporation.

Flatley Brennan, P. & Safran, C. (2010). Chapter 2: Empowered consumers. In D. Lewis, G. Eysenbach, R. Kukafka, P. Z. Stavri, & H. Jimison (Eds.), *Consumer Health Informatics: Informing Consumers and Improving Health Care* (pp. 8-21). New York, NY: Springer Science + Business Media, Inc.

Fraser B (1981) *Test of science-related attitudes: Handbook*. Australian Council for Educational Research. Hawthorn, Victoria: Australian Council for Educational Research Limited.

Guha, M. L., Druin, A., Chipman, G., Fails, J. A., Simms, S., & Farber, A. (2005). Working with young children as technology design partners. *Communications of the ACM*, 48(1), 39-42.

Johnson, J. D. & Case, D. O. (2012). *Health Information Seeking*. Washington, DC: Peter Lang.

NNLM (National Network of Libraries of Medicine). (2013, June). "Health Literacy." Available: <http://nmlm.gov/outreach/consumer/hlthlit.html>

St. Jean, B. (2012a). *Information behavior of people diagnosed with a chronic serious health condition: A longitudinal study* (Unpublished doctoral dissertation). University of Michigan, Ann Arbor. Available: <http://deepblue.lib.umich.edu/handle/2027.42/91570>

St. Jean, B. (2012b). "I just don't know what I don't know!": A longitudinal investigation of the perceived usefulness of information to people with type 2 diabetes. Research paper presented at the ASIS&T 2012 Annual Meeting, Baltimore, MD, October 28-31, 2012.

## **"Making 'Gains' in Social Justice: An Approach to Program Revision"**

**Presenter:** Julie Marie Frye, Indiana University

This presentation summarizes the examination of a nationally ranked SLIS in its efforts prepare school librarians as change agents. This presentation will include an analysis of why social justice is rarely a curricular emphasis and a discussion of why teaching about social justice and emancipatory pedagogies are vital to the preparation of librarians.

### References

Abilock, D. (2006). So close and so small: Six promising approaches to civic education, equity, and social justice. *Knowledge Quest*, 34(5), 9-16.

American Library Association Social Responsibilities Round Table. (2010). Mission. 12/2/2010. <http://www.ala.org/ala/mgrps/rts/srrt/srrt.cfm>

Britz, J. J. (2004). To know or not to know: A moral reflection on information poverty. *Journal of Information Science*, 30(3), 192-204.

Britz, J., Lor, P., & Bothma, T. (2006). Global capitalism and the fair distribution of information in the marketplace: A moral reflection from the perspective of the developing world. *Journal of Information Ethics*, 15(1), 60-69.

Bronstein, J. (2009). Current trends in library and information studies curricula. *Libri*, 59(2), 78-87.

Bush, G. (2006). Envisioning information literacy standard 10. *Knowledge Quest*, 34(5), 19-21.

Cochran-Smith, M. (2004). *Walking the road: Race, diversity, and social justice in teacher education*. New York: Teachers College.

Dewey, J. (1904). The relation of theory to practice in education. In C.A. McMurry (Ed.), *The third yearbook of the National Society for the Study of Education*. Bloomington, III.: Public School Publishing.

Eubanks, V. (2011). *Digital dead end: Fighting for social justice in the information age*. Cambridge, Mass.: MIT Press.

Freedman, J., Jacobs, J. R., Rane, J. J., & Yeo, S. (2005). Radical reference: Taking information to the street. *Information Outlook*, 9(6), 55-56, 59.

Hansen, D. (2008). Values and purpose in teacher education. In M. Cochran-Smith, S. Feiman-Nemser, D. J. McIntyre, & K. E. Demers (Eds.), *Handbook of research on teacher education: Enduring questions in changing contexts* (pp. 10-26). New York: Routledge.

Martyn, J. (1984). Information as a commodity. *Assistant Librarian*, 77(6).

Morrone, M., & Friedman, L. (2009). Radical reference: Socially responsible librarianship collaborating with community. *Reference Librarian*, 50(4), 371-396.

National Commission on Teaching & America's Future. (1996). *What matters most, teaching for America's future*. New York: National Commission on Teaching & America's Future.

Orme, G. (2007). Making the invisible visible: School libraries and global education. *School Libraries in Canada*, 26(2), 23-31.

Phillips, D. (1993). New technology and the human services: Implications for social justice. *Computers in Human Services*, 9(3), 465-477.

Saleh, N. (2009). The digital divide and social justice. *Feliciter*, 55(6), 244-245.

Samek, T. (2008). Finding human rights in library and information work. *Bilgi Dunyasi / Information World*, (2), 527-540.

Saxton, E. (2009). Change your reality: Teen read week programs for a better world. *Young Adult Library Services*, 7(4), 22-24.

School of Library and Information Science MLS Degree Requirements. (2010). Foundation. 12//2/2010. [http://www.slis.\[MIDWESTINSTITUTION\].edu/degrees/mls/degree\\_req.html](http://www.slis.[MIDWESTINSTITUTION].edu/degrees/mls/degree_req.html)

Smith, M. (2001). Global information justice: Rights, responsibilities, and caring connections. *Library Trends*, 49(3), 519-537.

Stephens, W. S. (2011). The school librarian as leader: Out of the middle, into the foreground. *Knowledge Quest*, 39(5), 18-21.

Williams, G. (1984). The genesis of chronic illness: Narrative re-construction. *Sociology*, 6(2), 175-200.

Zeichner, K. (1983). Alternative Paradigms in Teacher Education. *Journal of Teacher Education*, 34(3), 3-9.

### **“Exploring Public Library Community Initiatives to Consider Innovative LIS Curriculum Development: What Can We Learn From Them?”**

**Presenters:** Jen Pecoskie, Wayne State University and Heather L. Hill, Western University

The proposed think piece explores innovative, community-focused public library initiatives in order to consider curricular innovations necessary to support the development of such endeavors through Library and Information Science (LIS) education. The authors will provide specific examples of such programs, a brief discussion of the successes and challenges in these projects, and consider the implications for LIS education.

The increasing adoption and acceptance of ebooks by the public (Rainie and Duggan, 2012) has put public libraries in a bind. While many libraries would like to support their community's needs, many publishers make this a challenge. While all of the (now) 'Big Five' publishers offer ebooks to libraries, in most cases the titles are offered only through restrictive leasing agreements. As examples, Simon & Schuster only lease ebooks to three public libraries, New York Public Library, Brooklyn Public Library, and Queens Public Library, and in the case of Harper Collins, ebooks must be 'repurchased' after 26 circulations (American Libraries, 2013). Hachette makes its full catalog list of ebooks available for single-user borrowing, but titles are priced 300% higher than the paper version (American Libraries, 2013). Few publishers offer an ownership model. The 'access versus ownership' issue concerning serials was decided significantly in favor of access long ago, but there seems to be some creative and innovative pushbacks in favor of ownership of digital content when it comes to ebooks and other media.

Content in public libraries has consisted significantly of products produced by large media organizations and the traditional publishing industry. Self-published (independent, "indie") works, often pejoratively referred to as 'vanity' works, and locally produced media were often considered out of scope for public library collections by reason that such materials had not been vetted in some way (acceptance through publication by a publishing house being a necessary criterion for inclusion). At the same time, some indie publishers and music vendors are actively

courting libraries. The indie ebook provider Smashwords (<http://www.smashwords.com/>) proclaims that they are “we're working to make our ebooks available to every library in the world” (smashwords, n.d.). Magnatune, an independent music vendor, provides its catalog to libraries under a Creative Commons license. With the limitations of access to media from more popular mainstream publishers, some libraries have widened their focus to consider media from these alternative sources.

Local media, in the form of music from local musicians as well as ebooks from local and indie authors are becoming increasingly attractive to libraries that desire to provide unique, local content, under a model of ownership rather than access. Public libraries have purchased ebooks from small and indie ebook providers, including the self-publishing press, Smashwords. At least one public library, Los Gatos Public Library in California, has partnered with Smashwords to develop a local authors initiative that provides writing and publishing seminars to the community and intends to use Smashwords as a convenient location for local authors' works.

Beyond ebooks, other libraries have focused on music and have sought ways to obtain ownership of electronic media and, in some cases, have focused specifically on locally produced music. Such tools as Overdrive's 'Community Reserve', which allow the addition of local content, have created a much wider audience for locally produced music in multiple genres. Other libraries have established their own hosting services (e.g. Douglas County Public Library in Colorado), bypassing a commercial vendor altogether. Through their own music downloading services they are providing access to the creative works of local musicians as well as music from independent vendors that provide music under a Creative Commons license.

With the addition of these materials, these libraries' collections are unique, more diverse, and stand apart. But the unique nature of these materials means that they lie outside of the usual and accepted collection development systems (Brantly, 2010). These materials are not within the scope of an approval plan and finding reviews in traditionally published sources for such items is rarely possible. Further, once these materials are added to a collection, current readers' advisory tools, which aid advisors' work of helping users select their reading, may not be well suited to cover such materials.

This presents interesting challenges on two fronts. First, if current tools and processes are rendered ineffective for these materials, then new tools need to be developed. Tools involving collection development and reference/readers' advisory are of particular interest, but the development of systems to provide storage and access to such materials is significant as well. Beyond tools, the second challenge comes with the curriculum development necessary to support these endeavors. Collection development courses will need to consider the evaluation of materials not available through traditional vendors or approval plans. With traditionally published reviews often unavailable for the materials under consideration, user reviews will have to increasingly become a source of information. With a focus on user reviews comes a need to critically evaluate those reviews and understand what information is contained within them.

Furthermore, this work addresses the conference theme of “Educational Entrepreneurship” in two ways. Firstly, it reflects the ways in which public libraries, in particular, are acting in an entrepreneurial fashion, meeting the needs of users and matching community analysis through

the adoption of resources for the collection through innovative methods. They are following the assertion from Burgstone and Murphy (2012): "... you can do what the true entrepreneur does: Figure out the best conceivable option and then make it available" (p.158). Secondly, this work addresses curricular entrepreneurship through a similar lens. Considering curricular changes which support such endeavors, creates opportunities to consider innovations in LIS education that are respectful of the needs and conditions of practice while also responding to traditional and contemporary economic movements.

#### References:

American Libraries (2013). Big six publishers and ebook lending. *American Libraries*. Retrieved from: <http://www.americanlibrariesmagazine.org/blog/dcwg-big-six-matrix-ebook-license-comparisons>.

Brantly, J. S. (2010). Approval plans, discipline change, and the importance of human intermediated book selection. *Library Collections, Acquisitions, & Technical Services* 34, 11-24.

Burgstone, J., & Murphy, B. Jr. (2012). *Breakthrough entrepreneurship*. San Francisco, CA: Farallon Publishing.

Rainie, L. & Duggan, M [Pew Internet and American Life Project]. (2012). *E-book reading jumps; print book reading declines*: Retrieved from <http://libraries.pewinternet.org/2012/12/27/e-book-reading-jumps-print-book-reading-declines/>

Smashwords (n.d.) How to publish on smashwords. Retrieved from [http://www.smashwords.com/about/how\\_to\\_publish\\_on\\_smashwords](http://www.smashwords.com/about/how_to_publish_on_smashwords)

### **“Navigating a Sea Change: Curriculum Renewal and Transformation”**

**Presenters:** Lauren H. Mandel, Cheryl A. McCarthy, Valerie Karno, and Renee Hobbs, University of Rhode Island

Deanna B. Marcum predicted the transformation of librarianship in the 21st century to “knowledge navigators” more than a decade ago, saying “[l]ibrarians of the future will be knowledge navigators. They will understand digital resources as well as printed books and other formats. Their services will not be restricted by physical location, either of the materials or of themselves” (Marcum, 1997, p. 35). Thus, many of the ALA-accredited library school programs have continued to revise their programs because the changes keep on coming. Even though the MLIS program at the University of Rhode Island Graduate School of Library and Information Studies (GSLIS) is primarily a New England regional program, the needs of our students and regional employers are likely similar to the needs of professionals worldwide: LIS is in need of emerging leaders, technology-savvy information professionals, and educator-librarians specializing in information literacy and lifelong learning for people of all ages.

LIS educators strive to work collaboratively and share best practices in pedagogy (as evidenced from the popularity of both the ALISE conference and JELIS). Therefore, curriculum renewal efforts in one school are of interest and value to other LIS schools. And, it is likely that the fears of curriculum renewal are not unique to Rhode Island and GSLIS. This paper on pedagogy and best practices will focus primarily on the process of curriculum renewal undertaken at GSLIS and what we have learned about overcoming fear on the sea of change in the hope of assisting others through this process.

## Background

GSLIS has been tied to traditional views of librarianship, despite shifting needs of our students and the profession. In response to those changing needs, GSLIS dedicated the past few years to curriculum renewal. To begin the process and prepare for the COA visiting team arrival in Spring 2010, GSLIS held focus groups with stakeholders and provided curriculum renewal retreats and workshops with faculty, adjunct faculty, and the advisory committee to assess strengths, weaknesses, opportunities, and threats. These meetings sparked discussions on demographics, digitization, user interfaces (physical and virtual), changing patterns of collection and access management, and coping with the fear of change.

As we prioritized their concerns, five areas emerged as key to the renewed curriculum: assessment, collaboration, communication, critical thinking, and innovation. Students want more electives than currently allowed in a 36-credit program with 21 credits of required courses, and students and employers in the New England region need new skills, specifically in areas of management and leadership, digital literacies, and lifelong learning. These areas are compatible with the mission and goals of the newly formed Harrington School of Communication and Media, of which GSLIS comprises the largest graduate program.

From 2010-2012, we made progress in merging, consolidating, and revising some courses. To move forward in 2012-2013, we recognized the need for complete curriculum renewal by developing new tracks with fewer required courses and a menu for student options. Drawing on our existing strengths, we needed to create a strong, competitive identity that will attract new faculty and new students to GSLIS.

The curriculum renewal efforts have required us to face our fears. For some, there is the fear of becoming irrelevant. Our program is in a small region, competing with a top 10 LIS program. If we do not change, we fear becoming extinct. So there are some faculty, students, alumni, and area employers who fear programmatic stagnation and look forward to change. On the other hand, there are some who fear that radical change may have myriad negative consequences, including impacts on accreditation, enrollment, and placement of graduates. Overcoming these fears and other challenges is an important part of the curriculum renewal process.

## Process

Accounting for both fear of where our program is and where we might go, our process was to tackle curriculum renewal across several registers simultaneously: We designed an organization strategy which would allow us to tolerate discussing our current and future directions in

manageable units while also attending to the sensitive nature of our conversations. To facilitate interpersonal communication and highlight abilities to engage we decided to be “present” with each other in our decision making literally and figuratively rather than communicating endlessly over email with documents and comments.

Based on this model of interaction we organized a strategy to meet once a month for four hour sessions to tackle specific topics: rethinking core courses (February); tracks and certificates (March); revising, deleting, and adding courses to the catalog (April). A two day meeting in May was used to address the topics that inevitably needed revisiting or considering anew—like the change to our name, new courses to be created, and numerous other topics which had been shelved for future approval.

Our process was one of both expansion and contraction in appropriate points: by looking at our curriculum from 2010-now, we identified strengths, weaknesses, opportunities, and threats relative to other regional and national programs. Subsequent to this analysis, we decided to reduce those courses and tracks that we could no longer effectively offer. Alongside this contraction though, we made decisions about where to expand, both in curriculum and faculty outreach. We made great progress by both imagining our visions for 10 and 20 years into the future, and comparing them to the immediate possibilities available to us based on resource and faculty allotment at the university. Also, re-envisioning our learning outcomes had immense impact, as we were able to map courses to departmental outcomes and COA standards—essential for assessment and accreditation purposes.

Additionally, a large meeting was held with the adjunct faculty to gain insight into their visions for the future, and garner their suggestions and investment in future courses. The potential course offerings grew along with the recognition that more faculty and practitioners across the campus and profession would help bring this program to its new goals. Though still in the process of renewal, this system continues to attend to the fears associated with both shrinking and expanding.

### References

Marcum, D. B. (1997). Transforming the curriculum; Transforming the profession. *American Libraries*, 27(1), 35, 38.

### **“Virtual Internships: Assessing the Contribution of Novel Field Experiences to MLIS Graduate Goals”**

**Presenters:** Sheila Corral, Jessica Lamb, Rose Medlock, and Lauri Watt, University of Pittsburgh

Graduate library and information science (LIS) programs generally encourage students to gain practical, professional experience as part of their degrees, most often via a credit--bearing fieldwork experience or practicum; alternatively through an internship (paid or unpaid), institution--based project, or volunteering. Work programs for field placements are usually

negotiated individually by students with organizations (Sen et al., 2004), while the duties of interns are normally predefined by employers; but sometimes the models are combined, with students interns being paid and receiving graduate credits based on the hours they work (Quarton, 2002). The perceived value of library experience and professional networking has increased in the tight job market of a down economy (Arenofsky, 2012), and is reflected in other innovative efforts to help students transit to employment, including mentoring by practitioners as part of a practicum or internship (Hallam & Newton-Smith, 2006; Lee, 2009), or as an extra-curricular activity (Lacy & Copeland, 2013). LIS graduates who have managed the transition see fieldwork, internships, and networking opportunities as “crucial” to job success, not just for their valued on-the-job experience, but also for the employer exposure and insider information about potential openings (Maatta, 2010, p. 28). Progression from an internship to a temporary or permanent position with the same employer is often reported (Lee, 2009; Maatta, 2012; Thornton-Verma, 2012).

The use of remote or virtual internship programs, where students conduct work off-site and interact with supervisors virtually, has gained traction lately as a cost-effective model for libraries dealing with staffing cuts, which also fits with the growth in online professional education and desire for flexible modes of learning and employment (Bird et al, 2011; Franks & Oliver, 2012; Westbrook, 2012). While managing virtual internships has evidently been facilitated by the arrival of free online collaborative tools, such as Skype and GoogleDocs (Westbrook, 2012), the web’s potential to enhance communication, teambuilding, and global competence in LIS field experiences was recognized more than a decade ago at Florida State University (Dresang & Robbins, 1999). Virtual placements can also fulfill a vital role in preparing a “tech savvy librarian workforce” for the expanding number of technology-based LIS positions (Westbrook, 2012, p. 14). Recent employment data reveal a trend in academic and corporate environments toward job titles with a digital focus, with responsibilities ranging from digitization initiatives and digital asset management to “developing the agency’s online presence through mobile and social media and web accessibility” (Maatta, 2012, p. 19). The digital shift is also reflected in established roles in instruction and information literacy, where new graduates are “using emerging technologies to develop and design instructional resources, including interactive tutorials and virtual knowledge centers that can be accessed through mobile devices” (Maatta, 2012, p. 19).

Virtual internships cover a similarly broad spectrum of library/information functions and employment sectors, from working on digital collections in academic libraries and archives, through virtual reference and instruction assignments for organizations like the Internet Public Library and Credo Reference, to engaging with emergent areas of practice, such as data curation (Bird et al., 2011; Franks & Oliver, 2012, Thornton-Verma, 2012; Westbrook, 2012). Although heralded in the LIS literature as a promising and enriching experience for both online distance learners and equally time-poor on-campus students, most of the published evidence is anecdotal, with few formal evaluations of how virtual placements affect student learning outcomes and attainment of graduate program goals. Our study aims to contribute to the evolving body of literature on the subject through an institutional case study that evaluates and compares the experiences of three MLIS students who worked as virtual interns for Credo Reference, during the Spring and Summer terms of 2013; one student was enrolled as an on-campus student, the other two were studying online from remote locations. The study was led by the

faculty advisor for the virtual internships; the three interns are the co-authors of the paper. It had three specific objectives:

- to define the individual learning outcomes for each student;
- to determine the contribution of the internship to general program goals;
- to explore whether background or mode of study affected the student experience.

In addition to the intrinsic interest of the case, our study was motivated by a broader concern within the MLIS team to ensure that the diversity of paid and unpaid practical work currently being undertaken by students adds value to their learning programs. The project was thus also conceived as a pilot test of a new approach to field experience evaluation encouraging students to engage in deeper, more analytical reflective writing (Grant, 2007; Moon, 2007), and move beyond “technical” reflection toward a richer, “emancipatory” type of reflection (Taylor, 2004), in addition to achieving clearer articulation of course objectives aligned to program goals. The data sources included reflective reports produced by students as formative and summative assignments in the term of their internship, but these were supplemented by asking them later to stand back and reflect further individually on how their experiences with Credo contributed to attaining the goals for graduates of the MLIS program, using the eight specific points of the goals statement as an analytical framework. The final stage of the study required the students to reflect individually and collaboratively on how their own prior work and learning experiences affected their experiences and learning during the internship.

Our findings generally confirm the benefits ascribed to virtual internships in the literature. As expected, creative applications of information technologies emerged as an important area of learning for the students. Global competence was another significant area, although the evidence cited was different in each case: one student undertook an assignment for a university in Kazakhstan, while another worked with a public library in Scotland. Communication, teambuilding, mentoring, and many other dimensions of managing and leading service organizations also featured prominently, with the company’s culture and values attracting several comments. The study was only a limited, small-scale test, but the results suggest that an evaluative framework based on program goals can facilitate a richer appreciation of learning gained through field experiences, which can in turn support graduate employability.

## References

Arenofsky, J. (2012). Toughing it out in a tight job market. *American Libraries*, 43(11/12), 30--33. Retrieved July 8, 2013, from <http://www.americanlibrariesmagazine.org/article/toughing-it-out-tight-job-market>

Bird, N. J., Chu, C. M., & Oguz, F. (2011). Four “I”s of internships for the new information society: Intentional, Interconnected, Interdisciplinary and International. World Library and Information Congress: 77th IFLA General Conference and Assembly. Retrieved July 8, 2013, from <http://conference.ifla.org/past/ifla77/120-bird-en.pdf>

Dresang, E. T., & Robbins, J. B. (1999). Preparing students for information organizations in the twenty-first century: Web-based management and practice of field experience. *Journal of Education for Library and Information Science*, 40(4), 218--231.

Franks, P. C., & Oliver, G. C. (2012). Experiential learning and international collaboration opportunities: Virtual internships. *Library Review*, 61(4), 272--285.

Grant, M. J. (2007). The role of reflection in the library and information sector: A systematic review. *Health Information and Libraries Journal*, 24(3), 155--166.

Hallam, G., & Newton-Smith, C. (2006). Evaluation of transitional mentoring for new library and information professionals: What are the professional and personal outcomes for participants? *Library Management*, 27(3), 154--167.

Lacy, M., & Copeland, A. (2013). The role of mentorship programs in LIS education and in professional development. *Journal of Education for Library & Information Science*, 54(1), 135--146.

Lee, M. (2009). Growing librarians: Mentorship in an academic library. *Library Leadership & Management*, 23(1), 31--37. Retrieved July 8, 2013, from <http://journals.tdl.org/llm/index.php/llm/article/view/1756/1036>

Maatta, S. L. (2010). Stagnant salaries, rising unemployment: The recession takes its toll on new graduates. *Library Journal*, 135(17), 22--29. Retrieved July 8, 2013, from <http://lj.libraryjournal.com/2010/10/placements---and---salaries/2010---survey/stagnant---salaries---rising---unemployment---placements---salaries---survey---2010/>

Maatta, S. L. (2012). A job by any other name: A few bright spots shine for the class of 2011. *Library Journal*, 137(17), 18--25. Retrieved July 8, 2013, from <http://lj.libraryjournal.com/2012/10/placements---and---salaries/2012---survey/a---job---by---any---other---name---ljs---placements---salaries---survey---2012/>

Moon, J. (2007). Getting the measure of reflection: Considering matters of definition and depth. *Journal of Radiotherapy in Practice*, 6(4), 191--200.

Quarton, B. (2002). Five steps to an effective internship program: Providing a meaningful experience for interns and librarians. *College & Research Libraries News*, 63(2), 109--111.

Sen, B., Watts, C., & Ansell, E. (2004). Library student placements in the health sector: A positive experience at Liverpool John Moores University, United Kingdom. *Health Information and Libraries Journal*, 21(2), 125--128.

Taylor, B. (2004). Technical, practical, and emancipatory reflection for practicing holistically. *Journal of Holistic Nursing*, 22(1), 73--84.

Thornton---Verma, H. (2012). Interning in information literacy. *Library Journal*, 137(9), 108, 110.

Westbrook, R. N. (2012). How to use free online tools to recruit and manage remote LIS interns. *Library Leadership & Management*, 26(3/4), 1---19. Retrieved July 8, 2013, from <http://journals.tdl.org/llm/index.php/llm/article/view/6313/6050>

## **“Engaged and Empowered: Community Partnerships as a Factor in Service Learning”**

**Presenter:** Jennifer Burek Pierce, University of Iowa

This proposal responds to the ALISE 2014 CFP’s expressed interest in think pieces and in service learning as a mode of Library and Information Science education. Most literature acknowledges that service learning can be connected to numerous goals, values, and norms in the field but ultimately has a foundation in ideals of service and community. My interest is in the relationships between the entities partnering to construct this type of course activity. Instructors’ ability to devote time and effort to seeking out and fostering relationships with potential community partners is an important facet of service learning that deserves critical attention.

This aspect of service learning, however, sees relatively little discussion. Instead, attention to theory and values implied by the varied terminology that describes the concept, such as engaged learning, experiential education, community engagement, and field work, is a frequent theme. Sometimes the practice is simply implied, as in Andrew Dillon’s assessment of LIS education for CLIR: “The accredited masters program built on classroom lecture and term papers is ill equipped to provide students with the type of skills they need.”<sup>1</sup> Regardless of how it is described, the LIS literature suggests increasing conviction in the importance of service learning as an adjuvant to the LIS curriculum. This importance, though, should not lead to unexamined orthodoxy.

Those who write about service learning in LIS education tend to begin with established definitions of the practice as a framework for discussing a particular institutional program and its efficacy. In other words, writing and research tend to present case studies and to look for ways to extract best practices that can be derived from a survey of the literature and an assessment of particular institutional implementation of service learning. Some material argues the need for further research<sup>2</sup> or attempts to construct a generalizable model for service learning,<sup>3</sup> and much writing on the subject is oriented toward demonstrating its merits. The overarching sentiment may be best expressed in the statement that “It is important to be able to measure student learning to determine whether the initial fieldwork goals have been achieved.”<sup>4</sup>

Beyond measures and assessments, giving attention to the particular institutional contexts and relationships that will affect student learning seems essential to establishing meaningful service learning opportunities. Because my experiences in incorporating service learning have occurred at multiple institutions, have supported learning in different courses, and involved different partner organizations, I bring a diversified, rather than singular, experiential perspective to the

question of how service learning works. A brief overview of these service learning situations forms the basis for considering the potential of service learning in LIS education.

I have had students participate in established library activities, like assessing users' satisfaction with services and facilities or serving as discussion leaders in One Community, One Book programs; others have developed individualized plans of service, such as weeding and re---building part of a small collection or doing train---the---trainer activities to help staff learn new technology. My students' efforts have ranged from completely individualized activities to ones developed in conjunction with a university service learning office. In each instance, the outcomes and the students' perceptions of their activities varied tremendously; however, students who had autonomy and could see that their work made a difference to the host institution tended to report the greatest satisfaction with their experiences. I would argue that in addition to feelings of content or success, these students gained useful professional skills by negotiating and developing their own projects.

My experiences with service learning in LIS encourage me to believe that at its strongest, service learning will play out differently in different organizational contexts. This essay argues that LIS educators should consider the best practices literature as background while striving to create distinctive opportunities for service learning in their communities. The extant literature may save the time of the instructor in guiding him or her to useful processes and resources, but it should not substitute for a willingness to explore and to consider new types of partnerships or outcomes. Had I simply tried to replicate the first service learning program in a new institutional context, it would have required tremendous effort yet not have yielded the same rewards as it had elsewhere. Looking for opportunities specific to place and to organizational needs, however, has produced changing, and occasionally high---profile, programs valuable to both students and institutional partners. When students play a part in shaping the service learning experience, their course work encourages them to build skills in outreach and developing relationships with community organizations necessary to their professional lives.

#### References:

- 1 Andrew Dillon, *Accelerating Learning & Discovery: Refining the Role of Academic Libraries*. Prepared for the Council on Library and Information Resources, with publication forthcoming in 2008, 6; pre-publication draft available via <http://sentra.ischool.utexas.edu/~adillon/blog/>.
- 2 Jennifer A. Nutefall, "Why Service Learning Is Important to Libraries," *Oregon Library Association*, Fall 2011, 17.3: 16-21.
- 3 Dan Albertson and Maryann S Whitaker, "A Service-Learning Framework to Support an MLIS Core Curriculum," *Journal of Education for Library & Information Science*, Spring 2011, 52.2: 152-63.
- 4 Bonnie Brzozowski, Nicholas Homenda, and Loriene Roy. "The Value of Service Learning Projects in Preparing LIS Students for Public Services Careers," *Reference Librarian*, January 2012, 53.1: 24-40, 17 (DOI: 10.1080/02763877.2011.591690).

## **“LIS and the Boundaries of Knowledge: Theorizing the Process of Interdisciplinary Teamwork”**

**Presenter:** Nicole D. Alemanne, Florida State University

Library and information science (LIS) is a historically interdisciplinary field, influenced by multiple cognate fields such as communication, cognitive science, computer science, linguistics, and philosophy. In fact LIS is interdisciplinary at its core, concerned with "the organization, preservation and mobilization of knowledge across the entire landscape of disciplines" (Palmer, 2010, p. 175). Funding agencies are more and more supporting and even expecting interdisciplinary research (Palmer, 2010); for example, the National Science Foundation's Interdisciplinary Behavioral and Social Science Research program requires teams to include three or more senior personnel from at least two different social, behavioral, and economic sciences disciplinary fields (National Science Foundation, 2013). “Entrepreneurs innovate new ways of manipulating nature, and new ways of assembling and coordinating people” (DeLong, 2007, n.p.). Interdisciplinary research is inherently entrepreneurial, as interdisciplinary researchers “break with tradition, undermine orthodoxy, and open new subjects for exploration” (Salter & Hearn, 1996, p. 15). Research teams “[lack] only a direct profit motive to make them a company” (Etzkowitz, 2003, p. 111).

There is a range of understandings of collaboration across disciplines from a definitional aspect. A number of prefixes come into play among the definitions, such as inter-, multi-, trans-, pluri- and cross-, with much of the discussion focusing on the extent, and nature, of disciplinary knowledge and theory integration (Klein, 2010). Interdisciplinary research is often problem-based, with needs that cannot be fulfilled without crossing disciplinary boundaries (Klein, 1996a, 1996b). Interdisciplinary researchers face a number of issues such as poor communication, methodological differences, and sources of funding (McNichol, 2003). As any academic team comes together it has to organize, develop work processes, and create deliverables. When the team has a time limit (e.g., on a grant-based project) it must accomplish this under this added pressure. And interdisciplinary time-limited teams must do all this while communicating and negotiating across disciplinary boundaries, most likely with different disciplinary norms and vocabularies (Klein 1994). Therefore, there is need for a theoretical understanding of the processes of interdisciplinary teamwork to support collaboration.

One approach to this work is the study of interdisciplinary teams as collections of social worlds; this research project is based on the social worlds perspective and boundary object theory. A social world is characterized by the existence of specific activities, a shared site or space in which the activities occur, and technology that supports the activities (Strauss, 1978). Social worlds can and do intersect, and they segment continually into smaller subworlds. According to Strauss, “a major analytic task is to discover the intersections and to trace the associated processes, strategies, and consequences” (1978, p. 123). In addition, questions can arise about who is most authentically a member of a particular social world, and by what social processes authentication occurs. Social worlds can be time-limited (transient); the members of intrinsically transient social worlds are aware that time in the social world is finite and that they have a shared task to complete within that time (Kazmer, 2010). Boundary objects are infrastructures that

cross the boundaries of social worlds and allow the worlds to interact without creating consensus (Star 1989, 2010; Star & Griesemer, 1989). These infrastructures have different meanings for different worlds, leading to the need for negotiation and translation (Star & Griesemer, 1989).

Using these theories as sensitizing concepts for a grounded theory study of an interdisciplinary research team that includes LIS, education, and technology researchers, this project explores three main research questions: what defines the different social worlds of an interdisciplinary team, how do team members view and identify with the social worlds of the team, and how do team members bridge the social worlds of the interdisciplinary team? Sub-questions explore how the social worlds segment and change over time and how information researchers fit into the social worlds; the roles team members play in the various social worlds and subworlds, how these roles change over time, and challenges that emerge and strategies that were developed to address them; and processes and objects that enable translation and coherence across social world boundaries. Data for the study includes documentary traces of the team's activities, which include emails and meeting notes, and interview data. A multiple methods convergence design in which two types of grounded theory analysis (qualitative) are integrated with a social network analysis (quantitative) is employed to create a robust description of the processes of interdisciplinary collaboration. The goal of the project is the generation of a substantive grounded theory to explain the process of the interdisciplinary team's collaboration across domain boundaries. Implications for this research include an understanding of the use of the social approach to interdisciplinary academic teamwork, a better understanding of LIS as interdisciplinary domain, and an understanding of processes that enable communication across disciplinary boundaries.

## References

- DeLong, J. B. (2007). Creative destruction's reconstruction: Joseph Schumpeter revisited. *Chronicle of Higher Education*, 54(15). Retrieved from [http://www.siliconflatirons.com/documents/conferences/2013.05.18/Day1Readings\\_Saturday.pdf](http://www.siliconflatirons.com/documents/conferences/2013.05.18/Day1Readings_Saturday.pdf)
- Etzkowitz, H. (2003). Research groups as “quasi-firms”: the invention of the entrepreneurial university. *Research policy*, 32(1), 109–121.
- Kazmer, M. M. (2010). Disengaging from a distributed research project: Refining a model of group departures. *Journal of the American Society for Information Science and Technology*, 61, 758-771. doi:10.1002/asi.21281
- Klein, J. T. (1994). Finding interdisciplinary knowledge and information. In J. T. Klein & W. G. Doty (Eds.), *Interdisciplinary Studies Today* (Vol. 58, pp. 7-33). San Francisco, CA: Jossey Bass.
- Klein, J. T. (1996a). *Crossing boundaries: Knowledge, disciplinarity, and interdisciplinarity*. Charlottesville, VA: University Press of Virginia.

Klein, J. T. (1996b). Interdisciplinary needs: The current context. *Library Trends*, 45(2), 134-154.

Klein, J. T. (2010). A taxonomy of interdisciplinarity. In R. Frodeman, J. T. Klein, & C. Mitcham (Eds.), *The Oxford handbook of interdisciplinarity* (pp. 174–188). Oxford ; New York: Oxford University Press.

McNichol, S. (2003). LIS: The interdisciplinary research landscape. *Journal of Librarianship and Information Science*, 35(1), 23-30. doi: 10.1177/096100060303500103

National Science Foundation. (2013). Interdisciplinary Behavioral and Social Science Research (IBSS), Program Solicitation NSF 12-614. Retrieved from <http://www.nsf.gov/pubs/2012/nsf12614/nsf12614.htm>

Palmer, C. L. (2010). Information research on interdisciplinarity. In R. Frodeman, J. T. Klein, & C. Mitcham (Eds.), *The Oxford handbook of interdisciplinarity* (pp. 174–188). Oxford ; New York: Oxford University Press.

Salter, L., & Hearn, A. M. V. (1996). *Outside the lines: issues in interdisciplinary research*. Canada: McGill-Queen's University Press.

Star, S. L. (1989). The structure of ill-structured solutions: Boundary objects and heterogeneous distributed problem solving. In L. Gasser & M. N. Huhns (Eds.), *Distributed artificial intelligence* (Vol. 2, pp. 37–54). San Mateo, CA: Morgan Kaufmann.

Star, S. L. (2010). This is Not a Boundary Object: Reflections on the Origin of a Concept. *Science, Technology & Human Values*, 35(5), 601–617. doi:10.1177/0162243910377624

Star, S. L., & Griesemer, J. R. (1989). Institutional ecology, 'translations' and boundary objects: Amateurs and professionals in Berkeley's Museum of Vertebrate Zoology, 1907-39. *Social Studies of Science*, 19, 387–420. doi:10.1177/030631289019003001

Strauss, A. (1978). A social world perspective. In N. K. Denzin (Ed.), *Studies in symbolic interaction: An annual compilation of research* (Vol. 1, pp. 119–128). Greenwich, CT: JAI Press.

## **“LIS Educators and Practitioners: Collaborating and Innovating to Enhance Learning”**

**Presenters:** Michael Crumpton and Clara M. Chu, University of North Carolina at Greensboro

### Introduction and Prior Literature

Universities with library and information science programs have always had a practical advantage for their students in partnering with the university libraries to provide real world experience for students through practicums, internships, graduate assistant programs and the residual volunteer components. Much of this focus was traditionally with service experience at

the information desk as represented in a model described by Nahl, Coler, Black and Smith (1994). They concluded that these experiences helped library staffing needs with high accuracy rates as well as provided solid experience for students that support job seeking efforts after graduation.

Students can certainly gain other “field” experiences as well with task-oriented work in technical services, special collections and archives, access services and subject specialty branches which many articles, presentations and papers have examined and support those efforts, usually to the benefit of the students. But academic libraries and schools of library and information science share a core sense of purpose that can be enhanced through collaboration, not only for the students but for faculty and staff as well.

### A Culture of Collaboration

There are many emerging trends of change that impact higher education, the field of librarianship and the future that new students will be facing. A great deal of this change is technology- based but also changes in how students learn, the impact of social media, the global perspective of multicultural relationships and information sharing, all need consideration for the future of both education and practice within the profession. By developing a culture of collaboration between The University of North Carolina at Greensboro (UNCG) Department of Library and Information Studies (DLIS) and the University Libraries (UL) many benefits have been realized that go beyond a positive and deeper student experience that includes an enriched platform from which faculty from both organizations can stay in touch with these emerging trends and self- and reciprocally-educate on issues that impact the profession.

This entrepreneurial approach to shared learning through collaborative experiences has many faces and can be seen in a diverse set of activities. Sacchanand (2012) spoke of strategies that have been employed in Thailand and outlines a 3 PC framework (3P : Policy, People, Process and 3C: Communication, Commitment, Credibility) that helps overcome barriers and creates opportunities for collaboration. Likewise collaborative efforts at UNCG have developed into categories of partnership that provide an opportunity to share information and gain perspective. These categories are summarized as:

- Technological – LIS faculty and librarians who work together to enhance the use of technology for both faculty and library staff
- Multicultural – collaboration between DLIS and UL over international visitors and visiting professionals, international paper and presentation opportunities, international internship programs, recruitment and support of diverse students and Diversity Resident Librarians
- Advisory – shared seats at the table with regard to organizational hiring, activity coordination, program content development, student field experience programs (practicums, internships, graduate assistant), accreditation standards and career development for graduating students, service in respective committees; engaging other academic libraries in mentoring and practicum collaborations

- Grant development and execution – both organizations work together to develop and execute grant funded projects related mostly to digitization efforts and ACE scholarship opportunities (currently in a third cohort of scholars)
- Professional development – shared expertise and involvement by presenting and supporting conferences, , co-authored publications and involvement with state and national professional organizations; development, funding and implementation of joint lecture series.
- Education – participation in instructional opportunities (adjunct teaching and guest lecturing) as well as guest advising on development of curriculum and content; collaborative practicum

### Following a Real Learning Connections model

Real Learning Connections is one of the collaborative projects between the DLIS and UL. The model developed examines evidence that verifies a new model of internship opportunities that better meets the needs of three participants in the experience: the instructor, the student, and the library professional. Designing experiences that adhere to the model can lead to cooperation between academic LIS department faculty and librarian practitioners to both educate and learn from the graduate student that they are mutually supporting. In addition, LIS faculty can learn from librarians about new problems and tasks that they face and this can be used to change the curriculum to meet those needs. Librarians can ask themselves about the disjuncture between theory and practice and ask themselves if research can help them make better decisions.

Indeed, the project itself yielded valuable research that informs library training, LIS pedagogy, and further work on supervision of interns. The individual projects required learning objectives from the faculty supervisor, the librarian supervisor, and the student. Progress was documented by reflective journaling, regular meetings, and knowledge products created to assess the benefits to the participants, and the extension of the work to several other initiatives including incorporation of mentorship into the classroom and extension to virtual internships. Using this model in other collaborative efforts helps ensure the experience is rewarding for all.

### Assessment and expectations

The expectations for this presentation and subsequent paper is that the details of these collaborative activities will be provided and an assessment of learning outcomes from DLIS faculty and UL faculty and staff will be conducted in order to report on the impact this partnership has provided. It is felt that this partnership and collaborative efforts are unique and create an entrepreneurial point of view for the future of library and information science education as well as professional development opportunities for academic librarians. Furthermore, it is evidence of the paradigm shift described by Sacchanand (2012) who noted that the changing higher education information environment has changed the role of teaching faculty to knowledge facilitators, mentors and coaches, and for academic librarians this means an opportunity to play a more central role in LIS education.

### Works Cited

Nahl, D., Coder, A., Black, J. and Smith, M. (1994). Effectiveness of fieldwork at an information desk: A prototype for academic library-library school collaboration. *Journal of Academic Librarianship*, 20 (5/6), 291-294.

Sacchanand, C. (2012). Building collaboration between library and information science educators and practitioners in Thailand: Transcending barriers, creating opportunities. In IFLA 2012. Presented at the IFLA 2012, Helsinki, Finland: IFLA. Retrieved from: <http://conference.ifla.org/past/ifla78/213-sacchanand-en.pdf>

## **“MOOCs as LIS Professional Development Platforms: Evaluating and Refining SJSU’s First Not-for-Credit MOOC”**

**Presenters:** Michael Stephens, San Jose State University and Kyle M.L. Jones, University of Wisconsin-Madison

### Overview

This year’s conference theme of “educational entrepreneurship” asks us to consider “new ways of doing things” related to emerging practices, technologies, and institutional arrangements in higher education (ALISE, 2013, para. 2). Either on the sideline or on the frontline, LIS administrators and faculty are beginning to address the potential and pitfalls of Massively Open Online Courses (MOOCs) in a spirit of risk taking and environmental scanning of future realities, especially in the broad area of online education. This paper begins a vein of research to empirically address if, in fact, LIS programs can serve new populations of learners in MOOC learning environments. Specifically, the authors’ research addresses if MOOCs can be deployed for professional development learning opportunities by studying their own MOOC designed for such purposes.

### Background

In Fall 2013, the SJSU School of Library and Information Science (SLIS) will be offering its first open online course, the Hyperlinked Library MOOC. It is adapted from an existing online graduate course offered to SJSU students enrolled in the Master of Library and Information Science (MLIS) program, and is intended to serve as a professional development opportunity for librarians, library staff, and professionals who work in other types of information centers. Unlike SJSU’s partnership with Udacity, the SLIS MOOC will be free and will not be offered for academic credit. It will run from September to November, and will explore how libraries are using emerging technologies to serve their communities. The authors will serve as the instructors for the course.

Up to 400 MOOC students will have the opportunity to explore the Hyperlinked Library model through recorded presentations and other content, as well as practical assignments that encourage students to apply what they are learning.

Using a customized version of the open-source blogging software WordPress with BuddyPress, a plugin that transforms the platform into social software, the learning environment for the MOOC will afford students an opportunity to engage each other in a social, community-centered atmosphere of collaboration and content creation. Additionally, the MOOC platform utilizes a badge system to “reward” participants for various system-released tasks, instructor-assessed assignments, and community-nominated behaviors.

### Literature Review

Professional development avenues have evolved just as LIS technology has. In person learning, still popular in the form of workshops, conferences, and in-service learning days, has given way to training delivered online. These include recorded tutorials and self-paced learning. A notable part of this evolution is the Learning 2.0 model of self-directed learning modules for library staff created in 2006. Delivered via a blog site or wiki, the program has been described as transformational (Abram, 2008) and lauded for its ability to bring staff together in a common goal: learning emerging technologies. “The Learning 2.0 program had a great impact on staff, who now know they are capable of learning new technologies,” noted Lewis (2008) in a case study of an early program. Stephens and Cheetham (2011, 2012a, 2012b) mounted a large-scale study of Learning 2.0 in Australia and described the benefits of the program for library staff and library service. We might argue these innovations in online learning paved the way for the massive, open course.

The term Massive Open Online Course (MOOC) was first used in 2008 by George Siemens and Stephen Downes as the moniker for a free, online course taught at the University of Manitoba for 2,300 students (Educause, 2011). Since then, MOOCs and MOOC-related for-profit companies have offered larger and larger courses and partnered with many universities to deliver courses (Pappano, 2012). Beyond for-credit and for-profit endeavors, the potential for MOOCs to provide professional development and lifelong learning is high. “One of the most appealing promises of MOOCs is that they offer the possibility for continued, advanced learning at zero cost, allowing students, life-long learners, and professionals to acquire new skills and improve their knowledge and employability” (Johnson et al., 2013, p. 4).

A recent study by The Chronicle of Higher Education found that 79% of MOOC instructors believe MOOCs are “worth the hype” (Kolowich, 2013) but scholarly research related to the effectiveness of MOOCs is just beginning. John Daniel’s 2012 paper *Making Sense of MOOCs: Musings in a Maze of Myth, Paradox and Possibility* outlines the emerging issues: technology platforms, for-profit versus nonprofit models, effective pedagogy, and student success within large learning environments. A scan of recent research includes gauging the potential of for-credit MOOCs, assessing the experiences of students and professors in MOOC environments, and evaluating various MOOC platforms and their impact on student learning.

### Potential Impact of Research

This paper will contribute to a better understanding regarding how not-for-credit MOOCs can serve as professional development tools. The investigators will evaluate the SLIS MOOC,

identify areas where the model is effective, and provide recommendations regarding how to improve the design of MOOCs in the future.

The investigators will study the MOOC from the students' perspective, exploring topics such as why students signed up, the extent of their participation, and what type of support they needed. Roadblocks to course completion will be identified, along with what motivated students to complete the course. The MOOC will also be evaluated from the perspective of instructors, exploring areas such as what strategies were most effective at fostering student interaction with course content and with peers, how to best involve course assistants in mentoring students, and how to assess student performance. Findings will also provide insight to LIS program administrators, identifying challenges associated with offering MOOCs and sustaining the model in the future.

### Scope of Research and Methodology

Evaluation of the SLIS MOOC will include multiple methodologies and explore various perspectives. Pre- and post-course online surveys of MOOC students will gather data regarding expectations and motivations for enrolling in the course; opinions regarding the course design, course content, and perceived sense of community; and perceptions regarding the course's value as a professional development venue. Qualitative survey data will be analyzed using content analysis procedures.

Additionally, the investigators will evaluate the WordPress/BuddyPress platform used to deliver the course in order to determine the platform's viability for large-scale learning communities. The investigators will also collect quantitative data, such as the number of students who register for and complete the course, the number of times students post to the course blog, and the number of assignments completed by each student. The investigators will analyze the qualitative and quantitative data, identify exemplary practices and areas for improvement, and develop recommendations for improving the MOOC.

### Future Research

Interviews with approximately 10 course assistants and content contributors will expand on survey findings and provide further insight regarding challenges and effective practices. For example, interviews will explore pedagogical issues and activity on the course site. After an analysis of survey findings, some students may also be interviewed. Interviews will be analyzed via a grounded theory or phenomenological approach.

### References

Abram, S. (2008). The 23 things - Learning 2.0. Stephen's Lighthouse. Retrieved from <http://stephenslighthouse.com/2008/02/05/the-23-things-learning-2-0/>

ALISE. (2013). ALISE Call for Participation. Retrieved from [http://www.alise.org/assets/documents/conf\\_2014/2014-general%20call%20for%20participation.pdf](http://www.alise.org/assets/documents/conf_2014/2014-general%20call%20for%20participation.pdf)

Daniel, J. (2012). Making sense of MOOCs: Musings in a maze of myth, paradox and possibility. *Journal of Interactive Media in Education (JIME)*. Retrieved from <http://www-jime.open.ac.uk/jime/article/view/2012-18>

Educause (2011). 7 things you should know about MOOCs. Retrieved from <http://net.educause.edu/ir/library/pdf/ELI7078.pdf>

Johnson, L., Adams Becker, S., Cummins, M., Estrada, V., Freeman, A., & Ludgate, H. (2013). *NMC Horizon Report: 2013 Higher Education Edition*. Austin, TX: The New Media Consortium. Retrieved from <http://www.nmc.org/pdf/2013-horizon-report-HE.pdf>

Kolowich, S. (2013, March 18). The minds behind the MOOCs. *The Chronicle of Higher Education*. Retrieved from [http://chronicle.com/article/The-Professors-Behind-the-MOOC/137905/?cid=wb&utm\\_source=wb&utm\\_medium=en#id=overview](http://chronicle.com/article/The-Professors-Behind-the-MOOC/137905/?cid=wb&utm_source=wb&utm_medium=en#id=overview)

Lewis, L. (2008, February 5). Library 2.0: Taking it to the street. Paper presentation from VALA 2008 Conference & Exhibition. Melbourne, Australia. Retrieved from [http://www.valaconf.org.au/vala2008/papers2008/35\\_Lewis\\_Final.pdf](http://www.valaconf.org.au/vala2008/papers2008/35_Lewis_Final.pdf)

Pappano, L. (2012, November 2). The year of the MOOC. *New York Times*. Retrieved from [http://www.nytimes.com/2012/11/04/education/edlife/massive-open-online-courses-are-multiplying-at-a-rapid-pace.html?\\_r=0](http://www.nytimes.com/2012/11/04/education/edlife/massive-open-online-courses-are-multiplying-at-a-rapid-pace.html?_r=0)

Stephens, M. & Cheetham, W. (2011). The impact and effect of learning 2.0 programs in Australian academic libraries. *New Review of Academic Librarianship*, 17(1), 31-63.

Stephens, M. & Cheetham, W. (2012a). Benefits and results of learning 2.0: A case study of CityLibrariesLearning “discover\*play\*connect”. *Australian Library Journal*, 61(1), 6-15.

Stephens, M. & Cheetham, W. (2012b). The impact and effect of learning 2.0 programs in Australian public libraries. *Evidence Based Library and Information Practice*, 7(1), 53-64.

### **“Teaching with Book Trailers: A Design-Based Inquiry”**

**Presenters:** Eric Meyers and Judith Saltman, University of British Columbia

In today’s digital world, meaning making occurs across communication modes: in text and hypertext, video and audio, and in the immersive realms of virtual worlds to name just a few (Barthel, Ainsworth & Sharples, 2010). Yet, children’s and young adult services, including collection development and readers’ advisory, are still largely based in print materials: the picture book, the novel, the magazine, the informational website. The convergence of media modes and formats, demands that we prepare students in Library and Information Science (LIS) to think beyond the page, be it print or digital, both as organizers and mediators of children’s texts, but also as producers of media. Information professionals are curators and creators of content, although this second role is less often discussed and marginally supported in many LIS

curricula. Our project moves beyond recent articulations of “design thinking” as a prerequisite for effective LIS pedagogy (Bell, 2008), to illustrate how we might cultivate “design literacies” in our pre--service students through multimodal creative assignments (Sheridan & Rowsell, 2010).

This paper describes a longitudinal effort to address the role of youth librarians as creators of multimedia content. Over the last three years, the authors have developed and refined an innovative assignment involving book trailers, incorporating this sequentially into their Library Services to Young Adults and Library Services to Children courses. Our design--based inquiry explores the pedagogical configurations that assist pre--service librarians in seeing themselves as creators, as well as support their development of design literacies. By design literacies we mean an understanding of the diverse ways that meaning is constructed through multiple media: the logics and rhetorics of media production (Sheridan & Rowsell, 2010; Rowsell, 2013). While book trailers are employed in the publishing industry as a marketing tool and at the K--12 level to engage young people in the development of digital skills, we rarely see this technique employed in higher education in the preparation of youth librarians and service professionals.

The salience of book trailers is increasing among LIS practitioners (Bates, 2012; Burek Pierce, 2011; Ferrell, 2010; Gunter & Kenney, 2012; Newlin, 2009; Wooten, 2009); this project is responsive to trends in the publishing world, as well as the new methods that librarians employ in the promotion and mediation of text (Horn, 2011). Cross--marketing books in other media, namely television and radio, has a long history, but developing short, movie trailer--like promotions for books has come about with the rise of the participatory Web and DIY film culture of the last decade (Davila, 2010; Springen, 2012). Several factors have contributed to the surge in book trailer creation by publishing houses, librarians, students, and fans. First, the tools used to make book trailers—software for recording video and creating motion graphics, and hardware such as sufficiently powerful PCs, microphones, and digital cameras—have become cheaper, easier to use, and thus more ubiquitous. Second, along with this ubiquity have emerged new distribution channels for video, particularly online social media sites such as YouTube, Vimeo, peer--to--peer torrents, and mobile services such as the iTunes Store. Third, the convergence of media channels and formats has encouraged new behaviours for the readers of texts, and raised expectations of publishers and authors to appeal to young readers through a variety of media forms (Chance & Lesne, 2012). Finally, the emerging emphasis on libraries as “makerspaces” demands that libraries and librarians rethink how they engage with communities and the creative energies of their patrons (Good, 2013).

Our iterative, design--based approach (DBRC, 2003) leverages student reflections, in--class feedback, analysis of student deliverables, and written evaluations to subtly alter the pedagogy of the assignment over time to improve student products and learning outcomes. Our presentation will illustrate how these sources of student--generated evidence facilitated the design of scaffolding materials, including deconstruction exercises, video--based instructional materials, and peer co-- production options. Furthermore, we will share ongoing challenges of student frustration and resistance, technical barriers to implementation, cross--media appropriation and fair dealing, and the evaluation of non--traditional student deliverables.

The overall success of this project has not been constrained to our classrooms. In addition to providing dozens of students with a unique contribution to their MLIS portfolio, the second author has connected the book trailer project with the online professional network Canadian Librarians are Serving Children (CLASC) to promote Canadian award-winning materials to a national practitioner audience. This has had the added effect of connecting students' in-class experiences with professional practice, and provided another source of feedback for the authors' assignment design. Furthermore, the teaching materials used in this assignment are being made "open source" to aid other LIS educators in replicating this pedagogy.

In sum, this paper will chart the implementation and evolution of a novel assignment that puts students in the mode of content creators. The assignment works to expand their capacity to develop multimedia projects as professionals, and provides a new perspective on engaging with youth materials as multimodal artifacts. Adapting techniques from the publishing and marketing worlds to encourage students to think in a new way—like content designers and producers—is an exemplar of entrepreneurial pedagogy.

#### References:

American Libraries (2013). Manufacturing maker spaces.

Barthel, R., Ainsworth, S., & Sharples, M. (2010). Negotiating perspective in social video environments. In (K. Drotner and K. Shroder, eds) *Digital content creation: Perceptions, practices and perspectives* (pp. 211-226). New York: Peter Lang.

Bates, Naomi. (2012). Weaving a virtual story—Creating book trailers 101. *Knowledge Quest*, 40(3), 72-75.

Bell, S. J. (2008). Design thinking. *American Libraries*, 39(1), 44-49.

Burek Pierce, J. (2011). Youth Matters. Screening Your Reads. *American Libraries*, 42(1/2), 88.

Chance, R., & Lesesne, T. (2012). Rethinking reading promotion: Old school meets technology. *Teacher Librarian*, 39(5), 26-28.

Davila, D. (2010). Not so innocent: Book trailers as promotional text and anticipatory stories. *ALAN Review*, 38(1), 32-42.

Design-Based Research Collective (DBRC). (2003). Design-based research: An emerging paradigm for educational inquiry. *Educational Researcher*, 32(1), 5-8.

Dopke-Wilson, M. (2009). Video book trailers: Coming to a library near you! *Educators' Spotlight Digest*, 3(2).

Ferrell, K. (2010). A book report your students will love. *Learning & Leading With Technology*, 38(4), 30-31.

Good, T. (2013). Manufacturing makerspaces. *American Libraries*, 44(1/2), 44-49.

Gunter, G. A., & Kenny, R. F. (May 01, 2012). UB the director: Utilizing digital book trailers to engage gifted and twice-exceptional students in reading. *Gifted Education International*, 28(2), 146-160.

Horn, L. (2011). Online marketing strategies for reaching today's teens. *Young Adult Library Services*, 9(2), 24-27.

Newlin, R. (2009). Book trailers: Going outside the book. *School Librarian's Workshop*, 29(3), 19-22.

Rowse, J. (2013). Working with multimodality: Rethinking literacy in a digital age. New York: Routledge.

Sheridan, M. P., and Rowse, J. (2010). Design literacies: Learning and innovation in the Digital Age. New York: Routledge.

Springen, K. (2012). The big tease. *School Library Journal*, 58(07), 28-31.

Wooten, J. (2009). Flipped! Want to get teens excited about summer reading? Just add video. *School Library Journal*, 55(5), 38-40.

## **“Education of Librarians and Information Professionals in Poland – Changes in Training Programs and New Ideas”**

**Presenter:** Magdalena Wojcik, Jagiellonian University

Background:

In recent years, a way of thinking about the creation of training programs was dramatically changed by the so-called Bologna Process. In Poland, as in more than 40 other European countries, the initiative of creating the European Higher Education Area has been started, which has huge implications for the processes of education at various levels, including the training of librarians and information professionals.

Subject and main objective:

The subject of this paper is the impact of the Bologna Process on education of librarians and information professionals in Poland, particularly on the development of training programs. The main objective is to present a general picture of education of librarians and information professionals in Poland with an emphasis on showing changes in training programs related to the Bologna Process.

Specific objectives:

The specific objectives are: to check to what extent the assumptions of the Bologna Process are reflected in the curricula, to select examples of best practices, new ideas and innovative solutions, which on one hand are improving the quality of education, on the other hand support the entrepreneurial approach to education and to show the directions of further changes in the education sector.

#### Method:

Analysis of education programs for the first and the second levels of studies provided by leading LIS institutes via their websites was conducted, in terms of factors such as: education levels offered, learning areas and profiles of education chosen, completeness and correctness of training programs according to the Bologna Process recommendations and the number and quality of proposed learning outcomes. In the second stage, analysis of leading LIS institutes websites, study plans and course syllabi was conducted in search of interesting ideas, innovation and inspirations. The selection criteria for best practices was compliance with the principles of the Bologna Process and importance for the promotion of academic entrepreneurship. Ideas that was chosen help improve the quality of education, particularly in the area of defining learning outcomes, matching training methods and monitoring the learning process, support the integration of education and labor market needs or demonstrate universities entrepreneurial approach. Special attention was given to new concepts of education of librarians and information professionals at the Jagiellonian University - the oldest university in Poland and the second oldest in Europe.

#### Results and conclusions:

Based on conducted research the paper presents examples of innovative solutions and best practices used by the leading LIS Institutes in Poland to provide field for comparison and discussion. The results showed that the Bologna Process has launched a series of changes that greatly influenced the way of thinking about the design of training programs. Emphasis has been placed on the precise formulation of learning outcomes, not only in the area of knowledge and practical skills but also in the area of personal and social competences, which is particularly important from the employers point of view. The changes apply not only to curricula but also to the methods and tools of teaching and the ways of implementing and monitoring the learning process. The implementation of the Bologna process postulates in Poland is still in progress and there is still much to be done. The observed examples of good practice and new ideas, however, permit to think that started changes will have over time increasing impact on improving the quality of LIS education.

#### Originality and value:

The paper presents a comprehensive study of changes that have taken place in the way of training librarians and information professionals in Poland compared to similar developments in other European countries, which can help to understand the consequences of the Bologna Process for LIS specialists education sector.

Implications for practice:

Results of this study can be widely used in practice. Provided examples of innovative solutions and best practices can be useful as an inspiration to other educational institutions.

Keywords:

Education, LIS, Bologna Process, best practices, innovations.

References [selection]:

1. Agosto, Denise E.; Andrea J. Copeland, Lisl Zach (2013). Testing the Benefits of Blended Education: Using Social Technology to Foster Collaboration and Knowledge Sharing in Face-To-Face LIS Courses. *Journal of education for library and information science*, Vol. 54, Issue 2, p. 94-107.
2. Edwards, Phillip M. (2010). Theories-in-use and reflection-in-action: Core principles for LIS education. *Journal of education for library and information science*, Vol. 51, Issue 1, p. 18-29.
3. Jaeger, Paul T.; John Carlo Bertot, Mega Subramaniam (2013). Preparing Future Librarians to Effectively Serve Their Communities. *The Library*, Vol. 83, Issue 3, p. 243-248.
4. Kules, Bill; Jennifer McDaniel (2010). LIS program expectations of incoming students' technology knowledge and skills. *Journal of Education for Library and Information Science*, Vol. 51, Issue 4, p.222-232.
5. Normore, Lorraine F.; Brandy N. Blaylock (2011). Effects of communication medium on class participation: Comparing face-to-face and discussion board communication rates. *Journal of education for library and information science*, Vol. 52, Issue 3, p. 198-211.
6. Pérez-Montoro, Mario; Anna Maria Tammaro (2012). Outcomes of the Bologna Process in LIS higher education: Comparing two programs in Europe. *The International Information & Library Review*, Vol. 44, Issue 4, p. 233-242.
7. Primoz Juznic; Branka Badovinac (2005). Toward library and information science education in the European Union: A comparative analysis of library and information science programmes of study for new members and other applicant countries to the European Union. *New Library World*, Vol. 106, Issue 3/4, p.173–186.
8. Reinalda, Bob; Ewa Kulesza-Mietkowski (2005). *The Bologna process: Harmonizing Europe's higher education*. Farmington Hills, MI: Barbara Budrich.
9. Yang, Yuli; Tao Chen, Jun Sun (2012). The impact of IT on job qualifications for librarians in the digital age and implications for LIS education. *Information Technology in Medicine and Education (ITME), 2012 International Symposium on*. Vol. 1. IEEE.

10. Yukawa, Joyce (2010). Communities of practice for blended learning: Toward an integrated model for LIS education. *Journal of education for library and information science*, Vol. 51, Issue 2, p. 54-75.

**“Same Problems, Difference Solutions: Learning From the Entrepreneurial Spirit of International Librarians Through International Study in an MLS Program”**

**Presenters:** Andrew J.M. Smith and Gwen Alexander, Emporia State University

Following on from a presentation at last year’s ALISE conference (Smith & Alexander, 2013) that described in depth the creation, evolution, and management of the program of international education at the School of Library and Information Management (SLIM) at Emporia State University (ESU), this paper reports on specific learning reported by students in their reflective journals, with emphasis on differing approaches to common library problems.

SLIM teaches its blended master of library science degree program at two centers in Kansas, as well as at centers in Colorado, Georgia, Oregon, and Utah. Each center begins a cohort of students every year, and the students take core classes together in a blended face--- to---face and online format, developing a strong cohort identity and forging relationships that will last throughout their professional careers. Later in their program, students may elect to take electives with students from other cohorts, expanding their networks in the library community.

The State of Kansas has a strong outward focus, and encourages its universities to engage in international programs both by bringing students into Kansas, and by sending our students out into the world. ESU maintains a strong international program and in addition to aggressive recruitment of students to attend the Kansas campus, offers support to departments and faculty to plan and implement travel outside the United States for students at all levels across the university. In addition, ESU offers travel scholarships which cover part of the trip cost and reduce the cost for students. As a result of this, SLIM has for several years offered students the opportunity to participate in a class that examines library and information science applications in a particular country and features a field trip of 10 to 14 days to the country in question. Over the past few years, trips have visited a wide variety of countries, including Mexico, Bulgaria, Ukraine, Serbia, Paraguay, Croatia, and Scotland.

In the early years, trips were planned that focused more on service learning, and on students engaging in a particular task or project, but more recently trips are focused on interaction with local librarians in the destination country, on a professional exchange of ideas, and of the students seeking to understand the opportunities and problems of the information world in the country they visit. The emphasis is on the students as learners, rather than outside experts, and the students gain a much more rounded understanding of the country and its culture. All students keep a journal of their class experience, which includes the preparation time before the field trip, the actual experience in---country, and after their return to the United States. These journals reveal the extent of their learning and the major impact of this one class on their whole outlook of the library and information profession.

As the majority of students in the SLIM program are already working in libraries in some capacity, they are able to bring real-world library knowledge to bear on what they see and hear during the international visit, as well as their theoretical knowledge from the program. This means the students are able not only to recognize common library problems, but to understand the differences in approach and solutions they are witnessing, and to ask informed questions as to results and outcomes. In addition they are able to share their own library's approach, and to describe resulting successes and failures. As the students come from a wide geographic area and from multiple libraries and archives, they are also able to benefit from the breadth of experience of their fellow students, and to learn from their fellows' reactions to what they see.

This paper examines many of the different approaches and problem solutions discovered by the students through their own eyes. It looks not only at the discovery of different library and archival practice and novel solutions to common problems, but also highlights the context in which the discoveries were made, and the contrasting reactions of the students to their learning. Many of the contrasts reveal a diversity of practice within US libraries, which also suggests that despite the opportunities for professional exchange, much useful knowledge is still not shared to the extent we believe it could or should be.

Topics addressed include outreach services, including services to elderly, home-bound, and remote patrons, as well as services to incarcerated populations, particularly those who do not speak the native language. Other topics include services to young children and early learners, volunteer recruitment and training, management and administration on diminishing budgets, and new advocacy techniques.

## Reference

Smith, A. M., & Alexander G. (2013, January) The international question: Experiential learning overseas as an integral component of library science education. Paper presented at the annual meeting of the Association for Library and Information Science Education, Seattle, WA

## **“The Scholarly Journal and Disciplinary Identity: An Autoethnographic Reading of The Library Quarterly”**

**Presenter:** C. Sean Burns, University of Kentucky

## Introduction

Scholarly journals play important roles in the dissemination of information and knowledge. However, beginning with the early days of science, journals have had other forms of influence (Price, 1986; Hunter, 2010). In particular, journals have contributed to the "building of scientific communities" (Functions of Scientific Journals section, para 3, Schaffner, 1994), and this has been true for the field we now call library and information science (LIS).

In the LIS example, the journal has played an important role in identity formation since the founding of the Library Journal in 1876. Approximately 55 years later, the founding of several scholarly and technical journals, including The Library Quarterly (1931), the Journal of Documentary Reproduction (1938), which would later and in a roundabout way evolve into JASIS&T (Farkas-Conn, 1990), and College and Research Libraries (1939), created additional outlets for the "publication of professional problems" (Hamlin, p. 60, 1981). For Hamlin, the addition of these journals signified a decade of wonders for librarians. In general, though, they helped usher in modern librarianship, evolve areas such as information science from documentation, and provide a cultural record of the efforts made by the people involved – something to refer to and to identify with as members of a community.

## Methodology

This study employs an autoethnographic reading of the first four volumes of the The Library Quarterly (LQ). This includes a reading of 16 issues and 120 articles published in the 1931 through 1934 volumes. In this study, the autoethnographic approach involves describing what it means to be a researcher and an educator in a field where scholarly journals have played an important role in shaping the professional identity. The goal is twofold: to develop a richer understanding of what journals mean for our discipline and to develop a framework that will enable future inquiry into how journals shape other disciplines.

Autoethnography is the chosen research design because the act of examining a LIS journal, in its role as an identity shaper, is the self-conscious and reflexive act of a participant observer (Ellis, Adams, & Bochner, 2011) – that is, as a member of the community who is studying the community and its history. Two versions of autoethnographic research have been developed: evocative autoethnography and analytic autoethnography. Evocative autoethnography emphasizes "evocation as a goal, for one, and writing narratively, for another" (Ellis & Bochner, p. 432, 2006). Analytical autoethnography, like its evocative counterpart, "seeks narrative fidelity [... and] is grounded in self-experience but reaches beyond it as well" (Anderson, p. 386, 2006). Since one purpose of this study is to understand, broadly, how journals have contributed to disciplinary identity, analytical autoethnography is the chosen research design.

Autoethnographic research in LIS is rare (Michels, 2012) and autoethnographic readings of texts may be more common but are rare also. Kaufmann's (2005) "autotheoretical [sic] reading of Foucault" (p. 577) provides a reference point for this study. In that study, Kaufmann interrupts her

theoretical interpretations of Foucault with autoethnographic pieces, textual vignettes of my life gathered through journal entries and books read [... which] function as illustrations and / or counterpoints to my summary of Foucault's theories (p. 577).

Inspired by Kaufmann (2005), this study functions as an autohistorical, rather than an autotheoretical, reading of LQ. By this I mean I will include historical interpretations, grounded in readings of our field's literature, of the first 120 articles in LQ with textual reflections of my experiences as a new researcher and educator within LIS. Since data will be collected in this

way, my field notes will be public and accessible at <http://cseanburns.net/journal/blog/categories/lq-autoethno-field-notes/>.

## Motivation

The motivation for this study originates from recent scholarly communication trends and what these trends mean for the sciences, broadly defined. Specifically, despite the role journals have had in creating communities and shaping identities, problems associated with the serials crisis and developments in emerging technologies have resulted in some researchers, in a seemingly entrepreneurial spirit, calling for an end to the genre. For example, arguments include a move to the article as a complete product in itself and to a market-based, decentralized infrastructure (Priem & Hemminger, 2012) where identification, publication, storage, assessment, marketing, search, and preparation are taken over by entities other than the journal (Priem, 2013).

In some cases, re-envisioned publishing models are challenging the traditional journal format, too. PeerJ (<https://peerj.com/>), for example, is a recent open access platform that charges authors a small, life-time fee. The relevant requirement is that all authors assume peer review duties at least once per year (Van Noorden, 2012). Furthermore, the platform publishes on a continuous basis and is not dependent on publishing actual serials. That is, articles are published soon after and subsequent to peer review and acceptance.

Whether these developments and the rhetoric exhibited among the proponents is convincing, the arguments valid, or the outcomes overwhelmingly desired by the people involved in research activities, it is true that many researchers are becoming more interested in adopting new dissemination technologies (Tatum & Jankowski, 2013) or are required to communicate their data, their products, and their reports in more comprehensive ways (Piwowar, 2013).

Though the journal's end time is not likely near, these interests and requirements are already having a disruptive influence on the scholarly communication system (Cope & Kalantzis, 2009), which will have an increasingly dynamic future. Also, while adoption of radical new methods of communication may be more appropriate for some forms of science, the state of affairs does beg for reflection on what the journal has done for community. In the process, it will be important to know what, if anything, is lost for the culture of science if the journal is eventually dismissed.

## References

Anderson, L. (2006). Analytic autoethnography. *Journal of Contemporary Ethnography*, 35(4), 373-395. doi:10.1177/0891241605280449

Cope, W., & Kalantzis, M. (2009). Signs of epistemic disruption: Transformations in the knowledge system of the academic journal. *First Monday*, 14(4). doi:10.5210/fm.v14i4.2309

Ellis C., Adams, T. E., & Bochner, A. P. (2011). Autoethnography: An overview. *Historical Social Research*, 36(4), 271-290.

Ellis, C., & Bochner, A. P. (2011). Analyzing analytic autoethnography: An autopsy. *Journal of*

*Contemporary Ethnography*, 35(4), 429-449. doi:10.1177/0891241606286979

Farkas-Conn, I. S. (1990). *From Documentation to Information Science: The Beginnings and Early Development of the American Documentation Institute – American Society for Information Science*. New York: Greenwood Press.

Hamlin, A. T. (1981). *The University Library in the United States: Its Origins and Development*. Philadelphia: University of Pennsylvania Press.

Hunter, M. (2010). The great experiment: The Royal Society. *History Today*, 60(11), 34-40.

Michels, D. H. (2010). The place of the person in LIS research: An exploration in methodology and representation. *The Canadian Journal of Information and Library Science*, 34(2), 161-183. doi:10.1353/ils.0.0001

Piwowar, H. (2013). Altmetrics: Vale all research products. *Nature*, 493(159). doi:10.1038/493159a

Price, D. J. D. S. (1986). *Little Science, Big Science... and Beyond*. Columbia: Columbia University Press.

Priem, J., & Hemminger, B. (2012). Decoupling the scholarly journal. *Frontiers in Computation Neuroscience*, 6(19). doi:10.3389/fncom.2012.00019

Priem, J. (2013). Scholarship: Beyond the paper. *Nature*, 495(7442). doi:10.1038/495437a

Schaffner, A. C. (1994). The future of scientific journals: Lessons from the past. *Information Technology and Libraries*, 13(4).

Tatum, C., & Jankowski, N. W. (2013). Beyond open access: A Framework for openness in scholarly communication. In P. Wouters, A. Beaulieu, A. Scharnhorst, & S. Wyatt (Eds.), *Virtual Knowledge: Experimenting in the Humanities and the social sciences* (pp. 183 – 218). Cambridge: MIT Press.

Van Noorden, R. (2012). Journal offers flat fee for 'all you can publish.' *Nature*, 486(7402). doi:10.1038/48616a

## **“Standing on the Shoulders of Others: Bringing the Best Practices of Assessment to the MLS”**

**Presenter:** Elizabeth Osika, Chicago State University

There is an ever increasing call for accountability in higher education, creating a challenge for programs to publically demonstrate the value provided by their degrees and programs (Astin et al., 1996; Banta, Black, Kahn, & Jackson, 2004; Gardiner, Corbitt, & Adams, 2010; New

Leadership Alliance, 2012). This challenge can become an opportunity for programs that take an entrepreneurial approach and provide strong evidence that their graduates can perform at and above the expectations of employers. Typically, this commitment to quality has been accomplished through accreditation (Goda & Reynolds, 2010; Pomey et al., 2010).

Accreditation provides many benefits. The cyclical process requires programs to be self-reflective evaluating what they do well and in what areas they can improve. This often stimulates new or revived cooperation among faculty to assess their effectiveness and encourages the implementation of improvement projects (Pomey et al., 2010). However, the primary benefit and reason accreditation is most often pursued, is to obtain external certification of the quality of education provided. Goda and Reynolds (2010) describe the accrediting process as one which is “intended to strengthen and sustain the quality and integrity of higher education, making it worthy of public confidence.” For many fields, this indicates that the graduates of the program will be educated and trained to meet specific standards or a body of knowledge, often confirmed through a national or standardized test (Goda & Reynolds, 2010; O'Connor & Mulvaney, 2013).

For MLS programs accredited by ALA, this is not the case. ALA allows each MLS program to develop its own student learning outcomes and curriculum. While this allows the program to leverage its unique strengths, it does not necessarily provide consistency across programs in terms of what can be expected from someone who has earned an MLS degree (Kelley, 2013; O'Connor & Mulvaney, 2013). This potential lack of uniformity makes it imperative that each LIS program maintains an effective assessment system which clearly demonstrates how they specifically prepare their students and regularly publish these results to the public.

Since student learning is a primary goal of any academic program and the assessment of learning is a foundation of accreditation, one would assume that programs naturally desire an effective assessment system and work persistently towards that goal. However, this does not appear to be the case. First and foremost, faculty members with assessment experience are rare. Banta (2009) found “faculty members who might have contributed to advancing assessment serve a stint as assessment coordinators, then return to their primary discipline to contribute to theory and practice in that field” (p. 3). In addition, for those who may be interested in assessment, it is difficult as there isn't a body of knowledge or standard practice in the field of assessment per se (Banta, 2009). How then should programs proceed? Those with an entrepreneurial approach will investigate what successful academic programs are doing with assessment across disciplines and integrate best practices into their own assessment plan.

This paper begins this conversation by reviewing what various organizations have published as best practices and synthesizes the most common elements to create a list of ten strategies that MLS programs should include in the continued refinement of their assessment system. Input into the list of ten strategies comes from research conducted on schools which successfully achieved accreditation through the Accreditation Board for Engineering and Technology (ABET), a proposed model for achieving accreditation from the Association to Advance Collegiate Schools of Business (AACSB), the published “Principles of Good Practice for Assessing Student Learning” from the American Association of Higher Education (AAHE), the “Guidelines for Assessment and Accountability in Higher Education” published by the New

Leadership Alliance for Student Learning and Accountability, and research on good practices in assessment at community colleges.

By taking an interdisciplinary approach to assessment practices the researcher was able to identify strategies vetted by other organizations and which could be effectively used to improve assessment in the field of LIS. The proposed strategies, are briefly outlined below:

1. Cultivate a culture of assessment
2. Establish clear learning goals and objectives
3. Embed assessments within courses showing their alignment with curriculum maps
4. Maintain a balance between the work required and the results received
5. Combine direct and indirect measures of learning
6. Establish multiple assessment points to demonstrate student growth and understanding within objectives
7. Utilize external reviewers to add credibility to the process
8. Integrate an electronic management system that is able to disaggregate results and store evidence of student performance
9. Close the loop by using the data collected to improve student learning and the assessment process
10. Publically report results and plans for improvement

Through the implementation of the ten strategies, MLS programs should be able to establish an effective assessment plan that will meet and exceed the expectations of its internal and external stakeholders and provide a foundation for continual improvement.

#### References:

- Astin, A., Banta, T., Cross, K., El-Khawas, E., Ewell, P., Hutchings, P., . . . Wright, B. (1996). *Nine principles of good practice for assessing student learning* American Association of Higher Education.
- Banta, T. W. (2009). New opportunities for pushing the wheel forward. *Assessment Update*, 21(4), 3-16.
- Banta, T. W., Black, K. E., Kahn, S., & Jackson, J. E. (2004). A perspective on good practice in community college assessment. *New Directions for Community Colleges*, 2004(126), 5-16.
- Gardiner, L. R., Corbitt, G., & Adams, S. J. (2010). Program assessment: Getting to a practical how-to model. *Journal of Education for Business*, 85(3), 139-144.
- Goda, B. S., & Reynolds, C. (2010). Improving outcome assessment in information technology program accreditation. *Journal of Information Technology Education*, 9, IIP49-IIP59.
- Kelley, M. (2013, 5). Can we talk about the MLS? *Library Journal*, 138, 8. Retrieved from

New Leadership Alliance. (2012). *Committing to quality: Guidelines for assessment and accountability in higher education*. Washington, DC: New Leadership Alliance for Student Learning and Accountability.

O'Connor, D., & Mulvaney, P. (2013). ALA accountability and accreditation of LIS programs. Retrieved June 16, 2013, from <http://lj.libraryjournal.com/2013/05/library-education/ala-accreditation-and-accountability-backtalk/>

Pomey, M., Lemieux-Charles, L., Champagne, F., Angus, D., Shabah, A., & Contandriopoulos, A. (2010). Does accreditation stimulate change? A study of the impact of the accreditation process on Canadian healthcare organizations. *Implementation Science*, 5, 31-44.

## **“Students-led Accessibility Testing with Disabled Users: Gaining a Deeper Understanding of Diversity of Library Users for Online Services”**

**Presenters:** Kyunghye Yoon and Laura Hulscher, St. Catherine University

### Introduction

With the increasing pervasiveness of the Internet for everyday information use, it is imperative that every user, including those using assistive technologies, has access to online information. Library websites in particular, since they serve as a major portal to electronic resources and digital information, should be designed with usability and equal access in mind.

The web accessibility course discussed in this paper was designed to give students an understanding of web accessibility and usability in the context of the specific needs of libraries' user communities. During the course, students learned the basic tools, techniques, and usability principles intended to guide the design of usable and accessible websites. In addition, they completed a website usability testing project in order to learn about the important relationship between usable web design and usability testing with real users.

Accessibility testing with actual disabled users evolved out of the testing project, which was expanded to include users of assistive technologies (e.g., visually impaired users who rely on screen readers) so that students might gain a better understanding of this user group. Students applied for a scholarship to fund incentives for study participation. Although participants appreciated the importance of the topic, a monetary incentive helped by making the effort to participate worth their while. The overall objective of the accessibility testing was to better understand the web-browsing needs of screen reader users and extrapolate best practices for improving library website design. For this, the students adopted “a usability perspective” (Nielsen, 2005) which allowed them to identify some of the main sources of accessibility problems and to understand the general browsing needs of screen reader users.

### Related Literature

#### *Web Accessibility Legislation*

Section 508 of the Rehabilitation Act of 1973 requires U.S. federal agencies to make their information and services available to people with disabilities so that they are able to access the same information as a nondisabled person (Thatcher et. al, 2006). Section 504 extends this provision to all entities funded by federal money, which includes many public libraries and their websites. However, Fulton (2011) found that only 17 out of 50 states require their own state government websites to be accessible, and only four of these extend the requirement to other federally funded websites like public library sites. This lack of legislation is a significant barrier to the library profession's goal of equal access for all users.

### *Web Accessibility and Libraries*

Copeland (2011) asserts that, by making their websites inaccessible, libraries are contributing to the social construction of disability. While libraries and information centers have made strides towards accessibility over the past several decades, there are still large gaps, especially in regards to technology. Looking at the accessibility of digital library collections, Southwell and Slater (2012) examined U.S. academic digital library collections and found that 42 percent were readable using a screen reader, while 58 percent were not. A study by Oud (2012) confirms libraries' shortcomings in accessibility compliance. Her survey of 64 academic and public libraries in Ontario found that the average library website contained 14.75 accessibility barriers, including poor color contrast, images lacking text alternatives, and tables that cannot be interpreted by screen readers (Oud, 2012).

### *Accessibility in Web Design*

Although standards and tools such as the Web Content Accessibility Guidelines (WCAG) set a higher bar than most legal requirements, their complexity may be a source of confusion and ambiguity for librarians (Vandenbark, 2010). In addition, Rømen and Svanæs' study (2012) found little correspondence between the priority levels of the WCAG criteria and the actual severity of problems that real web users with disabilities encounter. Furthermore, their usability tests revealed that over half of the problems that disabled web users encounter are not addressed at all by either WCAG 1.0 or WCAG 2.0 (Rømen and Svanæs, 2012). For this reason, the present study went beyond the application of technical criteria, relying instead on a usability approach to evaluate accessibility.

### *Usability and Accessibility Testing*

A usability test of selected library and non-library websites was conducted with six blind participants using screen readers with their own laptops. Each session consisted of semi-structured interviews before and after testing, and a think-aloud protocol during homepage testing and task scenarios. A team of two students conducted each test: one as note taker and the other as facilitator. To accommodate screen reader use and accessibility barriers, students modified the think-aloud procedure and varied task scenarios from specific to general, as needed.

Data analysis was done across participants and websites, and focused on identifying specific barriers to website information as well as navigation issues distinct to the screen reader interface. Additionally, accessibility barriers uncovered by participants were compared with barriers identified by automated evaluation tools.

The findings were explored at various levels, such as the use of different coding practices, conceptual issues related to the web browsing needs of blind users, and practical questions of how best to serve blind patrons. Initial discussion suggested that library website developers should go beyond the technical accessibility standards and consider developing a high-level information architecture for the screen reader interface as part of the web design process.

### Discussion and Implications

Discussion will focus on the educational benefits of usability and accessibility testing in a MLIS course setting and implications to the practice of librarianship. For students, the opportunity to manage an actual accessibility testing project in a real setting instilled a sense of responsibility to the user and helped develop the skills and initiative necessary to lead such a project in the future. Learning outcomes also included a broader understanding of the web browsing needs of screen reader users and a better understanding of technical web accessibility. A continuing challenge for web accessibility is ensuring that online information is efficiently accessible in an environment of constantly developing design trends, such as dynamic interfaces and the increasingly visual delivery of information. Finally, the broader implications of the practice of student led course project will be discussed.

### References

Copeland, C. A. (2011). Library and information center accessibility: The differently-able patron's perspective. *Technical Services Quarterly*, 28(2), 223-241. doi:10.1080/07317131.2011.546281.

Fulton, C. (2011). Web accessibility, libraries, and the law. *Information Technology and Libraries* 30(1), 34-43.

Nielson, Accessibility is not enough <http://www.nngroup.com/articles/accessibility-is-not-enough/>

Oud, J. (2012). How well do Ontario library web sites meet new accessibility requirements? *Partnership: The Canadian Journal of Library and Information Practice and Research* 7(1), 1-17.

Rømen, D., & Svanæs, D. (2012). Validating WCAG versions 1.0 and 2.0 through usability testing with disabled users. *Universal Access in the Information Society*, 11(4), 375-385.

Southwell, K. L., & Slater, J. (2012). Accessibility of digital special collections using screen readers. *Library Hi Tech*, 30(3), 457-471. doi:10.1108/07378831211266609.

Thatcher, J., Burks, M. R., Heilmann, C., Henry, S. L., Kirkpatrick, A., Lauke, P. H., & Waddell, C.D. (2006). *Web accessibility: Web standards and regulatory compliance*. Berkeley, CA: friendsosed.

Vendanbark, R. T. (2010). Tending a wild garden: Library web design for persons with disabilities. *Information Technology and Libraries* 31(1), 23-29.

## **“LIS Diversity: A Longitudinal Study of the ALISE Statistics”**

**Presenters:** Reema Mohini, Qiong Xu, and Danny Wallace, University of Alabama

### Entrepreneurship and Diversity in Education

Frederick Hess, editor of *Educational Entrepreneurship: Realities, Possibilities, Challenges*, has pointed out that “Entrepreneurship is a slippery notion” and suggested a definition of educational entrepreneurship that focuses on “a process of purposeful innovation aimed at improving productivity or quality.”<sup>1</sup> Hess emphasizes that entrepreneurship is inherently risky and that “most education reformers ... prefer solutions than minimize risk.”<sup>2</sup>

One of the potential risks of entrepreneurial efforts in education is introduced by the interaction between cultural diversity and such entrepreneurial initiatives as massive open online courses (MOOCs), online degree programs that reach international audiences, asynchronous online programs that break down the dimensions of space and time, and other innovative approaches to learning. There is at present little understanding of the relationship between diversity in communities of learners and such entrepreneurial efforts, although some research has emerged. Richardson, for instance, found that white students performed significantly better than nonwhite students in distance education courses.<sup>3</sup> As the library and information science education community further explores online entrepreneurship it is essential to be mindful of factors that may reflect or influence cultural diversity in the library and information professions. A necessary precursor to such mindfulness is an understanding of trends and patterns in LIS diversity.

### The Issue of Diversity in Library and Information Science Education

In Balderama’s words, “‘diversity’ is a trend that is ever contemporary, historical, and futuristic.”<sup>4</sup> Diversity has been an ongoing concern for the library and information professions and the institutions and publics they serve for many decades, accompanied by a variety of diversity initiatives. An extensive overview of the diversity recruitment initiatives of a variety of organizations, including the American Library Association and its affiliates, other professional associations, and specific institutions, can be found in Neely.<sup>5</sup>

The most notable diversity recruitment initiatives are probably those of the American Library Association. The Spectrum Initiative was launched in 1998 to provide a combination of financial assistance and mentoring to encourage members of underrepresented groups to enroll in graduate programs in library and information science. The Spectrum Doctoral Fellowship Program was initiated in 2006 to increase diversity among doctoral students in library and information science.

The Discovering Librarianship Program began in 2010 as a means of recruiting ethnically diverse high school students to the library and information professions. A 2011-2012 ALA presidential initiative, Empowering Diverse Voices, was introduced to increase diversity in the profession's leadership.

### Studies of Diversity in Library and Information Science Education

The Library and Information Science Student Attitudes, Demographics, and Aspirations (LISSADA) Survey, conducted in 1988, provided useful baseline data on diversity among library and information science students.<sup>6</sup> There has, however, been no direct follow-up in the more than two decades since the LISSADA Survey's results were published, although there have been several short-term analyses of data sources related to diversity in library and information science education, including those by Lance, Hipps, Jaeger, Kim and Sin, and Franklin, Stanley, and Morgan, Farrar, and Owens.<sup>7</sup>

### The Library and Information Science Education Statistical Report

For three decades, the annual publication Library & Information Education Statistical Report, hereafter referred to as the Report, produced by the Association for Library & Information Sciences Education (ALISE) and its predecessor, the Association of American Library Schools, has provided aggregate data for library and information science programs across North America. The Report is a unique resource in academia. Not only has ALISE collected, summarized, and published the profession's data consistently over three decades, but it also appears to be the only organization to have collected comprehensive longitudinal data on education in its field.

The Report is an essential resource for library and information science education and for the broader field of library and information science practice. In the words of 2010 ALISE President Lorna Peterson, "The ALISE statistics are used for benchmarking, aspirations, comparisons, development — the importance of these data and their richness cannot be underestimated."<sup>8</sup> Since 1993, the ALISE statistics have been used by the American Library Association Committee on Accreditation as its quantitative basis for continuous accreditation of master's programs. Programs are encouraged to use the statistics as part of their "obligation to use the results of their evaluations for broad-based, continuous program planning, assessment, development, and improvement."<sup>9</sup>

Although the ALISE data provide an immense opportunity to study manifestations of diversity in library and information science education, no comprehensive longitudinal analysis of the ALISE statistics has been produced. This paper will explore what the ALISE statistics reveal about diversity trends in library and information science education. The fundamental research question for this project is:

What are the characteristics of diversity in the library and information science professions from 1979 to 2010?

Diversity will be assessed in terms of trends and key indicators related to 1) gender, race, age, and national origin of students, 2) gender, race, age, and disciplinary background of faculty, and 3) trends in curriculum and course offerings.

References:

1 Frederick M. Hess, "The Case for Educational Entrepreneurship: Hard Truths about Risk, Reform, and Reinvention," *Phi Delta Kappan* 89 (September 2007): 21-22.

2 *Ibid.*, 23.

3 John T. E. Richardson, "Conceptions of Learning and Approaches to Studying among White and Ethnic Minority Students in Distance Education," *British Journal of Educational Psychology* 80 (December 2010): 535-556.

4 Sandra Rios Balderama, "This Trend Called Diversity," *Library Trends* 49 (Summer 2000): 194.

5 Teresa Y. Neely, "Diversity Initiatives and Programs," *Journal of Library Administration* 27 (1999): 123-144.

6 William E. Moen and Kathleen de la Peña McCook, *Librarians for the New Millennium* (Chicago: American Library Association, 1988).

7 Keith Curry Lance, "Racial and Ethnic Diversity of U.S. Library Workers," *American Libraries* 36 (May 2005): 41-43; Kaylyn Hipps, "Diversity in the US ARL Library Workforce," *ARL* no. 246 (June 2006): 1-2; Paul T. Jaeger and Renee E. Franklin, "The Virtuous Circle: Increasing Diversity in LIS Faculties to Create More Inclusive Library Services and Outreach," *Education Libraries* 30 (Summer 2007): 20-26; Mary J. Stanley, "Case Study: Where, Is the Diversity? Focus Groups on How Students View the Face of Librarianship," *Library Administration & Management* 21 (Spring 2007): 83-89; Kyung-Sun Kim and Sei-Ching Joanna Sin, "Increasing Ethnic Diversity in LIS: Strategies Suggested by Librarians of Color," *Library Quarterly* 78 (April 2008): 153-177; Jennifer Craft Morgan, Brandy Farrar, and Irene Owens, "Documenting Diversity among Working LIS Graduates," *Library Trends* 58 (Fall 2009): 192-214.

8 Lorna Peterson, e-mail to Danny P. Wallace, December 2, 2010.

9 American Library Association, *Standards for Accreditation of Master's Programs in Library and Information Studies* (Chicago: ALA, 2008), 4.

**"Using Educational Entrepreneurship to Promote Diversity and Inclusion in Library and Information Science Education"**

**Presenters:** Paul T. Jaeger, Mega Subramaniam and John Carlo Bertot, University of Maryland

Educational entrepreneurship presents opportunities for Library and Information Science (LIS) institutions to be inclusive by designing program and courses that teach designing inclusive services and programs that can be offered to diverse populations, develop community partnerships with information institutions in the nearby area that serve such populations, and provide internship opportunities in these information institutions. A key benefit of such educational entrepreneurship is that it allows schools and their student bodies to work with populations that are underserved, underrepresented, and disadvantaged. This paper explores how a Master's in Library Science (MLS) program at the College of Information Studies at the University of Maryland implemented such programming and the lessons learned. Other LIS institutions with existing MLS programs can adopt this model and offer such experiences to their students and communities.

Issues of diversity are central concerns for a field dedicated to promoting widespread and equitable access to information and information literacy, both in the composition of the profession and in need for practice infused with cultural competence (Jaeger, Bertot, & Subramaniam, 2013). In addition to historical issues, technological, social, and demographic changes give greater importance to information and information technologies, expanding the range of diverse populations affected by information issues. Information diversity encompasses race, gender, ethnicity, language, literacy, disability, age, socio-economic status, technology access and skills, and other important considerations (Jaeger, Subramaniam, Jones, & Bertot, 2011).

The composition of our profession does not reflect the society that we serve, with race being a particularly long-running challenge. Despite offering of scholarship awards to minority students (such as through Laura Bush 21st Century Grants offered by the Institute of Museum and Library Services), LIS continues to struggle to recruit, train and sustain professionals from diverse racial backgrounds. The focus on the issue of racial underrepresentation, however, masks the issues of the underrepresentation of other populations among LIS students and professionals. As the nation grows ever-more diverse in terms of race, language, literacy, national origin, sexual orientation, disability, education level, socio-economic status, and other factors, reflecting the diversity of society becomes ever-more important for libraries to remain relevant to the communities they exist to serve.

A number of LIS schools have promoted diversity through individual courses, recruiting plans, mentoring initiatives, and academic programs (Subramaniam & Jaeger, 2010, 2011). Notable efforts like the University of Arizona's Knowledge River Project (<http://sirls.arizona.edu/kr/>) and the University of Illinois' LIS Access Midwest Program (<http://www.lis.illinois.edu/admissions/lamp>) remain uncommon. Several professional organizations in the field, such as the American Library Association, the Association of College and Research Libraries, and the Association of Research Libraries also have scholarship and fellowship programs to recruit and support these students. These initiatives obviously help to increase the diversity of the profession in terms of race and ethnicity, but focus on a specific population (such as Hispanic or Native American) or focus on recruiting underserved populations into LIS. As successful as these programs are, they do not make large-scale changes in the profession. They also are only a first step, as they do not address the issue of

comprehensively incorporating diversity and inclusion into the broad and specific aspects of LIS curriculum.

To meet the information needs of this increasingly diverse society, all of our graduates need to be culturally competent from the moment they graduate. This means being ready to work with patrons of all the different populations noted above and perhaps others that are unique to the local community being served. The curriculum of LIS education has to adapt and evolve much faster than it has so far to ensure that our graduates are ready to serve every member of their communities. And, of course, these challenges must be met in times of unprecedented levels of usage of libraries and often catastrophic budget cuts (Taylor et al, 2012; IMLS, 2013).

The vast majority of students graduating from LIS programs – nearly 80% – do not feel that they had the chance to take even one class related to diversity (Mestre, 2010). Of the courses offered by LIS programs that are related to diversity, the vast majority are electives that may be offered infrequently, if at all (Subramaniam & Jaeger, 2011). Among iSchools, which include many of LIS programs with the largest enrollments and largest emphases on research, the availability of courses related to diversity is even more limited as among LIS programs as a whole (Subramaniam & Jaeger, 2010). LIS schools must simultaneously confront the need to draw a pool of students that better represents the general population and the need to provide a curriculum that ensures that all students are ready to effectively serve the full range of populations in their communities when they start their new careers.

The IMLS-funded “Diverse Populations, Information, and Library Education” scholarship program (<http://ischool.umd.edu/content/specializations-0>) funded 25 students in completion of their MLS degree with a specialization in Information and Diverse Populations at the University of Maryland. The four courses that were developed for this specialization are infused with diversity and inclusive components – such as a weekly focus on specific populations, project based learning with near-by libraries and government agencies, exposure to diversity literature and research methodologies for conducting studies with underserved or disadvantaged populations, and participation in diversity-related conferences and programming. Along with these activities, students also received mentoring from partner institutions that serve patrons from diverse communities, shadowed their mentors and trained to be mentors themselves. Students also completed internships in partner institutions. Such educational entrepreneurship benefits the students tremendously, but also benefits the information institutions and the communities that they serve, as students bring fresh and valuable ideas and work on projects that benefit these communities.

The unique curriculum development, community partnerships, mentoring and internship models and the related best practices and lessons from this project revealed much about the future construction of LIS programs to promote diversity and inclusion. These best practices of educational entrepreneurship with a focus on diversity and inclusion can be weaved into the current offerings of LIS programs in other institutions, enabling all LIS institutions to embrace diversity and inclusiveness.

References

Institute of Museum and Library Services. (2013). *Public libraries in the United States survey: Fiscal Year 2010*. Washington, DC: Institute of Museum and Library Services. Available at: <http://www.ims.gov/assets/1/AssetManager/PLS2010.pdf>.

Jaeger, P. T., Bertot, J. C., & Subramaniam, M. (2013). Preparing future librarians to effectively serve their communities. *Library Quarterly*, 83, 243-248.

Jaeger, P. T., Subramaniam, M., Jones, C. B., & Bertot, J. C. (2011). Diversity and LIS education: Inclusion and the age of information. *Journal of Education for Library and Information Science*, 52, 166-183.

Mestre, L. (2010). *Librarians serving diverse populations: Challenges and opportunities*. Chicago: American Library Association Editions.

Subramaniam, M., & Jaeger, P. T. (2010). Modeling inclusive practice?: Attracting diverse faculty and future faculty to the information workforce. *Library Trends*, 59(1/2), 109-127.

Subramaniam, M., & Jaeger, P. T. (2011). Weaving diversity into LIS: An examination of diversity course offerings in iSchool programs. *Education for Information*, 28(1), 1-19.

Taylor, N. G., Jaeger, P. T., McDermott, A. J., Kodama, C. M., & Bertot, J. C. (2012). Public libraries in the new economy: 21st Century skills, the Internet, and community needs. *Public Library Quarterly*, 31, 191-219.

## **“Entrepreneurship in Online K-12 Information Literacy Education”**

**Presenters:** Jenny Bossaller and Denice Adkins, University of Missouri

### Introduction

The School of Information Science & Learning Technologies (SISLT) at the University of Missouri is in the process of forming a partnership with Mizzou K-12 Online (<http://mizzouk12online.missouri.edu/>). SISLT's dual focus on learning technologies and information science and its placement within the College of Education make it uniquely suited to meet the challenges of the revamped online educational focus of the schools. This proposal describes the developing information literacy curriculum in the K-12 context.

### Mizzou K-12 Online

Mizzou K-12 Online's High School has been granting diplomas since 1997. The school offers 188 courses. Students enroll for a variety of reasons: some for credit recovery because they could not attend school for various reasons (i.e., illness or athletics), and some from home school environments. A recent emphasis is providing classes that are unavailable to students in their home school (i.e., languages and college-preparatory classes).

There is competition in the area of K-12 online education from both for-profit and nonprofit sectors. The strength of Missouri's program comes from its placement within the College of Education. The relationship between the College and the High School is reminiscent of the lab school model of education, allowing pre-practice teachers (under the guidance of professionals) to develop new and creative methods for excellence in teaching and to do research in the classroom. This holistic model is based on the belief that online classes should be focused on instruction, learning, and formative assessment in addition to the content delivery and summative assessments already present in MU High School courses. The High School is an entrepreneurial activity within the College of Education; one of its purposes is to help the College become more self-sustaining.

### Online instruction

The High School operated under an individual correspondence course model for years, but has recently begun using the Moodle Learning Management system (LMS) to conduct classes. This is a major shift; the LMS allows students to take classes with their peers, and the school now uses a discourse-constructivist learning model, relying on frequent student-student and student-teacher interactions. The school has adopted the Understanding by Design model of instruction, which uses a backwards design principle beginning with learning standards in order to develop summative assessments which are then supported by formative assessments (including extensive feedback) throughout the course.

Information literacy instruction is extremely important in online education settings. While previous students might have worked with a textbook on their own, now they incorporate free online sources, including those that they find themselves, into their classwork. This opens the door for SISLT to test its information literacy curriculum in the high school setting. The online high school environment is a space for pre-practice teachers and school librarians to study information literacy behavior and to refine education to emphasize skills that will help the students make a successful transition to college. Student success at the college level depends upon the ability to successfully navigate a complex information landscape, and these skills take time to develop.

### ISLT 1111 and Information Literacy

ISLT 1111 is a one credit hour undergraduate course taught by LIS master's students under the supervision of a doctoral student. The course's purpose is to offer novice researchers (primarily freshmen and sophomores) the opportunity to refine their information seeking and evaluation skills. The course combines guided and independent learning activities that help the students learn how to find and evaluate different resources that they use to build a final project. The curriculum emphasizes student success and encourages students to apply what they learn in the classroom to their academic interests and life.

The activities that will be incorporated into the new information literacy curriculum in the high school are taken from the state's ICT Literacy Standards (Missouri 2010), utilizing some concepts and content developed in ISLT 1111. Communication and collaboration are key elements of these standards. Regular self-assessments built into the activities provide instructors

with data to adjust the curriculum to specific student needs. The reflections also give students opportunities to express their interests, questions and concerns in a meaningful and structured format. This activity matches the intentions of the online classes as students share reflections and strategies amongst themselves and instructor. The Information Literacy Standards at the high school level require that students “contribute to the construction and exchange of ideas through independent, cooperative, and/or collaborative work,” demonstrating the urgent need for this type of curriculum. This is the value added by this proposal; it exceeds content delivery.

The College of Education has recently agreed to fund a virtual student-librarian position for the school, with the intention of justifying a permanent position in the future. The student librarian will aid in planning, coordination, and research of the information literacy curriculum within the coursework, help build online tutorials, and work with staff and faculty to promote the use of authoritative resources by students and faculty. The librarian will help integrate resources into the classwork, curating tailored collections for the classes. This new position goes against the grain; while brick-and-mortar schools are cutting librarians, our program increases librarians’ teaching and guidance roles in the online environment.

We anticipate that the integration of information literacy instruction will foster the academic rigor of classes while at the same time providing a higher level of coursework that is not available to students in other venues. Embedding information literacy into the curriculum will give SISLT’s students and faculty to work with K-12 students in practice, creating and implementing novel methods in order to study information literacy needs in the online environment. Our proposed presentation at ALISE will focus on the partnership and early findings from the information literacy curriculum in the online high school setting.

#### Select Reference List

Barnes, J. (2009). *Online Resources to Support Big6 Information Skills*. Retrieved from [http://nb.wsd.wednet.edu/big6/big6\\_resources.htm](http://nb.wsd.wednet.edu/big6/big6_resources.htm)

Greer, A., Weston, L., and Alm, M. (1991). Assessment of Learning Outcomes: A Measure of Progress in Library Literacy. *College & Research Libraries*, 52, 549-557.

Gross, M. (2005). The Impact of Low-level Skills on Information Seeking Behavior: Implications of Competency Theory for Research and Practice. *Reference & User Services Quarterly*, 45, pp. 54-62.

Latham, D., & Gross, M. (2008). Broken Links: Undergraduates Look Back on Their Experiences with Information Literacy in K-12 Education. *School Library Media Research*, 11. Retrieved from <http://www.ala.org/aasl/aaslpubsandjournals/slmrb/slmrcontents/volume11/lathamgross>.

Harris, F. J. (2003). Information literacy in school libraries: It takes a community. *Reference & User Services Quarterly* 42, 215–23.

Hernon, P., and Dugan, R. E. (Eds). (2004). *Outcomes Assessment in Higher Education: Views and Perspectives*. Westport, CT: Libraries Unlimited.

Missouri Department of Elementary and Secondary Education (2010). Information and Communications Technology Literacy Course Expectations. Retrieved from <http://dese.mo.gov/divimprove/curriculum/GLE/documents/cur-ca-il-cle-0410.pdf>

Smalley, T. N. (2004). College success: High school librarians make the difference. *Journal of Academic Librarianship* 30, 193–98.

Wiggins, G., and McTighe, J. (2005). *Understanding by Design* (2nd expanded ed.). Alexandria, VA: Association for Supervision and Curriculum Development.

### **“Educational Entrepreneurship, Service Learning and Adolescent Literacy at a Distance”**

**Presenters:** Sue Kimmel, Danielle Forest, Jamie Colwell, and Sheila Baker, Old Dominion University

Educational entrepreneurship calls on LIS educators to explore novel solutions to educational or pedagogical problems. Distance learning provides particular challenges and constraints for educators interested in engaging students in experiential learning such as service to communities that may be geographically dispersed. In this study, we explore harnessing online technologies to offer LIS students a shared service learning experience through the use of an asynchronous online classroom. As entrepreneurs, we found ourselves in unexplored territory as we attempted to broker new partnerships with a local urban school system and between our LIS students and middle school students enrolled in language arts classes in summer school. This paper will report on the challenges and opportunities of organizing, implementing, and evaluating this unique service learning project.

Service learning has been promoted in LIS education as a means for bridging theory and practice and engaging students with the core values of the profession (Ball, 2008) as well as offering LIS students an opportunity to engage with diverse populations and issues of equity (Montiel---Overall, 2010). Service learning is distinguished from other types of experiential learning or community service because the focus is equally on service and learning, and the perceived benefits are to the students providing the service and the recipients of the service (Witbooi, 2004). Service learning also represents a tripartite effort involving the university, the students, and the community (Witbooi, 2004) that aligns with the university’s mission of outreach to the local community.

Asynchronous online classes provide a unique challenge for LIS instructors interested in including service learning. Students in these classes are often geographically dispersed and have elected an online program in part for the convenience of engaging in coursework at times of their choosing. Many of the LIS students involved in this university’s pre---service school library program are full---time K---12 teachers who require flexibility in their graduate program of

study. Although some students live in close proximity to the university, a number live in distant locations across the state.

A valued aspect of service learning is the opportunity for students to gain real-life experiences working to help meet community needs. Few studies have explored the use of online technology as a means for engaging students in service learning. Chen, Liao, Chen & Lee (2011) report on an online service project in which pre-service teachers tutored middle school students during summer school. The service learning opportunity allowed students to enhance their understanding of subject matter, middle school students, pedagogy, and student behavior management. Among the benefits and challenges identified for this type of learning were the experiences using the technology itself. Most (2011) reports on a Community Embedded Learning Model that engaged students in service projects in their own communities. Students in that project had the benefit of selecting from a variety of locally convenient experiences that they reported on in the online class.

We believed an online asynchronous service learning project would benefit both sets of students—the LIS graduate students and the adolescents attending a local summer school. Traditionally, students enrolled in school library preparation programs are provided with simulated experiences or projects to consider the role of young adult literature in library programs. Although these experiences are useful and necessary for proper preparation and training, university students rarely experience adolescents' authentic reactions and responses to young adult literature. Further, university students have few opportunities to work with adolescents in a setting that is conducive to discussion about and consideration of young adult literature. Additionally there is an acknowledged loss of reading achievement – “summer setback” --- that happens to K--12 students over the summer, particularly those from low-income households (Allington et al., 2010; Kim & Quinn, 2013; Slates, Alexander, Entwisle, & Olson, 2012). Summer school exists to remediate students in the core subjects of reading and mathematics. We believed these middle school students would benefit from the one-to-one attention to their reading comprehension and interests provided by discussions with LIS buddies; meanwhile, the LIS students would benefit by gaining experience using an online platform to interact with adolescent students. In the past, students in this course had engaged in the creation of book trailers, booktalks, and read-aloud experiences that were shared with each other or with a group of their choosing. During this project, these creations were shared in Edmodo with the middle school students who provided an authentic and diverse audience.

Edmodo is a social media platform used extensively in K--12 education that has an appearance similar to Facebook but offers a protected and moderated space for students to interact with each other, their teachers, and in this case, their LIS buddies. Discussions were asynchronous and focused on the shared reading of *The Giver* by Lois Lowry (1993) along with inquiries about the reading preferences and interests of the middle school students. Middle school students were asked to complete a reading engagement inventory at the beginning and end of the summer school session to explore the program as a potential intervention in summer reading engagement. The pre and post inventory, along with the Edmodo transcripts and the LIS student reflections on the experience, will be analyzed for the impact of the program on both LIS and middle school students. Additionally, the program is a unique partnership between the university and the public

schools, and key stakeholders will be interviewed for their perceptions of the service learning opportunity afforded by the program.

Entrepreneurs see opportunity in challenge and risk. Distance learning provides a unique challenge to service learning efforts. The introduction of an unfamiliar technology, in this case Edmodo, represented a risk taken by the instructors and participating pre-service school librarians in order to satisfy the public school's need for a moderated and protected online space. The anticipated findings from this project and the follow-up interviews are significant since they open the possibility of service learning as a pedagogical tool in an asynchronous, online distance learning course. The challenges and successes of this project will inform other prospective entrepreneurs as they pursue innovative and authentic learning experiences in an online teaching environment.

#### Reference List

Allington, R.L., McGill-Frazen, A., Camilli, G., Williams, L., Graff, J., Zeig, J., Zmach, C., & Nowak, R. (2010). Addressing summer reading setback among economically disadvantaged elementary students. *Reading Psychology*, 31(5), 411-427.

Ball, M. A. (2008). Practicums and service learning in LIS. *Journal of Education in Library and Information Science* 49 (1) 70 – 82.

Chen, C., Liao, C., Chen, Y. & Lee, C. (2011). The integration of synchronous communication technology into service learning for pre-service teachers' online tutoring of middle school students. *Internet and Higher Education*, 14: 27-33.

Kim, J.S., & Quinn, D.M. (2013). The effects of summer reading on low-income children's literacy achievement from kindergarten to grade 8: A meta-analysis of classroom and home interventions. *Review of Educational Research*. Advance online publication.

Lowry, L. (1993). *The Giver*. Boston: Houghton Mifflin.

Montiel-Overall, P. (2010). The effect of service learning on LIS students' understanding of diversity issues related to equity of access. *Journal of Education in Library and Information Science* 51 (4) 251-266.

Most, L. R. (2011). Hands on from a distance: The Community Embedded Learning Model contextualizes online student coursework. *Journal of Education in Library and Information Science* 52 (4) 295-304.

Slates, S.L., Alexander, K.L., Entwisle, D.R., & Olson, L.S. (2012). Counteracting summer slide: Social capital resources within socioeconomically disadvantaged families. *Journal of Education for Students Placed at Risk*, 17(3), 165-185.

Witbooi (2004) Service learning in the library and information studies curriculum at the University of the Western Cape: An exploratory study. *Mousaion*, 22 (1) 89--- 102.

## **“Attitude and Self-Efficacy: Teaching With and About Web Technologies for Information Literacy Instruction”**

**Presenter:** Marta Magnuson, University of Wisconsin-Milwaukee

### Introduction

Technology is an increasingly important component of information literacy. Both the ACRL (2000; Bell, 2013) and the AASL (2007) advocate for information literacy instruction that goes beyond computer literacy or information technology skills to embrace multiple literacies which includes digital, media, visual, and transliteracy. The library students we educate need to be able to teach both with and about technology in order to meet these multiple information literacy needs. This case study explored how the use of Web 2.0 technologies in an online graduate course about information literacy instruction can help foster positive attitudes and self-efficacy about educational technology.

### Literature Review

Because of the interdisciplinary nature of this case study, the literature review covered research from communication, education, and library and information science:

- Previous studies indicated that two of the greatest predictors for future technology use by educators were their attitudes towards technology and self-efficacy (Cullen & Greene, 2011; Paraskeva, Bouta, & Papagianni, 2008; Wozney, Venkatesh, & Abrami, 2006). Kay (2006) found that in order to influence the technology abilities and attitudes, educators needed modeling of effective technology use and fostering of collaboration through communities of practice.
- For the boundaries of this study three specific aspects of Web 2.0 were described in detail: architecture of participation, harnessing the collective intelligence, and remixable data source/data transformations (O'Reilly, 2005).
- Web 2.0 tools have become popular in libraries and instruction because of their ease of use and ability to promote active learning, visual learning, collaboration, and reflection (Godwin, 2009; Heafner & Friedman, 2008; Holmberg, Huvila, Kronqvist-Berg, & Widén-Wulff, 2009; Spiteri, 2012.)

### Methodology

This study addressed the following research question:

- How does the use of Web 2.0 in a course on information literacy instruction influence attitude and self-efficacy about educational technology?

Seventeen graduate students participated in the study. Four Web 2.0 tools were used: Glogster (digital poster), PBworks (wiki), Diigo (social bookmarking site), and Prezi (online presentation

tool). These technologies were used to complete assignments about learning theories, teaching methods, information literacy resource evaluation, and final course projects.

Data collected included surveys, emails, discussion posts, and Web 2.0 assignments and assessment papers. The educational theory of constructivism and its adherence to reflection, active learning, and social interaction was used to find patterns in the data (Vygotsky, 1978). Activity theory (Engeström, Meirittinen, & Punamäki, 1999; Nardi, 1996) provided a framework for data analysis and interpretation related to the patterns of activities that took place while students used each Web 2.0 tool.

## Findings

The use of Web 2.0 for this course influenced attitudes and self-efficacy about educational technology in four unique ways. Passages from students in the study have been included to add context to the findings.

### 1. Learning about educational technology

“Having them [Web 2.0 technologies] be a part of this class introduced me to several new tools and compelled me to become better acquainted with them in a way that would not have happened by reading about them or merely tinkering with them without a specific purpose.” - Peter

By using a variety of Web 2.0 tools to complete coursework, students learned not only about course content related to information literacy instruction, but also about educational technology. Specific aspects of each web technology also fostered self-efficacy. For example, students learned about tagging by using Diigo and wikis by using PBworks.

### 2. Learning by doing

“My overall comfort level with Web 2.0 technologies has been increasing with each Instructional Technology assignment.” - Karen

By using these technologies, students not only learned about Web 2.0, they also learned how to use Web 2.0 tools. In addition, they discovered how relatively easy most web technologies are to use which helped them gain confidence in their technology abilities.

### 3. Reflecting on technology in education

“This class helped me to get a promotion at work. I was able to articulate why our online educational products help students learn better.” - Katie

Using these tools allowed students to have a richer set of experiences with technology as a learning tool which helped them better articulate how technology can be used for education. This was fostered by requiring students to actively reflect on each technology's educational potential.

### 4. Reflecting on the role of technology in library instruction

“Web 2.0 is the context in which people work now. It doesn't make sense to ignore all the Web 2.0 tools people are using; libraries and librarians need to adapt to stay relevant.” - Georgia

Using these tools added context to how technology can be incorporated into library instruction which allowed students to better question and reflect on their role as future librarians. It provided them with the opportunity to step beyond their current role as students and begin to think about how technologies could be used in their future work as librarians.

## Conclusions

Studies have found that students who plan to teach desire real-world applications when learning about educational technology (Chen, 2010.) Requiring the students in this study to use educational technologies for coursework gave them examples of how each technology could be used in education. This modeling was an effective pedagogical strategy as students were very positive about Web technologies as instructional tools and said they would consider using these tools for their own teaching and library work. This type of pedagogy, which couples hands-on technology use with modeling, is especially important when educating future instruction librarians. The American Library Association's Standards for Proficiencies for Instruction Librarians and Coordinators (2008) requires instruction librarians to be proficient in using classroom technologies and support experimentation with technologies.

The Web 2.0 tools used in this study are technologies that students can continue to use as teaching tools as long as they have access to a computer and the Internet. Technologies will progress and Web 2.0 will become a term of the past. However, the advances that students made in using and critiquing web technologies is a skill that can be transferred to new technologies that they will be exposed to throughout their library careers.

## References

- American Association of School Librarians (AASL). (2007). *Standards for the 21<sup>st</sup> Century learner*. Retrieved from [http://www.ala.org/ala/mgrps/divs/aasl/guidelinesandstandards/learningstandards/AASL\\_LearningStandards.pdf](http://www.ala.org/ala/mgrps/divs/aasl/guidelinesandstandards/learningstandards/AASL_LearningStandards.pdf)
- American Library Association (ALA). (2009). Core Competences of Librarianship. Retrieved from <http://www.ala.org/ala/educationcareers/careers/corecomp/corecompetences/finalcorecompstat09.pdf>
- Association of College & Research Libraries (ACRL). (2000). *Information literacy competency standards for higher education*. Chicago, IL: American Library Association.
- Bell, S.J. (2013). Rethinking ACRL's information literacy standards: The process begins. Retrieved from <http://www.acrl.ala.org/acrlinsider/archives/7329>
- Chen, C. (2010). Expectation discrepancy in the integration of constructivist-instruction technology into a teacher education course. *International Journal of Instructional Media*, 37(1), 65-77.

Cullen, T. A., & Greene, B. A. (2011). Preservice teachers' beliefs, attitudes, and motivation about technology integration. *Journal of Educational Computing Research*, 45(1), 29-47.

Engeström, Y., Meirittinen, R., & Punamäki, R. (Eds.) (1999). *Perspectives on activity theory*. Cambridge, England: Cambridge University Press.

Godwin, P. (2009). Information literacy and Web 2.0: Is it just hype? *Program: Electronic Library and Information Systems*, 43(3), 264-274.

Heafner, T.L., & Friedman, A. M. (2008). Wikis and constructivism in secondary social studies: Fostering a deeper understanding. *Computers in Schools*, 25 (3-4), 288-302.

Holmberg, K., Huvila, I., Kronqvist-Berg, M., & Widén-Wulff, G. (2009). What is Library 2.0? *Journal of Documentation*, 65(4), 668-681.

Kay, R. H. (2006). Evaluating strategies used to incorporate technology into preservice education: A review of the literature. *Journal of Research on Technology in Education*, 38(4), 383-408.

O'Reilly, T. (2005, August 30). What is Web 2.0? Design patterns and business models for the next generation of software [web log post]. Retrieved from <http://oreilly.com/web2/archive/what-is-web-20.html>

Paraskeva, F., Bouta, H., & Papagianni, A. (2008). Individual characteristics and computer self efficacy in secondary education teachers to integrate technology in educational practice. *Computers and Education*, 50(3), 1084-1091.

Spiteri, L.F. (2012) Social discovery tools: extending the principle of user convenience. *Journal of Documentation*, 68(2), 206-217.

Vygotsky, L. S. (1978). *Mind and society*. Cambridge, MA: Harvard University Press.

Wozney, L., Venkatesh, V., & Abrami, P. C. (2006). Implementing computer technologies: Teachers' perceptions and practices. *Journal of Technology and Teacher Education*, 14(1), 173-207.

## **“Exploring Visual Literacy in Archival Education”**

**Presenter:** Lindsay Mattock, University of Pittsburgh

In her discussion of photographic records in the archive, Joan Schwartz has argued that visual materials have been “othered” by archival practice, suggesting that visual illiteracy among archivists has perpetuated the marginalization of photographs and other visual documentation in the archive and the use of such records as historical evidence. She asserts, “if historians and other users of archives have persistently failed to appreciate the value of visual materials in the making

and the writing of history, then archivists – through their ideas and standards, practices and actions, whether consciously or unconsciously, intentionally or unintentionally, overtly or systemically – are, in large measure, responsible.”<sup>1</sup> Archivists Elisabeth Kaplan and Jeffrey Mifflin have also argued for the archival field to become more visually aware, suggesting that archivists must begin to gain an understanding of visual modes of expression in film, photography, and video and the conventions of each of these technologies; explore the visual literacy discourse as well as other literacy discourses; investigate how historians and scholars in related fields are addressing visual awareness; and further review the archival response to these issues over time.<sup>2</sup>

While such critics of archival theory and practice have raised these concerns, archival education has yet to fully integrate practical and theoretical approaches to incorporating these visual literacy competencies into archival curriculum. A few textbooks published in the last decade have begun to address the unique nature of visual evidence in the archive. For example, the Society of American Archivists recently updated and expanded the basic text on photographic archives, *Photographs: Archival Care and Management* which includes a few pages dedicated to the discussion of visual literacy.<sup>3</sup> Similar to many discussions of visual literacy, here the skills of a visually literate archivist refer to the ability to interpret the photographic object, or “read” the photographic image. Further, as the text is concerned with the management of archival materials, the text is focused entirely on the care of the photographic object, providing only a cursory introduction to the processes and technologies related to the creation of images. Kaplan and Mifflin have suggested that understanding technical aspects of the image related to choices the photographer has made, such as the camera angle, distance from the subject, and other elements of shot composition could aid archivists and researchers in further understanding how to interpret such images as archival evidence. The recent visual literacy standards published by the Association of College and Research Libraries (ACRL) also suggest that a level of technical proficiency is necessary for visually literate individuals, including the use of tools and technologies related to the creation and manipulation of visual media.<sup>4</sup> This paper seeks to bridge the gap in the archival literature, arguing that an understanding of the technical aspects of image creation and the process of creating visual media can help to elucidate these aspects of visual media that are not apparent by simply looking at or “reading” the media object.

This paper will report on the re---design of the Moving Image Archives Course at University of Pittsburgh for the Summer 2013 Term. The ACRL guidelines suggest that “a visually literate person should be able to read and write visual language,” suggesting that visually literate individuals should have the skills necessary to interpret images as well as a familiarity with the technologies and methods used to create images. In an attempt to provide this balance, three technology---oriented workshops were included in this most recent iteration of the Moving Image Archives Course. Instructors from Pittsburgh Filmmakers, a local media---arts center that provides classes in film and video---making, were invited to lead three workshops, discussing the technical details of photography, motion picture film, and analog and digital video. During each of these class sessions, students were invited to see and work with media production technology and to interact with instructors who are themselves artists working in various media. The workshops complemented the remaining class sessions that introduced students to the archival theory and practice related to visual media from an interdisciplinary perspective, including readings from communications and film studies.

In order to track the impact of the workshops, students enrolled in the course were asked to provide a series of reflections about their experience in the course as they developed their understanding of moving image technology and the practice of moving image archiving. Students submitted reflections during key weeks over the course the term, including a reflection after each workshop and after each three---course unit focused on a specific media technology. At the end of the term, students revisited their initial reflections and provided one final reflection for the entire term. These reflections demonstrate the change in the students' understanding of how to read and interpret visual media objects as they encountered and worked with the technology used to create such media.

The Association of College and Research Libraries has suggested that “visual literacy education is typically a collaborative endeavor, involving faculty, librarians, curators, archivists, visual resource professionals, and learning technologists,”<sup>5</sup> indicating that the information professionals we are training should be visually literate in order to work with the broad spectrum of visual media that society creates. Both archivists and users of archives must be visually literate to critically consume technological artifacts and the information produced with media technology whether analog or digital. This paper will report on one method for approaching these literacy skills in the classroom.

#### Selected References

Association of College and Research Libraries. *ACRL Visual Literacy Competency Standards for Higher Education*, accessed July 9, 2013, <http://www.ala.org/acrl/standards/visualliteracy>.

Bamford, Anne. *The Visual Literacy White Paper*. Uxbridge: Adobe Systems, 2003. <http://www.images.adobe.com/www.adobe.com/content/dam/Adobe/en/education/pdfs/visual---literacy---wp.pdf>

Kaplan, Elisabeth and Jeffrey Mifflin. “‘Mind and Sight’: Visual Literacy and the Archivist,” In *American Archival Studies: Readings in Theory and Practice*, Ed. Randall C. Jimerson. Chicago: Society of American Archivists, 2000.

Ritzenthaler, Mary Lynn and Diane Vogt---O'Connor. *Photographs: Archival Care and Management*. Chicago: Society of American Archivists, 2006.

Schwartz, Joan “Coming to Terms with Photographs: Descriptive Standards, Linguistic ‘Othering,’ and the Margins of Archivy,” *Archivaria* 54 (Fall 2002): 142---171.

#### **“The Immediate Benefits of Government Information to LIS Education”**

**Presenters:** Debbie Rabina, Pratt Institute and Mary Alise Baish, United States Government Printing Office

Introduction:

On June 26, 2013 the American Library Association Committee on Legislation's (ALA COL) FDLP Task Force published its report<sup>1</sup>. The ALA COL formed the Federal Depository Library Program Task Force to examine a set of questions and issues to guide the Committee on current aspects of the program and options for the future of the program.

The report included the recommendation that  
ALA accreditors should ensure that appropriate training/information on government information is provided in ALA accredited library schools.

The report further noted that  
Library schools are encouraged to include government information search tools in their introductory (and advanced) courses. This training will provide all graduates with a well-rounded outlook on available resources.

This growing awareness of the important role that government information plays in the information society provides an opportunity to foster domain expertise at the LIS level, so that graduates can use government information to lend support to diverse fields such as community health, urban studies, legal aid, and much more.

Traditionally, only students taking designated courses such as Government Information Sources were exposed to the wide array of sources made available through the Federal Depository Library Program (FDLP) and other government agencies. Migration of government information online, the addition of non-textual content, and recent policies such as open-access<sup>2</sup> and open-data<sup>3</sup> mandates are increasing the use of government information across multiple disciplines.

Government information can support many courses in the LIS curriculum, among them GIS (Geographic Information Sources), data librarianship, general reference, business resources, legal resources, linked-open data, information policy, metadata, information visualization, materials for children and young adults, and more.

The GPO makes content available through several channels. The Catalog of Government Publications (CGP)<sup>4</sup> provides bibliographic access to government publications. The Federal Digital System (FDsys)<sup>5</sup> is a full-text content management system that provides permanent public access to approximately 800,000 searchable titles from the legislative, executive, and judicial branches. In addition, GPO partners with many other academic and cultural institutions to increase availability of government publications<sup>6</sup>, and recently GPO announced that it will become a hub for the Digital Public Library of America.<sup>7</sup>

In addition to making government information available to the public digitally through FDsys, the Government Printing Office provides training sessions<sup>8</sup> that can be incorporated into course curricula. These training sessions are typically live webinars (archived for later access) on topics such as using census data or digital preservation.

Theoretical perspective:

In 1986 John Richardson published a highly regarded article (making the author that year's ALISE Research Paper Competition Prize Winner) titled Paradigmatic shifts in the teaching of government publications, 1895-1985. In this historical survey Richardson reviews nearly 100 years of teaching government publications as part of Library and Information Science (LIS) education, and applies Thomas Kuhn's (1962, reprint 1996) notion of textbook as "normal science" to trace paradigmatic shifts in the teaching of government publications in LIS.

Richardson recognizes three elements in the then-existing paradigm of teaching government publications: (1) scope of concern—the transition from library to library and information science; (2) level of government—creeping recognition of the importance of state and local government sources; and (3) source of issue— transition from bibliographical essays and annotated bibliographies to the thematic textbook approach.

In the quarter century that has passed since Richardson's study, further paradigmatic shifts in the teaching of government publications have occurred in all areas he describes. Extending Richardson's framework, these can be defined as (1) scope of concern—transition from print to digital collections; (2) level of government—greater emphasis on local government information, particularly in the e-government context; and (3) source of issue—transition from course-specific textbooks to area/topic-specific uncollected writings and multiple media sources.

The authors contend that the recent paradigmatic shift in the government publications landscape opens up new opportunities for adopting a cross-curricular approach to teaching government information.

Problem/goal:

This paper argues that changes in the ways the public uses government information are contributing to another transformation in the way LIS schools approach the teaching of government documents. We demonstrate that changes in the production, dissemination, and use of government information necessitate rethinking the teaching of government information as an isolated course, and that a cross-curricular approach would benefit LIS students over the existing approach that focuses on courses dedicated to government information sources.

Increased competency in government information has a bearing on rapidly growing areas in LIS education, among them GIS, data librarianship, e-science, and digital humanities.

Method/procedure:

This research addresses the following major themes: (1) identifying further paradigmatic shifts in the teaching of government information since 1986; and (2) providing examples of best practices to meet the challenges of this most recent paradigmatic shift by integrating government documents education and training into the broader LIS curriculum.

Relevance to conference theme:

Keeping with the conference theme *Educational Entrepreneurship*, Mary Alice Baish, the Superintendent of Documents, will describe the increased emphasis that the Government Printing Office (GPO) is putting on education and training, and will discuss ways in which the GPO and the LIS community can partner to educate future professionals to provide permanent access to public information in all topic areas and in all types of knowledge---based organizations.

Debbie Rabina will provide specific examples of incorporating government document education into various aspects of and courses within the LIS curriculum, specifically in the areas of public librarianship (including services to children and young adults), GIS, data librarianship, and general reference.

#### Bibliography:

Kuhn, Thomas S. (1996). *The structure of scientific revolutions*. University of Chicago Press.

Richardson, John V. (1986). Paradigmatic shifts in the teaching of government publication, 1895-1985. *Journal of Education for Library and Information Science* 26: 249-266.

<sup>1</sup> GODORT Wiki. ALA---COL---FDLP final report (26 June 2013).  
<http://wikis.ala.org/godort/index.php/File:ALA-COL-FDLP-Task-Force-Report-FINAL.pdf>

<sup>2</sup> Expanding public access to the results of federally funded research (22 Feb. 2013)  
<http://www.whitehouse.gov/blog/2013/02/22/expanding-public-access-results-federally-funded-research>

<sup>3</sup> Landmark steps to open data (9 May 2013)  
<http://www.whitehouse.gov/blog/2013/05/09/landmark-steps-liberat-open-data>

<sup>4</sup> Catalog of Government Publication <http://catalog.gpo.gov/F>

<sup>5</sup> FDsys <http://www.gpo.gov/fdsys/>

<sup>6</sup> GPO partnerships <http://beta.fdlp.gov/about-the-fdlp/partnerships>

<sup>7</sup> FEDLINK Summit on DPLA  
[http://www.loc.gov/flicc/meeting\\_announcements/2013/ma201309.pdf](http://www.loc.gov/flicc/meeting_announcements/2013/ma201309.pdf)

<sup>8</sup> GPO webinars <http://login.icohere.com/public/topics.cfm?cseq=1172>

**“Encouraging a Virtual Community for Librarians: Program Delivery Choices that Impact Perceptions of Community”**

**Presenters:** Janet Capps, Emporia State University; Ivette Bayo, J. Elizabeth Mills, Katie Campana, and Eliza Dresang, University of Washington; Erika N. Feldman, Independent Faculty Member; and Kathleen Burnett, Florida State University

Project VIEWS2, Valuable Initiatives in Early Learning that Work Successfully, is a three-year IMLS National Leadership Research Grant. The overall purpose of the research is to find valid and reliable means to measure the early literacy outcomes for children from birth to Kindergarten in public library programs and to leverage public library and school partnerships to improve early literacy practices. One component of the Project VIEWS2 study, unusual within LIS research, consisted of an experimental design with an intervention. Forty randomly selected Washington libraries (13 large, 13 medium, and 14 small) were included in the two-condition study: control and treatment. This design involved initiative and risks for both the researchers and the participants. The full paper expands on the design of the study and its inherent entrepreneurial aspects.

### Intervention Goals / Research Questions

Our initial research question was simple: Would a series of webinars provide librarians with a better sense of how to expand and incorporate early literacy indicators into their storytimes to create stronger literacy environments? Throughout the development process, we uncovered another question about design and delivery: Can webinars stimulate a community among geographically diverse librarians, and give them the space to encourage each other, be leaders, and create a cooperative learning environment to foster professional development? We are reporting on findings from the design of the intervention, the culminating survey, and how these are related to educational entrepreneurship.

As part of the intervention, an innovative program delivery in the form of three webinars afforded an opportunity for the treatment group of librarians to share experiences with the research instruments, i.e., PET (to assess program delivery of early literacy skills) and BCPAF (to assess children's behaviors according to early literacy benchmarks). Through these webinars, a newly formed community of librarians discussed their practical knowledge and strategies as well as tips with fellow practitioners. The intervention also provided a way for isolated librarians, many of whom are in small rural areas to both learn from one another and achieve a sense of community. This is one of several 'profitable outcomes' for this model of entrepreneurial education even though it was not the main focus of the study.

### Design Aspects of the Intervention

When it came time to design the intervention, the research team was committed to collaborating with the participating librarians by relying on their experience delivering storytimes. However, this presented new challenges. For example, the range and number of library storytime program offerings available to accommodate developmental age differences of the children varied across libraries. Detailed design issues, as well as considerations that required the researchers and practitioners to creatively accommodate diverse working spaces across the libraries, will be expanded.



Research supporting the important role of public libraries in children's literacy development is expanding (Celano, D., & Neuman, 2001; Justice, Piasta, Capps, Levitt, & Columbus Metropolitan Library, 2013). Early literacy programming is generating entrepreneurship library positions at both a local and state level. For example, a July 2013 job posting sought a full-time Senior Librarian in Early Literacy with a Master's degree in Library Science from an ALA accredited program. The creation of new early literacy library-affiliated positions increases LIS programs' responsibility to avail future practitioners with a curriculum that will prepare them with both core concepts and an understanding of the potential positive impacts early literacy skills have on long-term reading achievement. However, early literacy and associated reading research is an active field that requires practitioners to stay current. Our initial analysis reflects that having opportunities to connect with fellow practitioners to discuss early literacy provides an avenue to enhance understanding and generates motivation.

Motivation is a foundational characteristic of individual entrepreneurship (Cardon, Wincent, Singh, & Drnovsek, 2009; Hibbert, Hogg, & Quinn, 2005; Zhao, Seibert, & Lumpkin, 2010) and access to an early literacy practitioner community, such as the one we created (Figure 1) also provides motivational opportunities. Use of entrepreneurial motivational behavior by librarians may generate a benefit for specific disadvantaged groups such as children at risk of not developing necessary literacy skills. Additional characteristics of the webinar that create innovative educational solutions are expanded in the full paper.

#### References:

Cardon, M. S., Wincent, J., Singh, J., & Drnovsek, M. (2009). The nature and experience of entrepreneurial passion. *Academy of Management Review*, 34(3), 511-532.

Celano, D., & Neuman, S.B. (2001). *The role of public libraries in children's literacy development: An evaluation report*. Harrisburg, PA: Pennsylvania Library Association.

Dacin, P. A., Dacin, M. T., & Matear, M. (2010). Social entrepreneurship: Why we don't need a new theory and how we move forward from here. *The Academy of Management Perspectives*, 24(3), 37-57.

Dart, R. (2004). The legitimacy of social enterprise. *Nonprofit Management and Leadership*, 14(4), 411-424.

Dorado, S. (2005). Institutional entrepreneurship, partaking, and convening. *Organization Studies*, 26(3), 385-414.

Hibbert, S. A., Hogg, G., & Quinn, T. (2005). Social entrepreneurship: Understanding consumer motives for buying The Big Issue *Journal of Consumer Behaviour*, 4(3), 159-172.

Justice, L.M., Piasta, S.B., Capps, J.L., Levitt, S.R., & Columbus Metropolitan Library (2013). Library-based Summer Reading Clubs: Who participates and why? *The Library Quarterly*, 83(4), 321-340. doi: <http://www.jstor.org/stable/10.1086/671911>

Lounsbury, M., & Glynn, M. A. (2001). Cultural entrepreneurship: Stories, legitimacy, and the acquisition of resources. *Strategic Management Journal*, 22(6-7), 545-564.

Lipinski, J., Lester, D. L., & Nicholls, J. (2013). Promoting social entrepreneurship: Harnessing experiential learning with technology transfer to create knowledge based opportunities. *Journal of Applied Business Research (JABR)*, 29(2), 597-606.

Mair, J., & Marti, I. (2006). Social entrepreneurship research: A source of explanation, prediction, and delight. *Journal of World Business*, 41(1), 36-44.

Pacheco, D. F., York, J. G., Dean, T. J., & Sarasvathy, S. D. (2010). The coevolution of institutional entrepreneurship: A tale of two theories. *Journal of Management*, 36(4), 974-1010.

Weerawardena, J., & Mort, G. S. (2006). Investigating social entrepreneurship: A multidimensional model. *Journal of World Business*, 41(1), 21-35.

Zhao, H., Seibert, S. E., & Lumpkin, G. T. (2010). The relationship of personality to entrepreneurial intentions and performance: A meta-analytic review. *Journal of Management*, 36(2), 381-404.

### **“Designing a Collaborative Video-Enhanced LIS Pedagogy”**

**Presenter:** Eric Meyers, University of British Columbia

The rise of readily accessible video sharing services, including YouTube, Vimeo, iTunes U, and Teacher Tube is changing the way video is used in higher education to support student learning outcomes. Institutions such as the Khan Academy, the Coursera consortium, and EdX are using video to augment classroom-based instruction, expand distance-learning opportunities, and alter traditional pedagogical practice. These trends reflect the greater prominence of video in everyday life, as well as our changing expectations around learning and instruction. Recognizing this emerging wave of interest among the public and academy for Massive Open Online Courses, The New York Times declared 2012 the “Year of the MOOC” (Pappano, 2012). However, in early 2013, we are already seeing the backlash from our rush to put educational content online for anyone and everyone to view and use. Early assessments of these online courses suggest that, based on low completion rates, mediocre production values, and questionable assessment practices, MOOCs are not the revolutionary approach to expansive education they were initially projected to be (Bady, 2013). Despite the skepticism generated by MOOCs, higher education is moving toward more flexible learning strategies that bring increased choice, convenience and personalization to learning.

Research spanning the past decade finds that short video clips used in and outside the classroom can provide benefits for students, including increased engagement with content, new perspectives and viewpoints, contextually and emotionally resonant representations, all of which support deep learning (Johnson & Mayer, 2009; White, Easton & Anderson, 2000; Mitra et al. 2010; Sherer & Shea, 2011). However, finding video that supports specific lessons and advanced

topics for graduate students, even in the vast catalogue of YouTube, can be next to impossible. An increasingly common challenge for post-secondary institutions is the development of in-house expertise in the creation of video-based learning materials for use in face-to-face and e-learning situations (Kaufman & Mohan, 2009).

Responding to this challenge, the iSchool@UBC began partnering with local information institutions to develop video-based learning objects that span classroom and practice boundaries. Through this project, a team of faculty and students from the iSchool and the Visual Arts + Theory department at UBC, with technical support from the Faculty of Arts instructional technologies unit, designed, produced, and disseminated over 20 instructional videos, ranging from 2 minute just-in-time tutorials to 60 minute lecture captures. This project allowed the iSchool@UBC to: 1) build video production capacity within the school; 2) broaden the horizons of new students with innovative video-based learning resources; and 3) develop mutually beneficial relationships with information organizations in the community. This paper will focus on three of these projects as exemplars of entrepreneurial pedagogy:

- **UBCIC Materials Processing:** A series of five video tutorials show volunteers how to assess and process donated collections. Responding to a large donation of rare local historical materials, the Union of BC Indian Chiefs Resource Centre, a special library that focuses on local land claims, worked with our team to develop field-based, just-in-time tutorials for volunteers and interns. The series demonstrates skills from condition assessment to hinge tightening to Japanese tissue repairs. In the near future these videos will be employed in a preservation workshop for LIS students.
- **West Vancouver Memorial Library:** Part of a series of videos that showcase local public, special and academic libraries, this video illustrates the library's digital youth programmes, and the evolving nature of children's services. Used in LIS core classes to demonstrate the range of services local information institutions provide, and connect library goals to outreach and marketing. WVML employed this video in the launch of their new Teen Space in 2013.
- **Indigitization Audio Preservation:** Working with the Museum of Anthropology's library and archive, the team developed video training materials to supplement face-to-face instruction on digitizing rare cultural heritage materials, specifically audiocassettes and reel-to-reel audio for language preservation. The videos will be used with a portable digitization kit initially, but will be made available to the wider community to serve as entry-level resources for widely distributed First Nations groups, and in LIS courses focused on digital preservation.

These projects, which would not have been possible without the support of local information professionals, were also outside the means of these partner institutions working alone. We argue that unique relationships between educators and practitioners can provide rich learning experiences in the classroom, practical skill development for a variety of learners, and opportunities for institutions to market their services in a new way. Uploaded to the school's YouTube channel, these resources have been viewed over 2,000 times (combined) online and in a stand-alone fashion.

Drawing on the experiences of the team, the paper will address:

- Pedagogical foundations of video-based learning;
- Building video capacity for students and faculty;
- Project team roles and student engagement in video creation and use;
- Timing, funding, and community partnerships for location-based filming.

In particular, the paper will attract scholars and practitioners intrigued by the promise of the “flipped classroom”, user-generated video, e-learning, and reusable learning objects. This paper addresses the conference theme of entrepreneurship by demonstrating how pedagogical theory and innovation, community partnerships, and experiential learning intersect in a project that seeks to leverage new technologies and capacities to enhance LIS education. For all the hype around “massive” learning systems, we can learn a great deal from creative, human scaled approaches.

#### References:

Bady, A. (2013). The MOOC moment and the end of reform. *The New Inquiry*, (15 May 2013). Accessed at: <http://thenewinquiry.com/blogs/zunguzungu/the-mooc-moment-and-the-end-of-reform/>

Johnson, C. I., & Mayer, R. E. (2009). A testing effect with multimedia learning. *Journal of Educational Psychology*, 101(3), 621-629. doi:10.1037/a0015183

Kaufman, P., & Mohan, J. (2009). Video use and higher education: Options for the future. A report based on the findings of a study designed and funded by the Copyright Clearance Center, conducted by Intelligent Television with the cooperation of New York University. Accessed at: [http://library.nyu.edu/about/Video\\_Use\\_in\\_Higher\\_Education.pdf](http://library.nyu.edu/about/Video_Use_in_Higher_Education.pdf)

Mitra, B., Lewin-Jones, J., Barrett H. & Williamson, S. (2010). The use of video to enable deep learning. *Research in Post-Compulsory Education*, 15(4), 405-414

Pappano, L. (2012). Massive open online courses are multiplying at a rapid pace. *New York Times*, (2 November 2012). Accessed at: <http://www.nytimes.com/2012/11/04/education/edlife/massive-open-online-courses-are-multiplying-at-a-rapid-pace.html>

Sherer, P., & Shea, T. (2011). Using online video to support student learning and engagement. *College Teaching*, 59(2), 56-59.

White, C., Easton, P. & Anderson, C. (2000). Students' perceived value of video in a multimedia language course. *Education Media International*, 37(3), 167-175.

**“Perceptions of Course Delivery Format: A Challenge for Excellence”**

**Presenters:** Miriam Matteson and Athena Salaba, Kent State University

## Introduction

Online education has been offered for nearly as long as the Internet has been available. Students now have many more choices than even a few years ago to enroll in an online master's level degree program in library and information science (LIS). According to the American Library Association's database of accredited library and information science programs, 22 of 63 programs offer a fully online master's degree.<sup>1</sup> For students who prefer online learning, the increased marketplace is a positive change, but for students who prefer face-to-face learning, the move to offer more courses only online has been met with some frustration.

A small body of research has explored differences in face-to-face and online LIS course delivery, including a comparison of the capabilities of students enrolled in a face-to-face program with students in an online program (Haigh, 2007); a comparison of the learning outcomes of face-to-face and online students in a school library media specialist program (Pribesh, Dickinson, & Bucher, 2006); and a comparison of the experiences of students in online programs with and without a residency requirement (Kazmer, 2007). Other literature has explored issues specific to online learning, such as students' social presence online (Dow, 2008); the frequency, intensity, and topicality of students' interaction online (Burnett, Bonnici, Miksa, & Kim, 2007); and training LIS faculty to teach online (Marek, 2009).

In the last five years, Kent State University (KSU) School of Library and Information Science (SLIS) has undergone a change in program delivery, transitioning from offering primarily a conventional, face-to-face learning experience for students to a program with the majority of courses offered online. During the transition period, SLIS enrollment patterns shifted with more students choosing online courses over traditional face-to-face courses.

Given these changes in course delivery mode and enrollment patterns, a team of SLIS faculty carried out a research project to explore students' attitudes with a specific focus on students' impressions of face-to-face course delivery. The research was guided by the question, "What preferences do students hold regarding course delivery formats and why?"

## Methods

A mix of methods were used for data collection: longitudinal enrollment data were collected from internal databases; four focus group sessions (a total of 25 students) were held with students taking both face-to-face and online courses; and surveys were sent to all currently enrolled MLIS students in fall 2013 (N=556). 118 surveys were completed for a 21.2% response rate.

## Findings

The data reported here are a subset of the entire dataset, representing responses from students enrolled in the conventional MLIS program (n=66). Students in that program typically take a mix

of face-to-face and online courses. Out of the 66 respondents, 94% (n=62) had taken at least one online course for their program and 76% (n=50) had taken at least one face-to-face course.

- Students were more satisfied with number of courses (66% to 35%), the variety of courses (43% to 20%), and the scheduling of courses (44% to 28%) offered online compared with face-to-face. But if faced with the choice of taking the same course online or face-to-face, 71% (n=46) would opt for face-to-face while 29% (n=19) would choose online.
- Flexibility was named most frequently as what students liked most about online classes (55%, n=34); convenience was ranked as the second highest factor (19%, n=12). Interaction with faculty was named most frequently as what students liked most about face-to-face classes (67%, n=40); interaction with classmates was second (47%, n=28).
- When asked about different course delivery options, nearly all students indicated an interest in face-to-face courses (94%, n=62), but a strong majority also indicated an interest in a fully online asynchronous course (76%, n=50). 62% of students (n=41) would consider a hybrid option (some online, some face-to-face course meetings) and 59% (n=39) would consider a video-conference course where students were in one location and the instructor in another. 29% (n=19) would consider an online class with required synchronous interaction.
- There was no agreement on what a face-to-face MLIS program should look like in terms of what courses should be offered, how specialized or general the course offerings should be, or what times of day or days of the week courses should be offered. Nor was there any strong agreement on the structure of an MLIS program that had some combination of online courses with face-to-face courses.

## Discussion and Conclusions

Students in the conventional MLIS program have mixed preferences for course delivery format. They are satisfied with the online course offerings, but a majority express a preference for face-to-face courses. They recognize benefits in both formats, and though the majority are open to programs of study in both formats, there was no clear consensus across students on how a program should be structured in terms of course scheduling, course offerings, and combining online with face-to-face course delivery. They appreciated the benefits that come with online education, such as the flexibility to take classes while also working one or more jobs and maintaining family and social ties. However, among their ranks, there remains a strong desire for a face-to-face learning experience.

One implication from these findings is to continue to improve the quality of the online learning experience, with particular emphasis on the interaction in the classroom, to meet students' needs to interact with the instructor and their peers. Focusing on the quality of delivery offers LIS departments a framework toward program planning where the department formulates quality standards that map to pedagogical and learning goals. Courses revamped with the goal to use the most effective technology and teaching strategies to deliver the material can result in a high-quality learning experience that transcends delivery format by prioritizing effective learning. In the end, the goal for LIS education should be that when students refer to their course or program

experience, they talk about how much and how well they learned, not the technology used (or not used) to deliver the content.

## References

Burnett, K., Bonnici, L. J., Miksa, S. D., & Kim, J. (2007). Frequency, intensity and topicality in online learning: An exploration of the interaction dimensions that contribute to student satisfaction in online learning. *Journal of Education for Library & Information Science*, 48(1), 21-35.

Dow, M. J. (2008). Implications of social presence for online learning: A case study of MLS students. *Journal of Education for Library & Information Science*, 49(4), 231-242.

Haigh, M. (2007). Divided by a common degree program? profiling online and face-to-face information science students. *Education for Information*, 25(2), 93---110.

Kazmer, M. M. (2007). How do student experiences differ in online LIS programs with and without a residency? *Library Quarterly*, 77(4), 359-383.

Marek, K. (2009). Learning to teach online: Creating a culture of support for faculty. *Journal of Education for Library & Information Science*, 50(4), 275-292.

Pribesh, S., Dickinson, G. K., & Bucher, K. T. (2006). A comparison of online and face-to-face cohorts in a school library media specialist graduate program: A preliminary study. *Journal of Education for Library & Information Science*, 47(4), 303-323. doi:10.2307/40323823

## **“The Perception and Use of Academic Library Services by LIS Students”**

**Presenters:** Susan Searing and Daniel Tracy, University of Illinois at Urbana-Champaign

In the spring semester of 2013, students at the Graduate School of Library and Information Science (GSLIS) at the University of Illinois, Urbana-Champaign (UIUC) were invited to participate in a research study to evaluate the University Library's services in the discipline of library and information science. By examining the UIUC GSLIS graduate student population in particular, this study sought to understand the dynamics of LIS graduate student library use and needs, provide a framework for other surveys of LIS graduate students, and provide a baseline for later longitudinal comparison and more in- depth research.

One hundred thirty students completed a web-based survey. Although the primary purpose of the survey was to gather information for library service improvements, the data also reveals the attitudes that LIS students hold toward library services and online tools and includes their self-reported behaviors when seeking information. The survey included MLIS students, both on campus and in the LEEP online learning program, PhD students, and students working toward a post-MLIS Certificate of Advanced Study.

While graduate students in general and some specific disciplinary populations have been the subjects of numerous library user studies, library and information science students' use of library resources has rarely been isolated for study. Some citation analysis studies have investigated the types of sources used by LIS students—most recently Ivins (2013)—but an analysis of general library use and perceptions comparable to other studies has been missing. LEEP students at GSLIS have received relatively more scholarly attention than other LIS student populations, including a collection of essays exploring the challenges of developing and sustaining this unique program (Haythornthwaite & Kazmer, 2004). Searing (2004, 2007, 2013) has discussed developing and assessing the necessary library services for this population. These include the LIS Virtual Library that became the primary library “location” for LIS library services due to the closing of the LIS departmental library in favor of an embedded librarian model. Since January 2013, the LIS librarian is part of a larger social sciences library, but still provides embedded library services with a dedicated library web portal. Searing and Greenlee (2011) surveyed GSLIS and library faculty and discussed overlaps and divergences in their responses to this service development and in their use of the library, but this survey did not capture student use. Manzari and Trinidad-Christensen (2006) performed a user-centered design study that based website design for another LIS virtual library on graduate student responses, but the nature of the usability study limits its applicability to other LIS student populations.

Other studies of graduate student populations suggest possible points of comparison with (and served as useful models for) the present survey. Most recently, Catalano (2013) conducted a meta-analysis of research on library use by graduate students. A number of prior studies reported on findings at individual institutions, including Georgetown University (Gibbs et. al., 2012), the University of Notre Dame (Kayongo and Helm, 2010), the University of Chicago (2010), and the University of Washington (2010). The UIUC study was designed to permit comparison with these studies on a number of parameters. In addition, two earlier UIUC-based studies pose especially useful points of comparison. Chrzastowski and Joseph (2006) surveyed UIUC graduate students across disciplines; GSLIS students were well represented in the sample and their responses can be isolated. Hensley and Miller (2010) studied UIUC graduate student distance learners' use of the library, which offers a useful point of comparison for the LEEP population in our study.

The present survey collected demographic data on students' degree programs, undergraduate majors, on-campus vs. LEEP enrollment, and current employment in libraries or other information service settings, as well as the type of library or workplace they hoped to work in after graduation. Respondents indicated the frequency with which they consulted librarians for assistance, used various online search and discovery tools, and accessed library materials in print or electronic formats. Several questions pertained to use of the specialized LIS Virtual Library, as well as the general University Library website. Respondents were also queried about their use of libraries other than UIUC's.

In addition to reporting their use of collections, search tools, and reference services, GSLIS students also indicated their satisfaction levels and how important they judged each item to be. Several questions zeroed in on library orientation and instruction services, the LIS Virtual Library, and the library's use of social media, soliciting not just reports of usage but also

suggestions for expansion and improvements. These open-ended questions proved especially fruitful for insights into the range of GSLIS students' experience, attitudes, and behaviors.

This paper will summarize the most intriguing findings from the survey. Although results from this single-institution survey should not be generalized to all LIS students, they may prompt LIS faculty members to consider how their own students perceive and make use of library resources. Specifically, we hope to foster a conversation during the Q&A about the role of subject specialist librarians and targeted library services for LIS graduate education. Because LIS students are in the process of professionalization, the survey offers an opportunity to discuss the demonstrated range of LIS student experience, attitudes, and behaviors when compared to our expectations as LIS educators. In the spirit of entrepreneurs--who, if wise, shape their innovations to meet a real or predicted need in the market-- we present our survey as the first step toward an even stronger integration of academic library services with LIS graduate education.

#### Works Cited

Catalano, A. (2013). "Patterns of graduate students' information seeking behavior: a meta-synthesis of the literature." *Journal of Documentation* 69(2): 243-274.

Chrzastowski, T., and Joseph, L. (2006). Surveying graduate and professional students' perspectives on library services, facilities and collections at the University of Illinois at Urbana-Champaign: Does subject discipline continue to influence library use? *Issues in Science & Technology Librarianship*, 45. Retrieved from <http://www.istl.org/06-winter/refereed3.html>

Gibbs, D., Boettcher, J., Hollingsworth, J., and Slania, H. (2012). Assessing the research needs of graduate students at Georgetown University. *Journal of Academic Librarianship*, 38(5), 268-276.

Haythornthwaite, C.A., and Kazmer, M.M. (2004). *Learning, culture, and community in online education: research and practice*. New York: P. Lang.

Hensley, M.K., and Miller, R. (2010). Listening from a distance: A survey of University of Illinois distance learners and its implications for meaningful instruction. *Journal of Library Administration*, 50(5-6), 670-683.

Ivins, T. (2013). A case study in periodical use by library and information science students. *Journal of Education for Library and Information Science*, 54(2), 124-134.

Kayongo, J., and Helm, C. (2010). Graduate students and the library: A survey of research practices and library use at the University of Notre Dame. *Reference & User Services Quarterly*, 49(4), 341-349.

Manzari, L., and Trinidad-Christensen, J. (2006). User-centered design of a Web site for library and information science students: heuristic evaluation and usability testing. *Information Technology and Libraries*, 25(3), 163-169.

Searing, S.E. (2004). All in the family: Library services for LIS online education. *Journal of Library Administration*, 41(3-4), 391-405.

--. (2007). Integrating assessment into recurring information literacy instruction: A case study from LIS education. *Public Services Quarterly*, 3(1-2), 191-220.

--. (2013). In it for the long haul: Lessons from a decade of assessment. *Journal of Library & Information Services in Distance Learning*, 7:1-2, 111-142.

Searing, S.E., and Greenlee, A.M. (2011). Faculty responses to library service innovations: A case study. *Journal of Education for Library and Information Science*, 52(4), 279-294.

University Libraries [University of Washington]. (2010). 2010 graduate triennial survey results. Retrieved from <http://hdl.handle.net/1773/19841>

Univeristy of Chicago Library. (2010). Survey of graduate and professional school students. Retrieved from <http://www.lib.uchicago.edu/e/surveys/2010/index.html>

### **“The Graduate Research Seminar”**

**Presenters:** Joyce Latham and Jin Zhang, University of Wisconsin-Milwaukee

The research seminar is often a “threshold” course within LIS, challenging students to think critically about a particular aspect of LIS practice: intellectual freedom, administration, publishing, children’s literature, etc.; however, it is seldom studied as a pedagogical endeavor. This Scholarship of Teaching and Learning project framed a particular research strategy to engage the central question: “What are the most effective strategies for successfully engaging graduate students in the active pursuit of a research question of value to them?” The focus of the research is currently on LIS educators.

The idea of “seminar” has a variety of interpretations, and for the purpose of this research, the definition used was “A semester-long course conducted with a small group of advanced students in a college or graduate school who are engaged in original research or intensive study under the guidance of a professor who meets with them regularly to discuss their reports and findings.” This is a refinement of several definitions available on the Web. The objectives driving the design of the research seminar involve students in

- Shaping a research question
- Designing a research strategy
- Sharing and discussing research with fellow seminar members
- Conducting the research
- Communicating the findings.

Because of the grounding in LIS, the research on the seminar allowed for all modes of instruction: onsite/ traditional, online / emergent and mixed modes (blended).

The literature review yielded very little dealing specifically with the research seminar as a pedagogical vehicle. There is a knowledge gap about the traditional onsite research seminar, and the literature concerning online pedagogy is focused in large part on peer discussion. This makes it difficult to determine what elements of onsite seminar coursework transfers well to an online environment. There is even less research on the hybrid model. The search strategy for relevant articles focused on education and information studies databases, and utilized the terms “seminar”, “research seminar”, “pedagogy”, and “online discussion.” The articles selected to help with situating the research design were focused on seminars, online discussion, and the scholarship of teaching and learning.

Key concepts which arose related to the research seminar were:

- Critical thinking / deep thinking
- Course materials
- “Mentoring” / Facilitating
- Class meetings
- Discussion
- Final project.

Schneller and Brocato (2011), writing about an integrative seminar with graduates in social work, characterized their program as a “culminating experience” that would interrelate policy, practice, theory and research. Their goal was to stimulate “higher order independent thinking skills” (p. 181). They found it to be a labor intensive course for faculty. Nation (2008) presented a discussion of an inter-disciplinary project-based seminar for graduate students in sustainable development, based in the Appalachian Region of Ohio. She found that while credentialed mentors were important, they functioned more as a “guide on the side” (p. 109). Classwork was devoted to an iterative process addressing the student’s progress on the development of a final report. Nation found that one of the critical elements in the success of project-based learning is the ability of students to “adjust to a different pedagogy and different expectations of performance” (p. 109). Albrektson (1995) was one of the first to take the seminar online for part of the coursework, but the bulk of his discussion focused on the technology. He emphasized the importance of instructor monitoring of discussion threads, but also found that the online discussions were more robust than onsite class interactions; he also observed, based on his single experiment, that students reticent to speak onsite blossomed in an online environment.

“Discussion and Presence” (D&P) is a pervasive theme impacting explorations of online pedagogy. Du, Havard and Li (2006) note that “The social aspect of the learning environment is a critical issue requiring focused attention by the instructor, as knowledge is socially constructed” (p. 213). Song and McNary (2011) observed that while the number of student posts in not an indicator of success at the graduate level, student initiated discourse “relates positively to course outcomes” (p. 12). Kazmer (2007) quotes Heckman and Annabi in reporting that asynchronous discussion generated better deep thinking than face to face discussion (p. 362). But Bai (2009) raised questions about the construction of new knowledge, and the ability of students to recognize and appreciate “good input” (p. 156). These issues point to the significance of the instructor.

Teaching presence [per Garrison, Anderson, Archer] consists of “instructional design and organization, facilitation of discourse, and direct instruction” (Kupczynski, Ice, Wisenmayer, McCluskey, 2010, p. 24). While Ice (2008) found that master’s level students prefer individualized feedback over group feedback, Kupczynski, et. al. found that quality feedback from the instructor, while important at ALL levels, is even more so than at “lower” levels of instruction (p. 33). While moderated online discussions are important, the instructor must take active “responsibility to structure, scaffold and moderate” student work (Du, et. al., p. 213).

The critical elements found in the literature review influenced the design of an online survey offered via JESSE, STANLEYK, and SOIS\_faculty to LIS faculty and instructors. There were 31 responses, and the data is still in the process of being analyzed. Findings from the research would comprise a major part of the paper presentation.

Phase three of this project involves student perception of the research seminar, and initial research will begin on that aspect in Fall, 2013.

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Resources:

Albrektson, J. Raymond. (1995). “Mentored online seminar: A model for graduate-level distance learning”. *T H E Journal*, v. 23, no. 3, pp. 102-106.

Bai, Hua. “Facilitating students’ critical thinking in online discussion: An instructor’s experience.” *Journal of Interactive Online Learning*, v. 8, no. 3, pp. 156-164.

Du, Jianxia, Byron Havard and Heng Li. (2006). “Dynamic online discussion: task-oriented interaction for deep learning.” *Educational Media International*, v. 42. No. 3, pp. 207-218.

Ice, Phil, Lori Kupczynski and P. Phillips. (2008). “Student perceptions of the value of group and individualized feedback in online courses.” *First Monday*, v. 13, no 11.

Kazmer, Michelle M. (2007). “How do student experiences differ in online LIS programs with and without a residency?” *The Library Quarterly*, v. 77, no. 4, pp. 359-383.

Kupczynski, Lori, Phil Ice, Randy Wiesenmayer, Frank McCluskey. (2010). “Student perceptions of the relationship between indicators of teaching presence and success in online courses.” *Journal of Interactive Online Learning*, v. 9, no. 1, pp. 23-43.

Nation, Marcia L. (2008). “Project-based learning for sustainable development.” *Journal of Geography*, no. 107, pp. 102-111.

O’Brien, Mia. “Navigating the SoTL landscape: A compass, map, and some tools for getting started.” *International Journal for the Scholarship of Teaching and Learning*, v.2, no.2.

Schneller, Debora P. and Jo Brocato. (2011). "Facilitating student learning, the assessment of learning, and curricular improvement through a graduate social work integrative seminar." *Journal of Teaching in Social Work*, v. 31, no. 2, pp. 178-194.

## **"Great Piles of Stuff or Piles of Great Stuff? Curation, Open Education Resources, and the Future of the School Library Collection"**

**Presenters:** Marcia Mardis, Florida State University and Joyce Valenza, Rutgers University

### **I. PROBLEM**

K-12 instructional planning has changed. Whereas teachers were once left to their own devices, and hopefully to their school librarians, to identify and integrate high quality learning resources, the recent past of federal educational initiatives has transformed instructional materials selection from one based on "pull" (i.e., resources gained from colleagues, search engines, and specialized digital libraries) to one based on "push" (e.g., resources presented to teachers in the context of a standards and assessment linked student data systems or a digital library). This fundamental change in the way teachers base their instructional plans stems from three main forces: curriculum standards adherence and standardized testing achievement. With these twin imperatives codified in federal education policy via the Elementary and Secondary Education Act authorization known as No Child Left Behind (NCLB) and the related Race to the Top (RttT) initiative, school administrators are left to make tough decisions about how to shift financial resources to ensure that their teachers have sufficient means to implement high quality instruction as defined by federal guidelines.

Unfortunately, too often, school administrators have identified school librarians as surplus to their educational goals [3, 4]. Instead, they have relied upon commercial systems populated with fee-based resources to provide teachers' essential materials base [10, 11]. Some of these systems are operationalized as digital textbooks that represent assemblages of resources tailored to a specific learning goal, also known as digital textbooks.

Many digital textbooks are based on OERs, which are "teaching, learning, and research resources that reside in the public domain or have been released under an intellectual property license that permits their free use and re-purposing by others" [7, p.1]. School librarians are being eliminated at a time when their expertise in identifying, organizing, maintaining, and promoting (i.e., curating) high quality Open Education Resources (OERs) could provide the content and support upon which teacher and student achievement could be based. Perhaps as a result, compliance with federal encouragements to embrace OERs has been piecemeal and slow [12].

Certainly, identifying and aggregating OERs and other digital resources are two key aspects of 21st Century collection development. However, due to the sheer number of these items, curation is crucial to ensure that evolving definitions of quality are reflected in the collection [14].

### **II. APPROACH**

In this paper, we present an overview of federal and state policies that are prompting many school administrators to adopt or consider adopting OERs. Then, we provide a review of challenges that are resulting in the replacement or elimination of school based information professionals. After impacting the research and policy syntheses with possible teacher and student-level effects, we present scenarios for LIS education, practice, and research that can ameliorate the potential harms to educators and learners.

### III. CONNECTION TO CONFERENCE THEME

This paper links to the conference theme through its positions that curation is an entrepreneurial activity and that school librarians are curators of the school's resource base.

#### A. Curation is Entrepreneurial

We posit that curation is an entrepreneurial activity. As Goldstein and Rodriguez [6] pointed out, entrepreneurs are innovative problem solvers. The heritage of librarianship is inherently translational in that librarians take the position of layering information resources onto possible solutions for problems in just about any discipline. The librarian's approach is constantly fresh, constantly reinventing, and constantly injecting expertly selected information into potentially insurmountable quests for knowledge. In this way, LIS education fosters information entrepreneurialism through the development of the resource expertise enacted through curation.

Moreover, the growing array of resource types demands expertise not only in identifying high quality or trustworthy resources, but also curation means recommending the right resource in both content and format. The levels of discernment required by curators are unprecedented and lead to niche expertise tailored to a particular information market and the needs of a unique audience [14].

#### B. School Librarians are Curators

School librarians are often stuck with a stereotype of picture book reading milquetoasts ever on the alert to squelch chatter and overdue materials in the library. As with most stereotypes, this depiction was probably never true and at best is hopelessly outdated. In fact, research has shown that school librarians are technology leaders, often driving schools toward great integration of digital learning and supporting teachers' professional learning [5].

School librarians lead in the context of very specialized libraries in which collections are curated to reflect the curriculum mandates, community norms, learning extension, and personal enrichment of the school's very specific population. The deep involvement of a variety of stakeholders including students, teachers, administrators, and parents, ensures that the collection meets these needs and that shifting values and needs are reflected in library materials [9]. While school libraries have traditionally been print based, the collection and management of digital content has become equally as important, and the continuing reliance on OERs will only increase the need for onsite curation of existing and locally created material [1].

Teachers and students rely on digital resources as well as the devices that convey them every day. Many members of both groups admit to engaging in satisficing behavior, using resources of uncertain provenance, or inadequately referencing content [13]. Calls in educational community

cite the “great pile of stuff” that is comprised of accessible learning resources be transformed into “piles of great stuff” [15, para.1] that is current, content rich, authoritative, and effective in communicating learning concepts.

#### IV. RELEVANCE AND SIGNIFICANCE TO CURRENT AND EMERGING ISSUES IN LIS EDUCATION

School librarianship may be a bellwether for issues that will soon face LIS education as a whole [8]. The authors’ intent is for the information in this paper to inspire change in the way LIS educators, especially those who prepare school librarians, position the value and purpose of collection development. By understanding, embracing, promoting, and preparing students to undertake the important and entrepreneurial role of curator of OER as well as other instructional materials in schools, librarians can be meaningful contributions to their organizations.

#### REFERENCES

- [1] American Association of School Librarians [AASL]. (2009). *Empowering learners: Guidelines for school library media programs*. Chicago, IL: American Library Association.
- [2] Collins, S., & Levy, P. (2013, March). Guide to the use of open educational resources in K-12 and postsecondary education. Retrieved from [https://www.siaa.net/index.php?option=com\\_docman&task=doc\\_download&gid=4029&Itemid=318](https://www.siaa.net/index.php?option=com_docman&task=doc_download&gid=4029&Itemid=318)
- [3] Ellerson, N. (2012, July). *Cut deep: How the sequester will impact our nation’s schools*. Arlington, VA: American Association of School Administrators. Retrieved from [http://www.aasa.org/uploadedFiles/Policy\\_and\\_Advocacy/files/AASA%20Sequestration%20July%202012.pdf](http://www.aasa.org/uploadedFiles/Policy_and_Advocacy/files/AASA%20Sequestration%20July%202012.pdf)
- [4] Ellerson, N. (2012). *Weathering the storm: How the economic recession continues to impact school districts*. Arlington, VA: American Association of School Administrators. Retrieved from [http://aasa.org/uploadedFiles/Policy\\_and\\_Advocacy/files/Weathering\\_the\\_Storm\\_Mar\\_2012\\_FINAL.pdf](http://aasa.org/uploadedFiles/Policy_and_Advocacy/files/Weathering_the_Storm_Mar_2012_FINAL.pdf)
- [5] Everhart, N., Mardis, M. A., & Johnston, M. (2011). National Board Certified school librarians’ leadership in technology integration: Results of a national survey. *School Library Media Research*, 14. [http://www.ala.org/aasl/aaslpubsandjournals/slmrb/slmrcontents/volume14/everhart\\_mardis](http://www.ala.org/aasl/aaslpubsandjournals/slmrb/slmrcontents/volume14/everhart_mardis)
- [6] Goldstein, B., & Rodriguez, D. (2012). Turning adversity into opportunity – Entrepreneurship and the information professional. *Information Services & Use*, 32, 177-181. doi: 10.3233/ISU-2012-0672,

- [7] Hewlett Foundation. (2007, February). A review of the Open Educational Resources (OER) movement: Achievements, challenges, and new opportunities. Retrieved from [http://www.hewlett.org/uploads/files/Hewlett\\_OER\\_report.pdf](http://www.hewlett.org/uploads/files/Hewlett_OER_report.pdf)
- [8] Mardis, M. A. (2009). A gentle manifesto on the relevance and obscurity of school libraries in LIS research. *Library Trends*, 58(1), 1-8.
- [9] Mardis, M. A., ElBasri, T., Norton, S. K., & Newsum, J. (2012). The new digital lives of U.S. teachers: A research synthesis and trends to watch. *School Libraries Worldwide*, 18(1), 70-86.
- [10] Maull, K. E., Saldivar, M. G., & Sumner, T. (2010). Online curriculum planning behavior of teachers. Paper presented at the Third International Conference on Educational Data Mining, Pittsburgh, PA. [http://educationaldatamining.org/EDM2010/uploads/proc/edm2010\\_submission\\_54.pdf](http://educationaldatamining.org/EDM2010/uploads/proc/edm2010_submission_54.pdf)
- [11] Maull, K. E., Saldivar, M. G., & Sumner, T. (2010). Observing the online behavior of teachers: From Internet usage to personalization for pedagogical practice. Paper presented at the Association for Computing Machinery Conference on Human Factors in Computing Systems, Atlanta, GA. [http://communication.ucsd.edu/barry/chiws10/maull\\_positionpaper\\_chi2010ws.pdf](http://communication.ucsd.edu/barry/chiws10/maull_positionpaper_chi2010ws.pdf)
- [12] Porcello, D., & Hsi, S. (in press). Curating and crowdsourcing online education resources. *Science*. doi: 10.1126/science.1234722
- [13] Project Tomorrow. (2011, April). The new 3 E's of education: Enabled, engaged and empowered. How today's students are leveraging emerging technologies for learning. Retrieved from [http://www.tomorrow.org/speakup/pdfs/SU10\\_3EofEducation\(Students\).pdf](http://www.tomorrow.org/speakup/pdfs/SU10_3EofEducation(Students).pdf)
- [14] Rosenbaum, S. (2011). *Curation nation: Why the future of content is context*. New York, NY: McGraw Hill.
- [15] Zia, L. L. (2005, June 18). The NSF National Science, Technology, Engineering and Mathematics Education Digital Library Program: New project from fiscal year 2004. *D-Lib Magazine*. Retrieved from <http://www.dlib.org/dlib/march05/zia/03zia.html>

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### **“Participatory and Transformative Engagement in Libraries and Museums: Exploring and Expanding the Salzburg Curriculum”**

**Presenters:** Michael Stephens, San Jose State University and R. David Lankes, Syracuse University

## Overview

Library and museum professionals from more than 31 countries came together in Salzburg, Austria in 2011 to share ideas in a program titled, “Libraries and Museums in an Era of Participatory Culture.” During the event co-sponsored by the Salzburg Global Seminar (SGS) and the Institute of Museum and Library Services (IMLS), one of the discussion groups developed recommendations for skills needed by librarians and museum professionals in today’s connected and participatory world.

The working group identified the isolation of library skills from museum and other professional skill sets as a weakness, and instead developed a framework for a comprehensive and joint library/museum curriculum. The group focused on the concepts, knowledge, and processes that librarians and museum professionals need to understand and know, realizing that participatory culture has ramifications both for traditional functions and emerging skills. The initial framework was an overview because of limited time, but many seminar participants, including major library science programs and museum continuing education coordinators pledged to use it. The next step is extending the discussion. By opening the conversation to the entire library and museum worlds, it is proposed that the two systems of education and continuing education will experience positive and possibly unexpected synergistic benefits.

## Background

The Salzburg Global Seminar is described as “a place dedicated to candid dialogue, fresh thinking, and the search for innovative but practical solutions” (Mack, 2012). During the Salzburg program, “Libraries and Museums in an Era of Participatory Culture,” seminar fellows exchanged ideas and insights about the potential and future of libraries and museums in a time when consumers have become participants. Jenkins, Clinton, Purushotma, Robison, and Weigel (2006) defined participatory culture as such:

A participatory culture is a culture with relatively low barriers to artistic expression and civic engagement, strong support for creating and sharing one’s creations, and some type of informal mentorship whereby what is known by the most experienced is passed along to novices. A participatory culture is also one in which members believe their contributions matter, and feel some degree of social connection with one another (at the least they care what other people think about what they have created). (p. 3)

Mack (2012) noted in the report from the SGS session: “During the ensuing discussion, participants recognized that increased collaboration between cultural institutions and linkages with both cultural and civic partners remain a strong model for enhanced effectiveness” (p. 7). With this in mind, the fellows divided into working groups to investigate various avenues related to the seminar topic. The group charged with visioning the future of professional education for librarians and museum workers was lead by Dr. David Lankes from Syracuse University.

The group decided to create a curriculum that would span both LIS and museum education aligning with Lankes’s concept that the two professions would benefit from a shared model emphasizing proactive service and transformation. While joint projects and partnerships have

shown powerful associations, it is not until the preparation and mission of these two groups align, that true, sustained, and meaningful cooperation will be possible. The Salzburg Global Seminar showed that unified mission and preparation is possible. The curricular framework shared online and in Lankes' (2012) IMLS prospectus is one of the first steps in bringing these cooperative possibilities to reality.

### The Salzburg Curriculum

The working group started with a mission statement: "The mission of librarians and museum professionals is to foster conversations that improve society through knowledge exchange and social action" (Mack, 2012, p. 13). This mission was derived from the mission for librarians presented at the seminar from Lankes (2011) *The Atlas of New Librarianship* and was expanded to include museum professionals.

The following values permeate the topics reviewed in the working group:

Openness and Transparency  
Self Reflection  
Collaboration  
Service  
Empathy and Respect  
Continuous Learning/Striving for Excellence (which requires lifelong learning)  
Creativity and Imagination

The Salzburg Curriculum developed in the working group includes a focus on these curricular topics:

Management for Participation  
Asset Management  
Cultural Skills  
Knowledge/Learning/Innovation  
Technology  
Transformative Social Engagement

The group spent significant time discussing the curricular topic "Transformative Social Engagement" and outlined the following areas of emphasis: activism, social responsibility, critical social analysis, advocacy, and understanding community needs.

Participants in the working group reviewed and questioned the current state of LIS and museum education. How many of the values and topics identified as relevant are currently taught in academic programs? How might these values and topics be taught? How can incorporating these values, teaching these topics, and fostering new skills development enable library and museum users – guests – constituents – to learn, create social change, and improve their lives?

### Expanding the Curriculum

In order to further refine the curriculum design framework outlined in Lankes (2012) prospectus for IMLS, "Developing the Salzburg Curriculum," the project director proposes creating opportunities for feedback from the original SGS working group and conducting interviews with

those from the working and advisory groups who have already used the curriculum design framework in planning.

Concurrent to gathering feedback and interview data, the project director plans to launch a participatory, social-enabled Web presence served through San Jose State University School of Library and Information Science (SLIS) as part of the Hyperlinked Library server space. The Web presence will act as a shared open space for discussion about the curriculum with a wider library and museum community.

### Sharing and Discussion

Lankes (2011c) highlighted the curriculum in an international webcast sponsored by the U.S. Embassy in Rome, noting that the “mission of transformative social action to help improve society, not simply document it.” He also highlighted the broad concepts of the Curriculum in a CARLI presentation, calling for librarians to share and collaborate within their communities: “We must share our services and expertise with each other. Ultimately we must become a truly open market of ideas” (Lankes, 2011b). Stephens (2012) noted the curriculum had inspired revisions of San Jose State’s SLIS core.

As an extension of the online effort to stimulate conversation about the unified curriculum, we plan to present the curriculum framework and ongoing refinements via this proposed paper. The paper would synthesize an expanded view of the curriculum, including ideas for implementation into course offerings.

### References

Jenkins, H., Clinton, K., Purushotma, R., Robison, A., & Weigel, M. (2006). *Confronting the challenges of participatory culture: Media education for the 21st century* [White paper]. Chicago, IL: The MacArthur Foundation. Retrieved from [http://digitalllearning.macfound.org/atf/cf/%7B7E45C7E0-A3E0-4B89-AC9CE807E1B0AE4E%7D/JENKINS\\_WHITE\\_PAPER.PDF](http://digitalllearning.macfound.org/atf/cf/%7B7E45C7E0-A3E0-4B89-AC9CE807E1B0AE4E%7D/JENKINS_WHITE_PAPER.PDF)

Lankes, R. D. (2011a). *The atlas of new librarianship*. Cambridge: The MIT Press.

Lankes, R. D. (2011b, November 9). *Expect more: Service is proactive* [Video file]. CARLI Virtual Meeting. Retrieved from <http://quartz.syr.edu/rdlankes/blog/?p=1289>

Lankes, R. D. (2011c, November 18). *Librarians as change agents* [Video file]. United States Embassy in Rome, Rome, Italy. Retrieved from <http://quartz.syr.edu/rdlankes/blog/?p=1303>

Lankes, R. D. (2012, February 3). *Developing the Salzburg curriculum* [Unpublished prospectus]. Washington, DC: The Institute of Museum and Library Services (IMLS)

Mack, D. L. (2011, October 19). Libraries and museums in an era of participatory culture. N. Rogers & S. Seidl-Fox (Eds.). (Session 482 Report). The Salzburg Global Seminar and The

Institute of Museum and Library Services. Retrieved from [http://www.ims.gov/assets/1/AssetManager/SGS\\_Report\\_2012.pdf](http://www.ims.gov/assets/1/AssetManager/SGS_Report_2012.pdf)

Stephens, M. (2012, November 12). *An evolving LIS core* [Weblog]. Office Hours. Library Journal Online. Retrieved from <http://lj.libraryjournal.com/2012/11/opinion/michael-stephens/an-evolving-lis-core-office-hours/>

## **“Inquiry and Resource Use Strategies that Emerge Among Middle Schoolers in a Guided Discovery-Based Program of Game Design Learning”**

**Presenters:** Rebecca Reynolds, Xiaofeng Li, and Eun Jung Baik, Rutgers University

### Introduction

“Guided discovery-based” learning experiences are those in which learners are given a particular learning task that must be completed in part by engaging in inquiry. In doing so, the learner develops core disciplinary knowledge about the task’s core topic, as well as procedural practices around the inquiry process that occurs in tandem. Similarly, Constructionist learning experiences (e.g. Harel & Papert, 1991) involve students in the creation of a computational artifact in a social inquiry-based setting, during which students actively construct their own knowledge through original creative action, rather than just adopting existing learning materials and information (Stahl, 2006). While research has supported the effectiveness of such approaches, guided discovery-based learning has also been debated in some literatures, with critiques centering on problems of cognitive load (Kirschner, Sweller & Clark, 2006; Hmelo-Silver, Duncan & Chinn, 2007).

We present results of a study exploring students’ self-reports of experiences in a guided discovery-based program of game design learning. The program is being implemented currently with nearly 3000 students and teachers in middle and high schools in several U.S. states. Students participate in a game design class daily, for credit and a grade for an entire year, engaging in several integrated and social technology-supported activities to meet a range of instructional objectives (Reynolds & Harel, 2009). Students work both individually and in teams. The study aims to better understand ways in which students engage in task-driven inquiry and resource use, and contribute to the theoretical debates just mentioned.

### Literature Review

Information science research addresses inquiry processes in the context of tasks (Wilson, 2006; Li & Belkin, 2008). This literature can inform our understanding of guided discovery-based game design. For instance Vakkari (1999), Vakkari (2003) and Bystrom & Hansen (2005) indicate that task-based inquiry and resource use is a complex and contextual process with different phases and variables. Inquiry and resource use strategies vary based on task complexity (Bystrom & Jarvelin, 1995). Before a task focus is established, inquiry strategies appear as browsing or exploration with high uncertainty (Bystrom & Hansen, 2005; Kuhlthau, Maniotes &

Caspari, 2012). Ingwersen and Jarvelin (2005) underscore “cognitive space” as being influenced by one’s perception of tasks, experience, motivations and level of expertise (p. 276). If the task complexity and structure exceed one’s existing knowledge, the task doer encounters difficulties (Vakkari, 1999; Ingwersen & Jarvelin, 2005).

This paper investigates students’ experience negotiating particular tasks, identifying key questions for ongoing consideration as we explore the relationship between task and information seeking in middle school students, and how this work can lend insight into questions regarding the effectiveness of guided discovery-based learning. As learning management systems are more widely adopted in schools, discovery-based learning research holds implications for current and future curriculum design, information system design, and pedagogy – including the training of school librarians.

## Method

Student cases were selected from three participating middle schools (grades 6-8). We conducted semi-structured interviews in person with the student teams during an initial site visit. Then we interviewed students virtually over Adobe Connect using the screen sharing feature. Data sources included video recorded on-location and virtual interview transcripts. We were informed by the open, axial, and selective coding sequences of Corbin and Strauss (1990), although these sequences were not followed strictly. Initial coding was conducted to discover major trends and themes, and a second, more selective round of coding was completed to reveal more granular themes.

## Findings

Primary categories of the task that students engaged in during class were identified as: game design, game domain narratives, and game programming. While in engaging in these tasks, we noted several resource use strategies and approaches students adopted in order to complete them: general wiki-based resource use, Internet search, and non-wiki-based/human resources.

### *General Wiki-based Resource Use*

Students used a wiki-based learning management system provided by the non-profit to develop an online identity, and to engage in collaboration and project management of game development. For instance, students use the wiki to share files and text online, and fill out a text-based work log of their tasks across time that helps them stay oriented across days and weeks. The students also used embedded resources on the wiki such as tutorials. One student states “... we always go back to the wiki and read it over again...” Therefore, several sub-categories emerged in our interviews: *Review of Worked Examples of Existing Games*, *Use of Tutorials*, *CMC*, *Review One’s Own Earlier Work*, *Navigation Through Interface*, *Unsuccessful Attempts*.

The first sub-category denotes student review of previously created games and code sharing. The second refers to students’ use of pre-created video screen capture tutorials and code libraries provided by the non-profit in an organized structure online. Students reported copying/pasting codes from others’ games and the tutorials to their projects, and engaging in trial and error to test different codes and effects. One student states, “we can use other people’s games from past

semester files and get ideas from them.” Some students indicate that they watch video tutorials on the wiki, when learning a new lesson on programming. While some are successful in doing so, others report not watching tutorial videos fully, or finding them to not be useful. One student states, “sometimes the wiki doesn’t have answers to the exact answer to the exact problem we have.”

### *Broader Internet Search*

Ingwersen & Jarvelin (2005) note that based on the outcome of a search, the actor can either further develop a current information need to a greater level of focus, or move back into an exploratory mode. We consider this finding in relation to students’ research on their game subject domain narratives. Students reported that they used a variety of resources to support their development of a game topic. Sub-categories included: *Internet – text*, *Internet – video*, *Internet – games*, *Internet – images*, *Evaluation of sources*, and *Synthesis of information*.

Under the first sub-category, one student states, “I went to Google and I saw the oil spill, why did it happen... I was thinking I need more like what happens in Yellowstone, so I went to YouTube, and I put oil spill in Yellowstone... so that’s why I picked the Gulf Mexico instead of the Yellow Stone cause the Gulf has more information... I was doing separate search to think ‘what is better, Yellow Stone oil spill, or the Gulf coast?’” This excerpt shows the evidence of how initial Internet search leads to changes in one’s information need and further explorations.

There are a few cases in which students show their process of critical thinking and express their concerns of source credibility and authority. In the category “Evaluation of sources” was the example quote, “sometimes you can just tell. If it is Wikipedia, anybody can edit it, so like most things were true, but sometimes weren’t true.”

### *Non-wiki-based/Human Resources*

Students report that they are encouraged to first visit the wiki to find support, then ask a team member or peer in the class, and finally, the last resort is to ask the teacher for help. Many students seem to readily adopt the peer help approach without complaint. One student indicates “I just ask someone, could you please check on work, and then they would go ‘yea can you check mine,’ and we check it, that’s how we know what we are doing wrong.” Sub-categories included Peer help, Giving help, Help desk, Teacher expertise, Class management, Alternative resources, Engagement @ Home, Other classes, Mainstream media.

### Conclusion

Resource use and collaboration are two meta-processes for students that are occurring in this program to support the main task of game design and development. Students devise their own strategies for these processes, because neither is structured in the curriculum. For instance, the program offers no information literacy instruction for students’ interpretation and use of tutorial information presented, or for online search strategies. Overall, our empirical findings of students’ task-based resource uses that occur naturally in the game design program indicate that several developed innovative strategies, signaling that guided discovery-based learning can lead to students’ self-driven problem-solving. However, at the same time, some students also experienced difficulties, signaling the need for modules that support student information literacy.

Reynolds & Chiu (2012) highlight the role that motivational dispositions (intrinsic and extrinsic) may play in such inquiry dynamics.

Observational studies (Gans, 1999) are underway to move beyond student self-reports, in order to identify relationships between particular tasks and inquiry strategies. We aim to introduce scaffolds in the future to support students' information literacy and teamwork practices. This empirical design-based research process will both draw upon and contribute to the literature on best practices for information literacy instruction. For instance, we will build upon Kuhlthau, Maniotes & Caspari's (2012) Guided Inquiry Design model to enhance the information literacy scaffolds and ensure greater scaffolding for students' transformation of the information they encounter, into workable knowledge that is applied more deeply in the constructions they design and create – their games.

## REFERENCES

- Byström, K., & Hansen, P. (2005). Conceptual framework for tasks in information studies. *Journal of the American Society for Information Science and Technology*, 56(10), 1050-1061.
- Byström, K., & Järvelin, K. (1995). Task complexity affects information seeking and use. *Information Processing & Management*, 31(2), 191-213.
- Corbin, J. & Strauss, A. (1990). Grounded Theory Research: Procedures, Canons, and Evaluative Procedures. *Qualitative Sociology*, Vol 1., p 3-21.
- Harel, I. & Papert, S. (1991) (Eds.). *Constructionism*. Norwood, NJ: Ablex Publishing.
- Hmelo-Silver, C. E., Duncan, R. G., & Chinn, C. a. (2007). Scaffolding and Achievement in Problem-Based and Inquiry Learning: A Response to Kirschner, Sweller, and Clark (2006). *Educational Psychologist*, 42(2), 99–107. doi:10.1080/00461520701263368
- Ingwersen, P., & Jarvelin, K. (2005). The Cognitive Framework for Information. In *The turn: Integration of Information Seeking and Retrieval in Context*. Retrieved from <http://link.springer.com/book/10.1007/1-4020-3851-8/page/1>
- Kirschner, P. A., Sweller, J., & Clark, R. E. (2006). Why minimal guidance during instruction does not work : An analysis of the failure of constructivist, discovery, problem-based, experiential, and inquiry-based teaching. *Educational Psychologist*, 41(2), 75–86.
- Kuhlthau, C., Maniotes, L., & Caspari, A. (2012). *Guided inquiry design: a framework for inquiry in your school*. Westport, CT: Libraries Unlimited.
- Larussen, J., & Alterman, R. (2009). Wikis to support the “collaborative” part of collaborative learning. *Computer-Supported Collaborative Learning*, 4, 371–402.
- Li, Y., & Belkin, N. J. (2008). A faceted approach to conceptualizing tasks in information seeking. *Information Processing & Management*, 44(6), 1822-1837.

Papert, S. (1993). *The children's machine: Rethinking school in the age of the computer*. Basic Books.

Reynolds, R., Harel Caperton, I. (2009). The emergence of 6 contemporary learning abilities in high school students as they develop and design interactive games. Paper presented at AERA, April 2009.

Reynolds, R. & Chiu, M. (2012). Contribution of motivational orientations to student outcomes in a discovery-based program of game design learning. Paper presented at the annual conference of the International Conference of the Learning Sciences (ICLS), July 2012, Sydney, Australia.

Stahl, G. (2006). *Group cognition* (Vol. 106). Cambridge, MA: MIT Press.

Vakkari, P. (1999). Task complexity, problem structure and information actions: Integrating studies on information seeking and retrieval. *Information Processing & Management*, 35(6), 819-837.

Vakkari, P. (2003). Task-based information searching. *Annual Review of Information Science and Technology*, 37(1), 413-464.

Wilson, T.D., (2006). On user studies and information needs. *Journal of Documentation*, 62(6), 658-670.

## **“Big Data Curriculum in the Field of Information Science”**

**Presenter:** Alon Friedman, Knowledge Organization

Library and Information Science (LIS) is known for its core curriculum, which includes librarianship, bibliography, and documentation. Bates (1999) reminds us that the mental activities of professional practitioners and educators center on knowledge representation and organized knowledge. She reports that the representation of information and knowledge requires different talents and skills. Markey (2013) embraces Bates' approach and recommends that information-science schools address new areas of study, instead of focusing on the user perspective. Over the past 30 years, two major practices have started to change how we teach. First, and most important, the Internet has enabled researchers and educators in the field to interact, share, and discuss their subjects with their students. Hall (2009) and Morgan and Bawden (2006) report on the change of the core curriculum in the field where more emphasis is given to Internet technology. The second change that we are witnessing is the growing number of LIS schools offering online courses and programs. Students interact with computer programs that allow them to work at their own pace, regardless of what the rest of the class is doing. This technology that allows us to develop new educational tools and interact with the students is also collecting data about us.

Big Data is often used as an umbrella term for the quantity and diversity of high frequency digital data. Manyika et al. (2011) reports: “Big-data computing is perhaps the biggest

innovation in computing in the last decade. We have only begun to see its potential to collect, organize, and process data in all walks of life.” This growth of data introduces not only new terminology, values, and technology infrastructure, but also, and more importantly, new possibilities of what this data may represent. How to manage and gain insight into Big Data sets has been the subject of a substantial amount of research and development in industry, academia, and the broader scientific community. Jacobs (2009) reports that many researchers use predictive analytics and visualization packages to sort Big Data. Predictive analysis is based on technology that enables computers to learn how to predict individuals' future behavior. Visualization analysis helps move information to knowledge by illustrating hidden issues and opportunities found in data sets. At a recent conference, DATA Edge 2013, Schurtt reported on a gap between what technical skills are taught in academic settings and the skills that the industry demands regarding Big Data. She stated that in industry, data scientists spend most of their time cleaning the data, though she had never heard of an academic course on the subject.

The present study builds on the work of Ostergren et al. (2011), who reported that 46% of schools (including those in the United States (US) and Europe) now offer visualization courses. This raises the question: How do Library and Information Science (LIS) schools in the US train their students regarding the science of burgeoning bytes of data? To address this question, we examined the curricula at 54 LIS schools in the US. In the second part of our study, we looked at the University of South Florida -School of Information's progress in creating a new program on the subject.

We measured the content of Big Data syllabi found in LIS Schools during the 2012-2013 academic year. The study progressed through the following procedures. In the first stage, we identified the topics that these syllabi covered. In the second stage, we determined the "most-used" reference books/articles found in these syllabi. We then examined the number of classes spent on prediction analysis vs. visualization analysis, and in the fourth stage, we examined the departments' websites and Facebook accounts to find additional indications of where schools promote the subject of Big Data to their students and postgraduates.

We found that 32% of all LIS schools in the US offered Big Data courses in their core curriculum, the majority of which are taught by LIS faculty. The syllabi covered the following topics: data structure, predictive analysis, and visualization analysis, where more emphasis was given to data structure and visualization analysis. While Big Data theory is still being debated (West, 2013), none of the syllabi referred to this theoretical debate or made comparisons to major information-science theories. The differences we found among syllabi was in the use of different textbooks and software application(s), though many syllabi employed the open source paradigm. The technical platforms included Apache/Linux server (mentioned in 31% of syllabi), followed by MAC server (29%), Microsoft server (20%), and Amazon DB (20%). We also identified the applications most commonly included. The database applications mentioned most often were: Hadoop (29%), Google's MapReduce (27%), Hive (26%), and Cassandra (20). The top statistical applications were: Open Source R (45%) and GNO-SPSS (40%). The most-mentioned visualization applications were IBM Many eyes (32%), Processing (31%), and Open Source R (30%). We did not find any reference to applications that clean data.

At University of South Florida (USF) – School of Information in Spring 2014, we will be offering two new courses: Introduction to Big Data and Introduction to Visualization and Big Data. Undergraduate and graduate USF students will for the first time have the opportunity to use Big Data. We divided the subject into two separate topics to allow the students to experience the Open Source programming and technology aspect and to introduce visualization as a form of communication. The biggest challenge was how to bridge the information science and Big Data perspectives.

Higher education is undergoing an explosive period of transformation, where computerized devices allow students to access lectures and seminars from anywhere in the world and more personal information can be tracked than ever before. As Big Data becomes increasingly important, how we teach it will become more significant than ever before. We found that only 32% of US LIS schools offer at least one course on Big Data. We recommend more investigation regarding the impact of Big Data classes on the students' future occupations and professional success.

#### References:

Bates, M.J. (1999). The invisible substrate of information science. *Journal of the American Society for Information Science*, 50(12), 1043-1050.

Bonnici, L., Manimegala, M. S., & Burnett, K. (2009). Everything old is new again: the evolution of library and information science education from LIS to iField. *Journal of Education and Information Science*, 50(4), 263-273.

D'Ignazio, J. & Jian Qin (2010). An outcome-based assessment of a new eScience librarianship curriculum: The scientific, technical, and social aspects. Proceedings of the 31<sup>st</sup> Annual International Association of Scientific and Technology University Libraries Conference, June 20 – 24, 2010, West Lafayette, Indiana

Jacobs, A. (2009). The pathologies of Big Data. *ACMQueue*, 7(6), 124-151.

Manyika, J. et al. (2011). Big Data: The next frontier for innovation, competition, and productivity. McKinsey Global Institute. Accessed online at [http://www.mckinsey.com/insights/business\\_technology/big\\_data\\_the\\_next\\_frontier\\_for\\_innovation](http://www.mckinsey.com/insights/business_technology/big_data_the_next_frontier_for_innovation)

Markey, K. (2004). Current educational trends in the information and library science curriculum. *Journal of Education for Library and Information Science*, 45(4), 317–339.

Marshall, C. (2012). Big data, the crowd and me. *Information Professionals 2050: Educational Possibilities and Pathways*. Chapel Hill: University of North Carolina Press.

Ostergren, M., J. Hemsley, et al. (2011). A vision for information visualization in information science. *iConference*. Seattle, WA: ACM.

West, G. (2013, May 15). Big data needs a big theory to go with it. *Scientific American* October 1995, (273)4, 55

## **“The Instructor as Social Entrepreneur: Maintaining Trust and Integrity in Online Learning”**

**Presenter:** Jenny Bossaller, University of Missouri

Nearly every day, the Chronicle of Higher Education announces platforms, mergers, acquisitions, and innovations by tech companies offering solutions to problems in distance education, from course content to student services. This paper, presented by an LIS instructor and an instructional designer who is also an LIS PhD student, analyzes outsourcing within the technologically intensive university, and makes recommendations about maintaining trust and integrity in online education. Conclusions are derived from interviews and informal discussions with instructors who teach online or in hybrid classes, and from literature on social entrepreneurship.

New models in higher education such as MOOCs, open universities and non-profit online universities have caught the attention of state legislatures. Online education is seen as opportunity to expand education; classes require no physical space and (as MOOCs demonstrate) they are scalable, potentially lowering educational costs and providing the opportunity for anyone to take college classes. This competition (real or perceived) has left many universities scrambling to compete for students across state (and national) boundaries while maintaining an appealing local presence.

Online education is both praised and feared in the university--it can make learning possible anywhere, and is especially appealing to non-traditional students. However, old and familiar criticism is worth repeating. Feenburg (2003) paints a particularly grim picture of online education: “in the late 1900’s corporate strategists, state legislators, top university administrators, and so-called futurologists...[sought to] replace (at least for the masses) face-to-face teaching by professional faculty with an industrial product, infinitely reproducible at decreasing unit cost (p. 43). Feenburg’s views represent the dark side of a scalable or reproducible classroom in which the professor is replaced with a corporate voice. Since then, education technology companies have made strides in content delivery with e-texts enhanced with assessment tools and multimedia that integrate seamlessly into courses. Young (2013) referred to this as the “course in a box.” At its worst, technology enables removal of the instructor’s judgment and knowledge. Noble (1998) cautions against this depersonalized model: “students want the genuine face-to-face education they paid for, not a cyber-counterfeit (“Student Reactions”, para 2).”

Good online educators and programs do not want to depersonalize their programs and recognize that online education depends on committed professors and a robust support structure. It also requires agility, which is not a traditional strength of universities.

Corporations are more agile, and universities often outsource products and services when needed. Bartem and Manning (2001) explain: corporate “decisions have more to do with return

on investment and available capital than with...preserving time-honored ways of doing things” (p. 43). “Outsourcing allows colleges and universities to try new things, to test new products and services...strengthen their own capabilities...and...concentrate on what they do best” (p. 47), but the university must preserve its culture over the corporation’s.

Some outsourcing is benign; snow and trash removal services, and procured supplies rarely compromise ideals. Outsourcing education, though, is problematic. However, the systems that educators work within are complicated. It is time-consuming to curate a comprehensive and easily navigable online course, but publishers have worked with LMS companies to create an attractive solution: the ‘course in a box.’ They are marketed as a way to reduce instructional time while improving learning outcomes. When everything is taken care of by a company, though, who maintains the core mission of the university?

Phipps and Merisotis (IHEP, 2005) describe four concerns with outsourcing: loss of control, service quality consistency, employee displacement or morale, and the impersonal nature, loss of identity, community, culture, and collegiality (p. 13). Giroux (2006) points out the corporate influences within higher education are a component of the neoliberal agenda that is fundamentally at odds with the public good; they reduce educators’ agency and voice. This the loss of identity in the classroom also brings concerns about academic integrity and freedoms.

Universities need to find a solution for maintaining institutional integrity. The material should be good, and instructors should be in control of the tools that they use. Decisions regarding technologies are ultimately expressions of its values, and the university must employ skilled educational technologists with a commitment to the public good to help instructors fulfill their vision.

### Social Entrepreneurship

Mycoskie (2011) describes his personal transformation from CEO to philanthropic entrepreneur. Certain aspects of his testimonial are worth consideration in education: maintain a mission that includes doing good. Be resourceful. Build trust through accountability and transparency in interactions with internal and external stakeholders. This model of corporate responsibility incorporates agency, mission, and accountability.

It is worth examining the instructor as a social entrepreneur who has a choice between using the ‘course in a box’ and developing his own resources. Open knowledge is affordable and accessible, but the instructor must have resources to develop high- quality, organized content.

This presentation will provide examples from interviews and conversations with instructors regarding their feelings about online education, instructional materials, and agency. They express deep concern about the cost of educational materials, but most do not have enough time or expertise to develop their own multimedia tools. The instructional design team provides extensive help, though, and faculty who participate in course redesigns and faculty development express satisfaction in producing better and more engaging material for their classes.

Online education and companies that supply a growing perceived need to access have disrupted educational institutions that depend on the trust of internal (faculty) and external (public and legislator) stakeholders. A university that wants to maintain (or develop) the trust that Mycoskie described should not lose sight of its core mission. Administrators should take steps to gather input from faculty regarding the tools they purchase, be thoughtful and careful in relationships with vendors, and be transparent in all decisions. In order to maintain its mission, the university should provide solutions that empower faculty to develop teaching excellence, giving them choice and control over their courses. The university should also consider sustainability; local innovations might be more stable and controllable than outsourced tools. All of these suggestions require communication as well as substantial investments in infrastructure and expertise.

## References

Bartem, R., & Manning, S. (2001). Outsourcing in higher education: a business officer and business partner discuss a controversial management strategy. *Change*, 33(1), 42-47.

Feenburg, A. (2003). Modernity Theory and Technology Studies: Reflections on Bridging the Gap. In Misa, T. Brey, P. & Feenburg, A (Eds). *Modernity and Technology* (pp. 73–104). Cambridge, MA: MIT Press.

Giroux, H. (2006). Higher Education Under Siege: Implications for Public Intellectuals. *Thought & Action*. Retrieved from:

[http://forums.thescea.org/assets/img/PubThoughtAndAction/TAA\\_06\\_08.pdf](http://forums.thescea.org/assets/img/PubThoughtAndAction/TAA_06_08.pdf)

Mycoskie, B. (2011). *Start something that matters*. New York, NY: Spiegel & Grau.

Noble, D. (1998). Digital Diploma Mills: the automation of higher education. *First Monday* 3(1). Retrieved from <http://firstmonday.org/ojs/index.php/fm/article/view/569/490>

Phipps, R. & Merisotis, J. (2005). Is outsourcing part of the solution to the higher education cost dilemma?: A preliminary examination. Institute for Higher Education Policy. Retrieved from <http://www.ihep.org/assets/files/publications/m-r/Outsourcing.pdf>

Young, J. (2013, Jan. 27). "The Object Formerly Known as the Textbook." *The Chronicle of Higher Education*. Retrieved from <http://chronicle.com/article/Dont-Call-Them-Textbooks/136835/>.

## **“Educating for an Entrepreneurial Spirit in Emerging STEM Information Professionals”**

**Presenter:** Suzie Allard, University of Tennessee

Society is facing daunting scientific grand challenges that affect citizens in many ways ranging from health problems to resource allocation. The myriad domains of science have scientists and engineers who are working to address these challenges through activities that include creating an understanding of the effects of climate change and exploring new avenues for sustainable energy.

Scientists often employ Big Data to study these topics since it allows them to utilize a huge number of observations that can be integrated from disparate but proximate disciplines, thus providing a fuller picture. Lynch (2008, 2009) notes that there are immense quantities of data produced and this data-intensive world is difficult for scientists, policy makers and the general public to navigate. It means that finding ways to effectively manage science data is imperative for society to successfully address these challenges (Hey et al., 2009). However, there is not a sufficient workforce to help with these science data challenges (Varvel et.al., 2010). The science data environment calls a specially equipped information professional who has skills to effectively and efficiently help the data intensive organization and its members. Several schools around the country are working to create relevant curriculum including workplace experiences to develop the science data curation workforce. Some of these schools include the University of California, Berkeley; the University of Illinois, Urbana Champaign (UIUC); the University of North Carolina, Chapel Hill; the University of Michigan; Syracuse University, and The University of Tennessee (UT). There are also other schools, including North Carolina State University and Stanford University, focusing more specifically on data science rather than the full data life cycle included in data curation.

The role of the science data curation professional is still emerging and library and information science (LIS) students are faced with a dynamic and heterogeneous workplace as they prepare to enter the workforce. The issues they must be prepared for range from what appears to be relatively mundane (What is the name of the position I should apply for?) to extremely complex (How much domain expertise is required? What analytics skills are needed?). A student must learn to be comfortable with uncertainty and develop an entrepreneurial spirit in order to find a position and succeed in this new field. It is not uncommon for a new hire to find her position has few established guidelines and instead she must define the position in the way that best suits the organization and the culture of those who contribute and use data.

This paper focuses on the key challenges related to preparing students for this STEM data intensive environment, particularly in regard to developing the entrepreneurial toolset. The paper begins by reviewing the discussion the iSchools are leading regarding Big Data education, then explores the foci of several science data curation projects funded by the Institute of Museum and Library Services. A component of the process requires the LIS school to be entrepreneurial and that is creating a role in the education process for science data intensive organizations such as national laboratories. Although not a commonly addressed when discussing STEM education, the paper notes the important role of intercultural theory, particularly code-switching, cultural proximity and cultural dimensions, in helping students develop the skills for working effectively in this fluid environment. The paper shows how an LIS program may include intercultural theory in science information curricula or extra-curricular activities.

The paper closes by sharing lessons learned from several IMLS funded science information education projects based at The University of Tennessee (UT). For many years, UT has been engaged in STEM information research (e.g. Tenopir et.al., 2011; Allard, 2012a; Wang, 2006), education (Allard, 2012b) and collaboration as evidenced by deep engagement with DataONE, a major cyberinfrastructure initiative funded by the National Science Foundation. The four programs discussed have each been initiated with funding from the Institute for Museum and Library Services. They are:

1. ScienceLinks2: a doctoral program to educate the next generation of science information educators.
2. Digital Curation in Environmental Research Centers: a masters and doctoral program that places students in science research centers for intensive experiences. The University of Illinois Urbana Champagne leads this initiative and UT is a partner.
3. SciData: a one year old program at the masters level that focuses on training students for the data intensive world by featuring data science related coursework and experiences.
4. La SCALA: a doctoral program with its first cohort this year focusing on increasing the presence of Latino LIS faculty conducting science information research.

#### Selected References

Allard, S. (2012a). DataONE: Facilitating eScience through Collaboration. *Journal of eScience Librarianship*. 1(1). Available online at <http://escholarship.umassmed.edu/jeslib/vol1/iss1/3/>. doi:10.7191/jeslib.2012.1004

Allard, S., Noakes, E., Metzger, L. & Davis, M. (2012b). Building Bridges: Information Science Skills to Leverage the Power of Environmental Information. 2012 Association of Library and Information Science Educators Annual Conference, Dallas, TX, 19 Jan 2012.

Hey, T., Tansley, S., & Tolle, K. (Eds.). (2009). *The fourth paradigm: Data-intensive scientific discovery*. Redmond, WA: Microsoft Research.

Lynch, C. (2008). Big data: How do your data grow? *Nature*, 455, 28-29.

Lynch, C. (2009). Jim Gray's fourth paradigm and the construction of the scientific record. In T. Hey, S. Tansley, & K. Tolle (Eds.), *The fourth paradigm: Data intensive scientific discovery*. Redmond, WA: Microsoft Research. Retrieved April 24, 2011 from <http://research.microsoft.com/envs/collaboration/fourthparadigm/default.aspx>

Tenopir, C., Allard, S., Douglass, K. Aydinoglu, A.U., Wu, L. Read, E. & Manoff, M. Data Sharing by Scientists: Practices and Perceptions. (2011). *PLoS ONE* 6(6):e21101 (2011) PMID 21738610).

Varvel, V.E., Palmer, C.L., Chao, T. & Sacchi, S. (2010). *Report from the Research Data Workforce Summit*. Center for Informatics Research in Science & Scholarship.

Wang, P.(2006). Information Behaviors of Academic Researchers in the Internet Era: An Interdisciplinary & Cross-cultural Study. In *Proceedings of the 1st International Scientific Conference eRA: The Information Technology to Science, Economy, Society & Education* (Cultural Center of Tripoli, Greece, 16-17 September 2006).

**“Information Behaviors of YA Entrepreneurship: Lived Literacies and Economic Empowerment”**

**Presenter:** Sharon L. Comstock

What do we know about the information behaviors of young adult entrepreneurs? Do our current ways of teaching information literacy within schools match current teen information behavior research? This paper examines teen information behaviors in entrepreneurship, and suggests ways information literacy pedagogy can be informed by being more closely associated with their lived literacies. Based on an ethnographic case study conducted as part of a dissertation of teens' everyday life information seeking (ELIS) (Savolainen, 1995) versus their school libraries' working definitions of what makes a student "information literate" (Comstock, 2012), this paper identifies specific information behaviors of a teen building and managing a profitable online start-up.

Examining information behavior offers a holistic way (Lantz & Brage, 2006) to understand teens' information literacies, certainly; but more to the point, offers us a way to see teens' contributions to the economy beyond the role of consumer. For the purpose of this paper, I define entrepreneurship as critically identifying a market need within a capitalist economy. To be an "entrepreneurial" effort, it needs to be developed outside of an existing organizational structure or standardized operations.

From this case study, specific entrepreneurial behaviors and concurrent outcomes were identified as directly affecting young adult identity, agency, and autonomy: (1) perceived increased confidence in goal setting, decision-making, and risk-taking; (2) critical thinking as demonstrated in (a) market analysis [Porter's 5 Forces, c.f. Porter, 1985, 1998], (b) information management (inventory tracking, transaction management), (c) mathematics (e.g., accounting, statistical forecasting); (d) technological fluencies (website, spreadsheet, and database creation and management; online identity/branding control; online marketplaces' individual tools (e.g., Bricklink, eBay, Amazon); (3) financial literacy (pragmatic understanding of financial goal-setting, saving, investment for a stated goal: college expenses, entertainment, purchasing a car); and (4) empowerment and autonomy outside of established networks/roles as student or family member (at a time when these teen roles are being challenged as a part of maturation).

Identifying specific teen information behaviors that are developed by and contribute to entrepreneurship that is international in scope has implications for how we define a teen as "information literate"; and an emerging adults' world-view in, literally, global terms. In the very real world of identifying global markets, setting margins, paying taxes, and understanding international shipping, information literacy is redefined instrumentally (Comstock, 2012). Teens' information behaviors mirror those, for example, of the firefighter (Lloyd, 2007), the electrical worker (Veinot, 2007), and the nurse (Johannisson & Sundin, 2007): their information practices and behaviors are inextricable from their roles as contributors and citizens. However, in the case of the teen in this study, there appears to be little-to-no line demarcating "work" from "play" in the information behaviors of entrepreneurship: Pragmatism is key (Comstock, 2012, Dewey 1938).

Entrepreneurship needs placed in context of reports from the United States Department of Labor (USDOL) that indicate a growing trend of teen unemployment (USDOL, 2000; 2013). For (Jan-June) 2013, the most currently available months' data, the youth employment rate for (non-

disabled) teens ages 16-19 ranged between 24.2 – 31.4% (USDOL, 2013) . Recent studies of teen employment patterns put these numbers in social context: U.S. teens are less likely to be employed in the established economy than a mere decade ago (Morsi, 2010).

Interestingly, there are calls for increased educational efforts to support computational and critical thinking skills for an agile workforce in an increasingly competitive global economy, especially in STEM fields (Wing, 2005). Therefore, deepening our understanding of the specific information communication technology literacies (ICTLs) employed by successful teen entrepreneurs is relevant to those of us who educate and mentor new library leaders who are often the standard-bearers of information literacy (most often in formal schooling) and informal learning efforts in libraries and museums (e.g., STEM/STEAM, hacker- and maker-space). “Entrepreneur” becomes a powerful YA identity more than student, hobbyist or someone’s child: it legitimizes a hobby when it begins to earn income. In fact, it’s the line between “amateur” and “professional”. And this has a unique power to teens at a time when they are often viewed as betwixt and between the protection childhood afforded and not the respect adulthood confers.

So, the question becomes: What might be the implications for how we as library educators teach our library students to (when in their professions as new librarians) support entrepreneurial thinking? It means we may need to turn a critical theory eye on our own practices to allow space for these emergent information behaviors. In the spirit of now-seemingly ubiquitous “Maker” culture, we may need to include within our core curriculum the simple question of “can we make this better?” That will mean we teach our LIS students to question long-held beliefs about what constitutes legitimate literacies, at nearly the same time we are teaching them traditional information literacy professional standards. We will need to hold in curious tension both the construction and deconstruction of information literacy curriculum. Because in the real world, the one outside of the classroom and beyond the grade book, how problems are solved is the lesser of the two needs: it’s asking those key questions of why and what- if that inspire entrepreneurship. We will need to teach our students to constantly critique what they are defining as “best practices of information literacy curriculum” in order to create the conditions for entrepreneurial thinking on the parts of their students, patrons, and even themselves.

#### References:

Comstock, S.L. (2012). *A case study of legitimate literacies: Teens’ small world and the school library*. Dissertation, University of Illinois, Urbana-Champaign.

Dewey, J. (1938/1997). *Experience and education*. Touchstone: New York, New York.

Lantz, A. & Brage, C. (2006). Towards a learning society—Exploring the challenge of applied information literacy through reality-based scenarios. *Italics*, 5(1). Retrieved on 7/13/2013 from: <http://www.ics.heacademy.ac.uk/italics/download.php?file=italics/vol5-1/pdf/lantz-brage-final.pdf>

Limberg, L. & Sundin, O. (2006). Teaching information seeking: relating information literacy education to theories of information behavior. *Information Research*, 12(1).

Livingstone, S. (2008). Internet literacy: Young people's negotiation of new online opportunities. In T. McPherson (Ed.), *Digital youth, innovation, and the unexpected*. Cambridge, MA: MIT Press, 101-122.

Lloyd, A. (2007). Learning to put out the red stuff: Learning to be information literate through discursive practice. *Library Quarterly*, 77(2), 181-198.

Lloyd, A. (2007). Recasting information literacy as sociocultural practice: implications for library and information science researchers. *Information Research*, 12(4). Retrieved on 7/13/2013 from: <http://informationr.net/ir/12-4/colis/colis34.html>.

Morisi, T. (2010). The early 2000s: A period of declining teen summer employment rates. *Monthly Labor Review*, May, 23-35.

Savolainen, R. (1995). Everyday life information seeking: Approaching information seeking in the context of "way of life". *Library and Information Science Research*, 17, 259-294.

Sundin, O. & Johannisson, J. (2005). Pragmatism, neo-pragmatism, and sociocultural theory: Communicative participation as a perspective in LIS. *Journal of Documentation*, 61(1), 23-43.

Porter, M.E. (1989, 1998). *Competitive advantage: Creating and sustaining superior performance*. New York, NY: Free Press.

United States Department of Labor. (2013). Youth employment. Retrieved on 7/13/2013 from: <http://www.dol.gov/odep/categories/youth/youthemployment.htm>.

Veinot, T.C. (2007). The Eyes of the Power Company: Workplace Information Practices of a Vault Inspector. *Library Quarterly*. 77(2), 157-180.

Wing, J.M. (2005). Computational thinking. Retrieved on 4/25/2012 from: <http://www.cs.cmu.edu/afs/cs/usr/wing/www/ct-paper.pdf>.

## **“User-Centered Design and the LIS Curriculum: Reflections on the User Experience Program at Pratt Institute”**

**Presenter:** Craig MacDonald, Pratt Institute

With its emphasis on users and their experiences with technology, User Experience (UX) is an emerging area of interest for many fields. It is especially relevant to the Library and Information Sciences (LIS) communities, as libraries, museums, archives and other information organizations become increasingly dependent on the web and digital technologies (Jeng, 2005; Condit Fagan, et al., 2012). Currently, many LIS education programs offer courses that are partially or exclusively about usability (Ameen & Erdelez, 2011), but a narrow focus on usability relegates information professionals to merely “after-the-fact evaluators” with minimal, if any, involvement in other phases of design (Whittaker, 2013). To prepare students for more prominent roles in

shaping the digital tools and technologies of the future, LIS education programs must address the broader role of usability in the user-centered design (UCD) process (Bias, Marty, and Douglas, 2012).

With historical roots in Human-Computer Interaction (HCI), UCD is the foundation of the UX profession, a diverse, multi-disciplinary field concerned with the design and/or evaluation of websites, software programs, mobile or tablet applications, and other interactive technologies. Although usability was and still is a core principle of the UCD process (and the UX profession), a focus on the entire user experience presents a new paradigm that broadens the scope beyond task-centered user performance to the emotional/affective aspects of interacting with digital tools through multiple devices and in dynamic contexts (Hassenzahl & Tractinsky, 2006; Law, et al., 2009; Bargas-Avila & Hornbæk, 2011). The holistic nature of UX and the prevalence of mobile devices, cloud computing, and ubiquitous technologies have profoundly changed the information landscape, creating new opportunities, and new challenges, for educators (Churchill, Bowser, & Preece, 2013).

In response, faculty at Pratt Institute's School of Information and Library Science recently launched an innovative, multi-faceted program aimed at preparing students for careers as UX professionals, either outside or within LIS-focused organizations. The UX program at Pratt Institute consists of three components – a 12-credit concentration, an independent consulting group, and a student interest group – that build on the Master of Science in Library and Information Science degree. Although other universities offer UX-based courses and degrees (e.g., Kent State University's Master of Science in User Experience Design), a review of other LIS programs shows no similar initiative that integrates core UX concepts into the traditional LIS curriculum.

As a whole, Pratt's UX program blends traditional classroom learning with extracurricular opportunities to provide students with a mix of theoretical knowledge and practical application, a balance that is seen as increasingly important for preparing future UX professionals (Churchill, Bowser, & Preece, 2013). A common way to showcase this balance is through an e-portfolio, which serves as the core of both the UX program, since portfolios are commonly viewed as a prerequisite for professional UX positions (MacDonald, in press), and the MSLIS degree, which introduced an e-portfolio requirement in Fall 2012. By blending the two portfolios, students are able to highlight their qualifications as information professionals (including expertise with research, communication, and technology) while also showcasing their knowledge and experience with common UX design and evaluation methods (including user testing, card sorting, wireframes, etc.). To this end, coursework in the UX concentration emphasizes the portfolio-building process while also teaching students the fundamentals of the UX profession. Added to this are the independent UX consulting group, through which 17 students have executed three usability studies for real clients (as of July 2013), and the UX student interest group, which solidifies students' connection with the professional community through networking events, an e-mail discussion list, and topic-based monthly meetings.

This presentation will report several institutional, practical, and pedagogical lessons that have been learned throughout the first year of the UX program. For instance, institutional lessons included gaining support and buy-in from the administration and faculty and leveraging existing

courses and processes (i.e., the e-portfolio). From a practical standpoint, student involvement emerged as the most critical challenge, including marketing the program to prospective students, motivating current students to participate in extracurricular activities, and reaching out to interested alumni to act as mentors. Finally, pedagogical lessons mainly focused on finding the appropriate balance between educational and practical goals through, for example, introducing innovative in-class design activities to extend and enhance lecture material (e.g., rapid fire user research methods, iterative sketching exercises), breaking group projects into separate individual deliverables that can be added to a portfolio, and creating mini-lectures and tutorials that can be integrated into non-classroom practical experiences. Moving forward, the program will continue to evolve based on feedback from students, faculty, and members of the local UX community. In addition, future development efforts will include enhancing the program's web presence, increasing the involvement of local UX professionals, formalizing the independent consulting group, developing a state-of-the-art usability lab, and assessing the program's impact on placing students in professional UX positions.

## References

Ameen, K., & Erdelez, S. (2011). Instructing usability evaluation in LIS curriculum: A case of the U.S. *Pakistan Journal of Library & Information Science*, 12. Available from <http://pu.edu.pk/images/journal/pjlis/pdf/pjlis-12-ameen.pdf>

Bargas-Avila, J. A., & Hornbæk, K. (2011). Old wine in new bottles or novel challenges: a critical analysis of empirical studies of user experience. In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems* (pp. 2689-2698). ACM.

Bias, R., Marty, P., and Douglas, I. (2012). Usability/User-Centered Design in the iSchools: justifying a teaching philosophy. *Journal of Education for Library and Information Science*, 53(4), 274-89.

Churchill, E. F., Bowser, A., & Preece, J. (2013). Teaching and Learning Human-Computer Interaction: Past, Present, and Future. *ACM Interactions*, 20(2), 44-53.

Condit Fagan, J., Mandernach, M., Nelson, C., Paulo, J., & Saunders, G. (2012). Usability Test Results for a Discovery Tool in an Academic Library. *Information Technology & Libraries*, 31(1), 83-112.

Hassenzahl, M., & Tractinsky, N. (2006). User experience-a research agenda. *Behaviour & Information Technology*, 25(2), 91-97.

Jeng, J. (2005). What Is Usability in the Context of the Digital Library and How Can It Be Measured? *Information Technology & Libraries*, 24(2), 47-56.

Law, E. L. C., Roto, V., Hassenzahl, M., Vermeeren, A. P., & Kort, J. (2009). Understanding, scoping and defining user experience: a survey approach. In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems* (pp. 719-728). ACM.

MacDonald, C. M. (in press). Learning and Teaching Information Architecture: The Current State of IA Education. To appear in the *Bulletin of the Association for Information Science and Technology*.

Whittaker, S. (2013). Interaction Design: What We Know and What We Need To Know. *ACM Interactions*, 20(4), 38-42.

### **“Competency-Based Approach for Curriculum Development in Digital Curation”**

**Presenters:** Jeonghyun (Annie) Kim and William E. Moen, University of North Texas

One interesting trend over the last decade is the emergence of innovative learning initiatives that involve applications of new and emerging technology tools, delivery platforms, and/or new business models and pedagogy. One such initiative is Competency-Based Education (CBE), which has become a hot topic in higher education (Fain, 2013; Parry, 2013). In March 2013, the U.S. Department of Education issued guidance for higher education institutions that offer competency based programs; they announced that colleges could begin providing student federal aid based on students’ mastery of “competencies” – i.e., what students know and can do.<sup>1</sup> This shift from credit hours completed to competency demonstrated has been exemplified in several institutions, like the Western Governors University in Utah, Southern New Hampshire University, and University of Wisconsin.

This approach, which focuses on the knowledge, skills, and abilities (KSAs) necessary to be proficient for employment or practice in a profession, however, is not new. Since the 1960s there has been a need for measured or assessed outcomes<sup>2</sup> that would ensure the competency and proficiency of graduates. The CBE approach has been introduced and adopted in many professional disciplines, including medicine, nursing, engineering, and management. Masters and McCurry (1990) claimed that the competency-based approach gained prominence because it attempted to make explicit the skill standards necessary for performing competently within a profession. Van der Klink and Boon (2002) asserted that CBE “holds the promise of curricula with a practical orientation that are tuned to the needs of employers (p. 129).”

In the context of library and information science (LIS) professional preparation, the concept of competencies and frameworks for a competency-based approach have been discussed. Many professional organizations have put effort into developing competency statements<sup>3</sup>; one example from the American Library Association (ALA) is its Core Competences of Librarianship, which defines “the knowledge to be possessed by all persons graduating from ALA-accredited master’s programs in library and information studies.” Stated competency areas include organization of recorded knowledge and information, reference and user services, technological skills and knowledge, and administration and management (ALA, 2009). Additionally, there have been papers that discuss a competency-based approach in LIS education (e.g., Stoffle & Pryor, 1980; Thomas & Patel, 2008). One area of concern that is ripe for additional fruitful investigation is how to systematically link competencies to student learning outcomes or assessment of student learning.

The University of North Texas is currently developing a four-course<sup>4</sup> sequence in digital curation and data management supported by funding from the U.S. Federal Institute of Museum and Library Services (IMLS). The project is founded on a competency-based approach to the overall curriculum development process; the goal of the project is to develop a curriculum that consists of a specified and organized body of content, learning activities, and integrative experiences designed to acquire competencies — the knowledge, skills, and abilities — that enable students to effectively perform the activities of and functions in the field of digital curation.

As the first step in our curriculum development process, we conducted a needs assessment to identify professional competencies related to digital curation and data management. We reviewed closely the Matrix of Digital Curation Knowledge and Competencies (Lee, 2009) developed by UNC's DigCCurr Project and the digital curation curricula developed by other LIS schools in the United States and other countries. We also analyzed digital curation and data management job advertisements to ensure that the competencies informing the curriculum were tied substantively to job skills or employment needs in the field (Kim, Warga, & Moen, 2013). These reviews and analyses helped us formulate the initial range of competencies for the four courses.

After compiling the competencies we then grouped them into the following seven categories: 1) Communication & Interpersonal Competency; 2) Curating and Preserving Content Competency; 3) Curation Technologies Competency; 4) Environmental Scanning Competency; 5) Management, Planning, and Evaluation Competency; 6) Services Competency; and 7) Systems, Models, and Modeling Competency. In each competency category we enumerated specific competency statements. For instance, the Curation Technologies Competency category includes specific competency statements, such as "Work in a variety of computing environments;" "Implement/configure/maintain digital content management systems;" "Identify/utilize software, tools, and applications that support curation activities;" etc.

These competency categories and their specific competency statements guided the statements of student learning outcomes for the whole curriculum and the specific courses that would address each learning outcome. It should be noted that the entire set of competencies is not taught as a whole in a single course, but rather specific competencies are addressed in one more courses. The four courses we developed in this project are intended to assist students in the attainment of the knowledge, skills, and abilities identified in each competency category; each course's objectives, contents, and assignments are designed to help students acquire the competencies and assess the extent to which they have been successful.<sup>5</sup>

Last, a final component included in curriculum development is the evaluation and assessment to measure the achievement of the competencies addressed by the courses. Even though assessment is deeply embedded at all stages of the students' learning process in each course, the effectiveness of the curriculum in helping students achieve all the identified competencies needs to be evaluated. One form this evaluation will take is via a portfolio through which students will document and represent their learning as it relates to the specific competencies they acquired through the courses. The portfolio is one of the assignments students need to complete in the fourth course, which will be offered in Fall 2013.<sup>6</sup>

## References

ALA (2009). *ALA core competences of librarianship*. Approved and adopted as policy by the ALA Council, January 27th 2009. Retrieved from <http://www.ala.org/educationcareers/sites/ala.org.educationcareers/files/content/careers/corecomp/corecompetences/finalcorecompstat09.pdf>

Fain, P. (2013, April 22). Credit without teaching. *Inside Higher Ed*. Retrieved from <http://www.insidehighered.com>

Fincher, C. (1986). Researching academic programs: An inquiry into an emerging field. In J. C. Smart (Ed.), *Higher education: A handbook of theory and research* (Vol. 2, pp. 275-308). New York, NY: Agathon Press.

Kim, J., Warga, E., & Moen, W. (2013). Competencies required for digital curation: An analysis of job advertisements. *The International Journal of Digital Curation*, 8(1), 66-83.

Lee, C. (2009). *Matrix of digital curation knowledge and competencies*. Retrieved from <http://www.ils.unc.edu/digccurr/digccurr-matrix.html>

Masters, G. N., & McCurry, D. (1990). *Competency based assessment in the professions*. Canberra: Australian Government Publishing Services.

Parry, M. (2013, April 18). Competency-based education advances with U.S. approval of program. *The Chronicle of Higher Education*. Retrieved from <https://chronicle.com>

Stoffle, C. J., & Pryor, J. M. (1980). Competency-based education and library instruction. *Library Trends*, 29(1), 55-68.

Thomas, C., Patel, S. I. (2008). Competency-based training for digital librarians: A viable strategy for an evolving workforce. *Journal of Education for Library and Information Science*, 49(4), 298-309.

Van der Klink, M. R., & Boon, J. (2002). The investigation of competencies within professional domains. *Human Resource Development International*, 5(4), 411-424.