Being evidence based in library and information practice
Denise Koufogiannakis and Alison Brettle

Chapter 9 - Academic Libraries

Mary M. Somerville and Lorie A. Kloda

Academic librarianship is well suited to evidence based library and information practice (EBLIP). In this chapter, we provide some context as to why this is the case – the rapidly changing role of academic libraries and librarians, as well as higher education institutions more generally. The knowledge base of evidence is described, both in terms of the types of research available and the size and scope of the available evidence. The knowledge base in academic librarianship is growing quickly, due to research on developing issues in higher education and academic libraries, as well as an increased focus on assessment and evaluation programs for continuous improvement and demonstrating value. We discuss the types of evidence sources available for academic librarians to draw on beyond the traditional journal article and conference presentation, and examine how librarians are creating evidence, in some cases by collaborating with those who work outside of libraries. Methods used by academic librarians for finding and using evidence to inform decision making are presented, along with considerations regarding organisational climate, or readiness for evidence based practice. Finally, we conclude with examples from the academic library sector of successfully applying the principles of EBLIP for informing changes to practice and transforming organisational processes.

The Changing Landscape and Growing Body of Evidence

The role of academic libraries and the practice of academic librarianship have been transformed in recent years by dramatic changes in both higher education and scholarly publishing. Print has transitioned increasingly to electronic and librarians have been vigilant in ensuring seamless access to online resources as well as encouraging their integration into discovery layers and learning management systems. In anticipation of emerging publication models and platforms with new licensing requirements, highly skilled experts in acquisition, discovery, and access are required. At the same time, conversations about learning management system features, including customisation and personalisation, have advanced student and researcher engagement with library resources in order to improve learning outcomes. Physical library facilities have also changed, increasingly employing participatory design methodologies with campus stakeholders, with a focus on users' needs. All of these changes have both drawn from and contributed to a growing body of research, making academic librarianship the ideal setting for evidence based library and information practice.

Changes in the way students and faculty members use information resources (e.g., Tenopir, King, Christian, & Volentine, 2015), and the reality that these users "expect more … [and are] demanding better libraries for today's complex world" (Lankes, 2012) places pressure on academic librarians to keep up with current needs and anticipate future needs. Accelerated demands are in part due to changing research practices within academic disciplines, as reported by Long & Schonfeld (2013) and Rutner & Schonfeld

(2012). Studies of academics in both the United Kingdom (Housewright, Schonfeld, & Wulfson, 2013) and the United States (Schonfeld & Housewright, 2013) reveal consistent trends that scholars increasingly use online resources but value traditional formats as well. They also note changing patterns in information searching practices, digital content adoption, and open access acceptance. In a similar fashion, surveys of students reveal disciplinary differences that produce wide variation in their perceptions, including the importance of searching, evaluation, processing, and communication-dissemination (Pinto & Sales, 2015). In order to ensure library relevance in the digital age, librarians should aspire "to enhance scholarly productivity, to empower learners, and to participate in the entire lifecycle of the research, teaching, and learning process" (Jaguszewski & Williams, 2013, p. 1). Growing acceptance of this ambitious mandate is reflected in association publications, research organisations, professional discourse, and library literature, as highlighted below.

In recent years, services have emerged in academic libraries in areas such as data curation, researcher profiles, digital scholarship, scholarly publishing, creative expression, impact measures, web development, government funding mandates (Kenney, 2014, p. 3), and digital humanities (Hartsell-Gundy, Braunstein, & Golomb, 2015). Research data management services are increasingly mentioned in both conferences and the literature (Rambo, 2015; Tenopir, Birch, & Allard, 2012). The domain of academic librarianship can therefore be seen as expanding to incorporate new roles, and the research evidence, along with skills for producing local evidence, emerging along with it (Passonneau & Erickson, 2014).

In response to this changing landscape, library professionals, often working collaboratively with other academic or industry professionals (Somerville, Schader, & Sack, 2012; Somerville & Conrad, 2013; Somerville & Conrad, 2014), have initiated varied investigations to better understand the information behaviour of various user groups. Studies to explore "how researchers really work" (Foster, 2014b, p. 4) intend to "enable us to design services to fit in the researcher's workflow, rather than the researcher attempting to understand or fit into ours" (Rambo, 2015, p. 9). This aspiration has produced a considerable body of research on researcher behaviour, using a variety of research methods to provide evidence on research behaviour of doctoral students (JISC & the British Library, 2012), personal learning environments (Caldwell, Bilandzic, & Foth, 2012), and data storage (Swauger & Vision, 2015). These explorations serve as an evidence base for user-centred systems and services in academic libraries.

A complementary line of inquiry has explored practical implications to improve the productivity and workflow of researchers (Favaro & Hoadley, 2014; Conrad & Somerville, 2013; Conrad, Leonard, & Somerville, 2015). Relatedly, given the migration to e-resources in academic libraries and trend of technology adoption throughout higher education (*Horizon Report*, 2015), library websites have become portals for discovery, access, and fulfilment. The emergence of discovery layer services have prompted studies comparing features and functions of these products (e.g., Asher, Duke, & Wilson, 2012). Other papers reporting local innovations have explored the topic of library website redesign (Deschenes, 2014; Woodfield & Lamond, 2015).

Meanwhile, a holistic critique of researcher experience challenges libraries to "develop a completely different approach to acquiring and licensing digital content, platforms, and services. They simply must move beyond the false choice that sees only the solutions currently available and instead push for a vision that is right for their researchers"

(Schonfeld, 2015, p. 13). This call for action coincides with the emergence of new conceptions of professional status that reflect a shift from autonomy to one of accountability (Eldredge, 2014). Within librarianship, this takes the form of decisions which reflect users' actual or potential needs and which are based on evidence, as illustrated in this vignette:

> In your role as collection resources development librarian you need to ensure that most of your users' needs for authoritative information are met most of the time, despite the constraints of a modest budget. You select collection resources using the EBLIP process knowing that you must be held accountable to others' for your decisions as part of the new professionalism. This transparency converges well with long-standing values of openness held by our profession. When others such as administrators or users request an explanation of your decisions, you can readily point to your EBLIP process that identified a body of applied research evidence found in the peer reviewed literature, past performance of the same types of resources by your user community, interlibrary loan request data on the same or similar titles, likely a cost-benefit analysis, and possibly even cohort or experimental studies. (Eldredge, 2014, n.p.)

In addition, there is a growing body of evidence to inform information literacy education. The published literature covers a wide breadth of topics showing the evolving discourse on information literacy models fortified by evidence-based practice, including topics such as embedded information literacy modules (Kavanagh, 2011), the connection between library instruction and academic success (Bowles-Terry, 2012), evaluation of digital information literacy (Sieberhagen & Cloete, 2012), and the impact of progressive librarian course collaborations (Booth, Lowe, Tagge, & Stone, 2015). Rather than focusing on the quantity of library instruction taking place in universities, as has traditionally been the case, research in this area has become more sophisticated. Instructional effectiveness in the library literature is increasingly measured in relation to educational impact, whether in terms of student retention, learning outcomes, or student performance (Stone, Pattern, & Ramsden, 2012; Soria, Fransen, & Nackerud, 2013; Eng & Stadler, 2015). In addition, there are three systematic reviews on the topic of effectiveness of information literacy instruction, and all conclude that online methods are as effective as face to face instruction (Weightman et al, 2015; Zhang et al, 2007; Koufogiannakis & Wiebe, 2006).

This assessment focus within academic librarianship aligns well with a corresponding trend within higher education. Whether driven by external circumstances, such as higher education accreditation or external program review processes, or by an organisationally inspired desire to improve, library leaders and managers are expected to plan and implement both comprehensive and targeted evaluations of their impact, services, resources, programs, virtual and physical spaces, and partnerships. This is demonstrated in an overview commissioned by the ACRL in the United States, "Value of academic libraries: A comprehensive research review and report" (Oakleaf, 2010). Notable individual studies examine and provide evidence of the library's value to the grants process (Tenopir, 2010) and to research and researchers in terms of their papers and grants awarded (RIN& RLUK, 2011) or research achievement outputs (Noh, 2012).

Evidence Sources for Practice

Sources of evidence cited in academic library scholarship reveal considerable variation in what is deemed authoritative, especially given the diversity of circumstances within local contexts. Resources include traditional methods of scholarly communication such as journals and conferences (including published proceedings) as well as pertinent research reports in the field of library and information practice and, more broadly, in related disciplines such as the fields of education, management, and communications. Academic librarians and other professionals working in academic libraries also use other sources of evidence for decision making, such as internal reports, annual reports, institutional statistics, assessment data, usability results, and staff expertise, as well as anecdotal evidence gathered from users through internal feedback mechanisms and social media. Such varied, nuanced, and multi-faceted sources of evidence acknowledge the changing nature of learning, teaching, and research in the contemporary university.

In response to today's rapidly changing circumstances, library practitioners and other researchers have produced abundant sources of evidence for evidence-based decision making in contemporary academic library workplaces (Turcios, Agarwal, & Watkins, 2014), though the extent these are used is still not well understood, Research syntheses, such as systematic reviews, summarise the quantity and quality of published research on a variety of topics pertinent to librarianship (Koufogiannakis & Brettle, 2015). In characterising the professional information landscape, the Library and Information Research Group (LIRG), a Special Interest Group of the Chartered Institute of Library and Information Professionals (CILIP) in the United Kingdom, conducted a scoping review to map the practitioner literature. Findings noted a "significant portion" of the papers analysed were case reports or qualitative in nature, with a noticeable number of a studies employing bibliometrics (Buckley Woods & Booth, 2014). Across the Atlantic, a study of journal publications authored by faculty from Canadian LIS departments reported that a minority of the 142 research articles published between 2008 and 2012 were co-authored by practitioners (Koufogiannakis, Wilson, & Kloda, 2015), which may influence perceived relevance to library settings and therefore impede "transferring evidence into practice" (Kloda, Koufogiannakis, & Mallan, 2011, n.p.).

A 2008 study found little use of assessment data by large research libraries, noting that many staff members preferred to "rely on their own assumptions and past practices to make decisions" (Hiller, Kyrillidou & Self, 2008, p. 228). In contrast, another study found that directors of three libraries used evidence as part of their decision making, particularly in relation to usage and service quality, and that this practice was also mirrored by staff members at other levels of the organization. In addition to maintaining local data, managers at the institutions studied also sought out supplementary information via surveys, interviews, and informal conversations (Casey, 2011). As the trend for assessment in libraries grows, it can be expected that use of local assessment data to complement published research will grow as well.

A seminal article published in 2000, titled "Academic librarians as practitioner-researchers" (Watson-Boone, 2000), introduced the notion of practitioner-researcher and practice-based problem solving into library discourse (for more on this see Chapter 8). Three years later, a paper titled "Leadership competencies and the importance of research methods and statistical analysis in decision making and research and publication: A study of citation patterns" (Williams & Winston, 2003) corroborated the use

of statistical analysis and analytical abilities by academic librarians and administrators. As further explained in an article on integrating research into practice, "In a rapidly changing world where continuous learning and adapting is an inescapable fact of professional life, research is no longer an exclusive privilege held by the domain of the academy, but is a part of the working world" (Luo, 2011).

It follows that in the 21st Century, research is viewed as essential to organisational effectiveness and work practice – i.e., "from practice to research to practice" (*IMLS Focus: Learning in Libraries*, 2015, pp. 9-10). This recognition has led to more practitioners consuming and producing research-generated evidence for decision making, action taking, professional development, and current awareness, among other reasons. These varying applications, situated within local circumstances, require "information related skills" (Marcum, 2015, p. 3) which are often best exercised within multi-disciplinary teams. Academic librarians are therefore required to engage in conversations with colleagues inside and outside the library in order to encourage the use of published research, as well as other forms of evidence, into decision making for the institution. Examples of such cross-functional innovations include Warren's (2015) paper on designing an evidence based intranet, and Browning's (2015) analysis of e-resource access problems.

Since contemporary evidence based learning initiatives typically require expertise from multiple disciplines, library professionals regularly engage – and publish – with other academic professionals. In this spirit, an especially promising school of thought at the Queensland University of Technology iSchool advances the study of 'using information to learn', known as Informed Learning (Bruce, 2008), across a broad range of disciplines and industries. Recent studies explore information experience of web professionals (Sayyad Abdi, Partridge, & Bruce, 2013) and university students (Maybee, 2014; Maybee, Bruce, Lupton, & Rebmann, 2013). Often employing qualitative methods such as phenomenography and grounded theory (Hughes, 2014), a growing network of information experience researchers around the world draw insights from evidence sources that serve to complement research publications, local assessment, evaluation projects, "best practices", and professional anecdotes as evidence in applied settings.

A groundbreaking study on academic librarians' conceptions of evidence revealed nine perceived types organised into two broader categories: hard evidence and soft evidence (Koufogiannakis, 2012b). Hard evidence is typically thought of as research evidence in the scientific sense, and takes the form of a publication and "often vetted through an outside body" (p. 10). Five types of hard evidence include: published literature, statistics, local research and evaluation, other documents (such as websites and blogs), and facts. Soft evidence is non-scientific in nature and "focus[es] on experience and accumulated knowledge, opinion, instinct, and what other libraries or librarians do" (p. 11). The four types of soft evidence identified were: input from colleagues, tacit knowledge, feedback from users, and anecdotal evidence. Koufogiannakis' categorization has been reworked and used as the basis for Chapter 4 (*Assemble*) of this book. The rich variation in possible data sources offers multi-perspectival viewpoints, in many cases formulated both with and for user constituencies served, including "learning from others about research evidence" (Brettle, 2012, p. 1).

For instance, as the purpose of library space in the university has shifted from being a place to store print collections to flexible environments for individual and collaborative learning, research has focused on uncovering "everything we can learn right now about

the work practices of the people who already use them" (Foster, 2014a, p. 2). Illustrative of this trend are reports on participatory action research (Somerville & Brown-Sica, 2011), and other studies incorporating library users as partners in the research process (Ojennus & Watts, 2016; Tevaniemi, Poutanen, & Lähdemäki, 2015; Yoo-Lee, Lee, & Valez, 2013). These examples illustrate the efficacy of engaging users in the design process as co-creators of their learning spaces.

Finding and using evidence

Just as the times call for heightened use of evidence, so too are librarians expressing more sophisticated means of conceptualising and incorporating evidence into professional work. A doctoral study found academic librarians demonstrated the need to evaluate all sources of available evidence before selecting the evidence on which to base their decisions (Koufogiannakis, 2013b). They also employed multiple means to find evidence. Proactive methods for finding evidence include pulling (i.e., searching the literature), creating (e.g., conducting an evaluation study), and reflecting (e.g., drawing on prior experience and knowledge). Passive methods for finding evidence, according to the study, include pushing (e.g., social media feeds) and serendipitous discovery (i.e., accidentally coming across a relevant publication) (Koufogiannakis, 2013b).

The same study also found that academic librarians primarily use evidence in order to convince themselves and others (Koufogiannakis, 2013a). In the first instance, librarians obtain evidence in order to confirm their current way of thinking, or a decision. In the second instance, librarians obtain evidence in order to influence their colleagues and other stakeholders and in order to influence decision making at the organisational level. EBLIP in this context can therefore assist in reaching consensus among various interested parties, as decision making in academic libraries typically involves consultation with both professional and support staff. The ways in which academic librarians actually use evidence is mediated by determinants (Koufogiannakis, 2015) that behave as either enablers to evidence-based practice or as barriers. Factors include the dynamics of the organisation, the amount of time available to the librarian, a librarian's own personal outlook, as well as their education and training. In an academic setting, librarians can control some of the more intrinsic determinants, such as personal outlook and training. Other determinants, such as organisational dynamics, are less amenable to change in the short term in large institutions such as university libraries.

The climate for being evidence based

"While finding and appraising the evidence base for information practice carry their own challenges, it is implementation that poses a greater challenge to the evidence-based practice movement" (Booth, 2003, p.13). In other words, simply having evidence is not enough. Librarians also need to consider strategies to diffuse research-generated ideas into organisations for adoption and adaption by individual practitioners (Dalrymple, 2010). Ultimately, in order to make sustainable changes, evidence-based practices must be integrated into day-to-day workflows (Booth, 2009). Such fundamental transformation in workplace culture requires that, over time and with practice, as co-workers design and enact information-focused and evidence-based learning experiences, they learn the way to decision-making and action-taking (Somerville, 2015a).

Amidst considerable variation within academic libraries, some 'lessons learned' have emerged about conditions that foster evidence-based practices. The "structure and

function of an organization, including the behaviour of individuals and groups" (Koufogiannakis, 2013b, p. 143) that determine the organisational dynamics, consistently emerge as a factor in organisational barriers and facilitators (Booth, 2011) in evidence-based practice. EBLIP flourishes "when the culture of the organization is generally felt to be positive and one that is open-minded with respect to decision making" (Koufogiannakis, 2013b, p. 143). Positive determinants of effective decision making and evidence use in turn depend on leadership to ensure "the culture of the organization is one which allows open discussion, input, and values the use of evidence in decision-making," (Koufogiannakis, 2013b, p. 146). Enabling conditions for thought leadership and workplace learning also require enabling internal communication and professional practices that intentionally foster and support collegial inquiry. Then, with intentionality, co-workers can co-create information experiences and organisational knowledge through evidence-based practice. Collective capacity is enlivened, as evidence based activities inform decisions, produce improvements, and sustain relationships (Mirijamdotter, 2010; Somerville & Chatzipanagiotou, 2015; Somerville, 2015b).

Research in recent years has elevated recognition of the importance of organisation-wide conditions for learning:

> Understanding that librarians use evidence to convince, allows an entire organization to look more completely at what the pertinent forms of evidence contribute to the decision, to weigh those pieces of evidence, and to make a decision that is more transparent. The use of evidence for convincing illustrates the complexity of decision making, particularly within academic libraries, and points to the fact that evidence sources do not stand alone, and are not enough in and of themselves. The EBLIP process must account for the human interactions and organisational complexity within which decisions are made (Koufogiannakis, 2013a, p. 11).

Local evidence practices and processes vary considerably because "what makes sense in one setting can make a different sense in another" (Davies, Nutley, & Walter, 2008, p. 190). Therefore, organisational decision making and action taking require leadership oversight of interactions between new knowledge and shifting contexts, supported by workplace practices that guide and move collective thinking forward. Over time and with practice, academic librarians and support staff learn, both formally and informally, to engage with evidence, incorporate it into their decision making, and ultimately create evidence (Somerville, 2015b). "Knowledge and understanding are thereby learned through the active function of practice by an individual, within the larger body of practice" (Koufogiannakis, 2013b, p. 166) which can exist within the workplace, where local context is very important, or at a broader level among colleagues at other institutions.

Application of EBLIP Principles in Academic Libraries

As the following examples reveal, rich illustrations from the international academic library literature around the world support the customisation of EBLIP principles and practices to local circumstances. Examples range in scope from project-based initiatives to holistic organisational transformation.

Library redesign

At the Tempere University of Technology in Finland, librarians employed an innovative approach to redesigning facility spaces in 2014 using a collaborative model of decision making and implementation (Tevaniemi, Poutanen, & Lähdemäki, 2015). The aim was to transition library space from an "information commons" to a multi-functional "learning commons". Their collaborative design process was informed by research on academic library spaces and architectural design principles. In addition, they invited architecture student expertise, library staff expertise, and library user preferences, with these intentions:

> "the co-design approach enabled the library staff to collaborate in the university's teaching process and with the patrons of the library. Although collaborative design can be interpreted in various ways, in this case it was seen as staff and patrons constructing knowledge together with the architects. The idea was that all parties are essential parts of the outcome, rather than commenters on ready-made designs" (p. 6).

Project success was defined as enabling participants to co-create new spaces and evaluate their effectiveness for library users at the Tempere University of Technology. In addition, participants gained new knowledge (or evidence) about the use of the library spaces and experience in redesigning library space on a reduced budget and tight schedule.

Change management and professional development

Since 2008 the Royal Melbourne Institute of Technology (RMIT) University Library has produced strategic and evidence based cultural change that enables positive organisational responses to the demands of a changing environment (Leong & Anderson, 2012). An holistic approach to professional development provides training throughout a library employee's career to produce a unified learning culture at all library sites. This intentional workplace learning encourages cross unit collaboration and interdisciplinary work experiences, fosters leadership skills and group work, and enables technology innovation and knowledge sharing (Leong, 2014). Learning aspirations in the RMIT Library occur within the larger University 'behavioural capacity framework' which, since 2011, values resilience, connectedness, commitment to excellence (continuous improvement), innovation, outcomes focus, and open thinking. The alignment of training and education opportunities with the University's goals and the Library's goals are ensured through routinely collected evidence, including participants' reaction, learning, and behaviour feedback. Results are assessed through client surveys that recognise: "Probably the most important strategy for inspiring and motivating an entire organization to move quickly and empathetically toward becoming a learning organization is to link increased learning with increased organizational success" (Marquardt, 2011).

Informed Systems approach for an evidence-based workplace

Across the Pacific Ocean in Denver, Colorado, USA, an Informed Systems approach offers an information focused and systems enabled approach for 'working together' (Somerville, 2009) in contemporary organisations. With a focus on evidence-based activities to make decisions and take actions, an Informed Systems Leadership Model and Collaborative Evidence-Based Information Process Model guide co-workers as they learn to make informed decisions by identifying the decisions to be made and the

information required for those decisions. This is accomplished through collaborative design and iterative evaluation (Somerville, Rogers, Mirijamdotter, & Partridge, 2007) of workplace systems, relationships, and practices, in development for over a decade (Somerville, 2015b). Over time, increasingly effective and efficient structures and processes for using information to learn further organisational renewal and advance nimble responsiveness (Somerville & Chatzipanagiotou, 2015). Practical outcomes include discovery layer customisation (Somerville, 2013), technical services reorganization (Pan & Howard, 2009), holistic facility co-design (Somerville & Brown-Sica, 2011), and organisational culture revitalisation (Pan & Howard, 2010).

Informed Systems thereby enables and enlivens workplace possibilities. Inclusive participatory design principles create organisational communication, decision-making, and planning systems with associated professional practices that further information exchange to inform 'action to improve' (Somerville & Howard, 2010). High-level theory guides processes for intuiting, interpreting, integrating, and institutionalising knowledge within individuals and among groups. An intentional culture of collaborative evidence-based information practice is grounded in workplace processes for collaborative design of organisational elements that ensure sustainable communication and, hence, collective learning through information exchange, reflective dialogue, and knowledge creation for 'learning in action' (Somerville, 2015b).

Conclusion: Being Evidence Based in Academic Librarianship

So what does *being evidence based* mean for today's academic librarians working in higher education institutions across the world dealing with huge changes in the way information is delivered and used? To remain relevant, libraries must provide services responsive to various users with differing information-seeking needs and behaviour. As illustrated by the vast literature surveyed above, an abundance of resources exist from which to draw in reframing problem domains for 'learning in action' (Somerville, 2015b) and, in the spirit of continuous improvement, 'assessment in action" (American Library Association, 2012). This necessarily requires heightened levels of engagement and learning *with and for* the users served.

EBLIP ranges from researcher-practitioners conducting studies to better understand their situation to organisational leaders creating conditions for workplace learning and, therein, building capacity. Throughout this continuum, research-to-practice strategies (Wilson, 2010) are required for enabling librarians and support staff who are committed to using evidence for informed decision making. Organisations that adopt evidence-based processes can create transformative results. 'Using information to learn' (Bruce, 2008) can "situate research, knowledge, production, and information sharing as ways to engage not simply with isolated bits of information or abstracted ideas, but also with relationships between sources, ideas, and the individuals who create, exchange, and interact with those ideas" (Baer, 2015, n.p.). Academic libraries, located within the academy, are positioned for both the use and production of evidence, and librarians have capitalised on this opportunity which aligns well with the knowledge creation mission of higher education.

References

Asher, A. D., Duke, L. M., & Wilson, S. (2013). Paths of discovery: Comparing the search effectiveness of EBSCO Discovery Service, Summon, Google Scholar, and conventional library resources. *College & Research Libraries*, 74(5), 464-488. Retrieved from http://crl.acrl.org/content/74/5/464.full.pdf+html

American Library Association. (2012). *Academic libraries and student success: Assessment in action.* Retrieved from http://www.ala.org/acrl/AiA

Baer, A. (2015). *Keeping up with … digital writing in the college classroom.* Chicago, IL: Association of College & Research Libraries. Retrieved from http://www.ala.org/acrl/publications/keeping_up_with/digital_writing

Booth, A. (2003). Bridging the research-practice gap? The role of evidence based librarianship. *The New Review of Information and Library Research*, *9*(1), 3-23. Doi: 10.1080/13614550410001687909

Booth, A. (2009). Eleven steps to EBLIP service. *Health Information and Libraries Journal*, *26*(2), 81-84. doi: 10.1111/j.1471-1842.2008.00836

Booth, A. (2011). Barriers and facilitators to evidence-based library and information practice: An international perspective. *Perspectives in International Librarianship, 1*. DOI: 10.5339/pil.2011.1

Booth, C., Lowe, M. S., Tagge, N., & Stone, S. M. (2015). Degrees of impact: Analyzing the effects of progressive librarian course collaborations on student performance. *College & Research Libraries*, *76*(7), 623-651. Retrieved from http://crl.acrl.org/content/76/5/623.full.pdf+html

Bowles-Terry, M. (2012). Library instruction and academic success: A mixed-methods assessment of a library instruction program. *Evidence-based Library and Information Practice, 7*(1), 82-95. Retrieved from https://ejournals.library.ualberta.ca/index.php/EBLIP/article/view/12373

Brettle, A. (2012). Learning from others about research evidence. *Evidence Based Library and Information Practice, 7*(2), 1-3. Retrieved from https://ejournals.library.ualberta.ca/index.php/EBLIP/article/view/17388/14056

Browning, S. (2015). Data, data, everywhere, nor any time to think: DIY analysis of e-resource access problems. *Journal of Electronic Resources Librarianship*, *27*(1), 26-34. doi: 10.1080/1941126X.2015.999521

Bruce, C. S. (2008). *Informed learning.* Chicago, IL: Association of College & Research Libraries/American Library Association.

Buckley Woods, H., & Booth, A. (2014). What is the current state of practitioner research? The 2013 LIRG Research Scan. *Library and Information Research*, *37*(116), 2–22.

Caldwell, G., Bilandzic, M., & Foth, M. (2012). Towards visualising people's ecology of hybrid personal learning environments. In Brynskov, M. (Ed.), *Proceedings of the Media Architecture Biennale 2012, Association for Computing Machinery (ACM)*, Aarhus, Denmark, pp. 13-22. doi: 10.1145/2421076.2421080

Casey, A. M. (2011). *Strategic priorities and change in academic libraries* (Doctoral dissertation, Simmons College Graduate School of Library and Information Science). Retrieved from http://dspace.nitle.org/handle/10090/23309

Conrad, L. Y., & Somerville, M. M. (2013). Blazing new paths: Charting advanced researcher patterns. *Proceedings of the Association of College & Research Libraries Conference (ACRL 2013)*, Indianapolis, Indiana. Retrieved from http://www.ala.org/acrl/sites/ala.org.acrl/files/content/conferences/confsandprec onfs/2013/papers/ConradSomerville_Blazing.pdf

Conrad, L. Y., Leonard, E., & Somerville, M. M. (2015). New pathways in scholarly discovery: Understanding the next generation of researcher tools. *Proceedings of the Association of College & Research Libraries Conference (ACRL 2015)*, Portland, Oregon. Retrieved from http://www.ala.org/acrl/sites/ala.org.acrl/files/content/conferences/confsandpreco nfs/2015/Conrad_Leonard_Somerville.pdf

Dalrymple, P. (2010). Applying evidence in practice: What we can learn from healthcare. *Evidence Based Library and Information Practice, 5*(1), 43-47.

Davies, H., Nutley, S., & Walter, I. (2008). Why 'knowledge transfer' is misconceived for applied social research. *Journal of Health Services Research*, *13*(3), 188-190. doi: 10.1258/jhsrp.2008.008055

Deschenes, A. (2014). Improving the library homepage through user research – Without a total redesign. *Weave: Journal of Library User Experience*, 1(1). Retrieved from http://quod.lib.umich.edu/w/weave/12535642.0001.102/--improving-the-library-homepage-through-user-research-without?rgn=main;view=fulltext

Eldredge, J. D. (2014). The evolution of evidence based library and information practice. Part III: Revitalizing the profession through EBLIP. *Evidence Based Library and Information Practice, 9*(1). Retrieved from https://ejournals.library.ualberta.ca/index.php/EBLIP/article/view/21258/16208

Eng, S., & Stadler, D. (2015). Linking library to student retention: A statistical analysis. *Evidence Based Library and Information Practice, 10*(3), 50-63.

Favaro, S., & Hoadley, C. (2014). The changing role of digital tools and academic libraries in scholarly workflows: A review. *Nordic Journal of Information Literacy in Higher Education*, *6*(1), 23-38. doi: 10.15845/noril.v6i1.174

Foster, N. F. (2014a). *Designing a new academic library from scratch*. New York, NY: Ithaka S+R. Retrieved from http://www.sr.ithaka.org/wp-content/uploads/2014/02/SR_Designing_Issue-Brief_20140213.pdf

Foster, N. F. (2014b). *Information literacy and research practices*. New York, NY: Ithaka S+R. Retrieved from http://www.sr.ithaka.org/wp-content/uploads/2014/11/SR_Briefing_Information_Literacy_Research_Practices_20141113.pdf

Hartsell-Gundy, A., Braunstein, L., & Golomb, L. (2015). *Digital humanities in the library: Challenges and opportunities for subject specialists*. Chicago: IL: Association of College & Research Libraries.

Hiller, S., Kyrillidou, M., & Self, J. (2008). When the evidence is not enough: Organisational factors that influence effective and successful library assessment. *Performance Measurement and Metrics*, *9*(3), 223-230. doi: 10.1108/14678040810928444

Horizon Report, 2015 Library Edition. (2015). Austin, TX: New Media Consortium. Retrieved from http://www.nmc.org/publication/nmc-horizon-report-2015-library-edition/

Housewright, R., Schonfeld, R. C., & Wulfson, K. (2013). *Ithaka S+R | Jisc | RLUK UK Survey of Academics 2012*. Retrieved from http://www.sr.ithaka.org/publications/ithaka-sr-jisc-rluk-uk-survey-of-academics-2012/

Hughes, H. (2014). Researching information experience: Methodological approaches. In Bruce, C., Davis, K., Hughes, H., Partridge, H., & Stoodley, I. (Eds.) *Information experience: Approaches to theory and practice.* Bingley, England: Emerald Group Publishing, Bingley, 33-50. Retrieved from http://eprints.qut.edu.au/77895/1/Hughes-Researching-eprint.pdf

IMLS Focus: Learning in Libraries. (2015). Washington, D.C.: Institute of Museum and Library Services. Retrieved from https://www.imls.gov/publications/imls-focus-summary-report-learning-libraries

Jaguszewski, J. M., & Williams, K. (2013). *New roles for new times: Transforming liaison roles in research libraries*. Washington, D.C.: Association of Research Libraries. Retrieved from http://www.arl.org/publications-resources/2893-new-roles-for-new-times-transforming-liaison-roles-in-research-libraries

JISC & the British Library. (2012). *Researchers of tomorrow: The research behavior of Generation Y doctoral students*. London: JISC & the British Library. Retrieved from http://www.webarchive.org.uk/wayback/archive/20140614040703/http://www.jisc.ac.uk/publications/reports/2012/researchers-of-tomorrow.aspx

Kavanagh, A. (2011). The evolution of the embedded information literacy module: Using student feedback and the research literature to improve student performance. *Journal of Information Literacy, 5*(1), pp. 5-22. Retrieved from http://ojs.lboro.ac.uk/ojs/index.php/JIL/article/view/LLC-V5-I1-2011-1

Kenney, A. R. (2014). *Leveraging the liaison model: From defining 21st century research libraries to implementing 21st century research universities.* New York, NY:

Ithaka S+R. Retrieved from http://www.sr.ithaka.org/blog/leveraging-the-liaison-model-from-defining-21st-century-research-libraries-to-implementing-21st-century-research-universities/

Kloda, L. A., Koufogiannakis, D., & Mallan, K. (2011). Transferring evidence into practice: what evidence summaries of library and information studies research tell practitioners. *Information Research, 16*(1), paper 465. Retrieved from http://www.informationr.net/ir/16-1/paper465.html

Koufogiannakis, D. (2012b). Academic librarians' conception and use of evidence sources in practice. *Evidence Based Library and Information Practice*, *7*(4), 5–24. Retrieved from https://ejournals.library.ualberta.ca/index.php/EBLIP/article/view/18072

Koufogiannakis, D. (2013a). Academic librarians use evidence for convincing. *SAGE Open*, *3*(2). doi: 10.1177/2158244013490708

Koufogiannakis, D. (2013b). *How academic librarians use evidence in their decision making: Reconsidering the evidence based practice model.* Dissertation, Aberystwyth University, Wales. Retrieved from http://cadair.aber.ac.uk/dspace/handle/2160/12963

Koufogiannakis, D. (2015). Determinants of evidence use in academic librarian decision making. *College & Research Libraries, 76*(1), 100-114. doi:10.5860/crl.76.1.100

Koufogiannakis, D., & Brettle, A. Systematic reviews in LIS: Identifying evidence and gaps for practice. *Eighth International Evidence Based Library and Information Practice Conference (EBLIP8) – Evidence and Practice: Working Together*, July 6-8, 2015, Brisbane, Australia.

Koufogiannakis, D., & Wiebe, N. (2006). Effective methods for teaching information literacy skills to undergraduate students: A systematic review and meta-analysis. *Evidence Based Library and Information Practice, 1*(3): 3-43.

Koufogiannakis, D., Wilson, V., & Kloda, L. (2015). Canadian LIS faculty research: Linked to library practice? *Eighth International Evidence Based Library and Information Practice Conference (EBLIP8) – Evidence and Practice: Working Together*, July 6-8, 2015, Brisbane, Australia.

Lankes, R.D. (2012). Expect more. Demanding better libraries for today's complex world. Retrieved from http://quartz.syr.edu/blog/?page_id=4598

Leong, J. (2014). Purpose-driven learning for library staff. *The Australian Library Journal*, *63*(2), 108-117. doi: 10.1080/00049670.2014.898236

Leong, J., & Anderson, C. (2012). Fostering innovation through cultural change. *Library Management, 33*(8/9), 490-497. doi: 10.1108/01435121211279858

Long, M., P., & Schonfeld, R. C. (2013). *Supporting the changing research practices of chemists*. New York, NY: Ithaka S+R. Retrieved from

http://www.sr.ithaka.org/publications/supporting-the-changing-research-practices-of-chemists/

Luo, L. (2011). Fusing research into practice: The role of research methods education. *Library & Information Science Research, 33*, 191-201. doi: 10.1016/j.lisr.2010.12.001

Marcum, D. (2015). *Talent management for academic libraries: Issue brief*. New York, NY: Ithaka S+R. Retrieved from http://www.sr.ithaka.org/wp-content/mig/files/SR_Issue_Brief_Talent_Management_for_Academic_Libraries090115.pdf

Marquardt, M. J. (2011). *Building the learning organization: Achieving strategic advantage through a commitment to learning*. 3rd ed. Boston, MA: Nicolas Brealey.

Maybee, C. Bruce, C. S., Lupton, M., & Rebmann, K. (2013). Using information to learn: Informed learning in the higher education classroom. *Library and Information Science Research*, *35*(3), 200-206. Retrieved from http://docs.lib.purdue.edu/cgi/viewcontent.cgi?article=1035&context=lib_fsdocs

Maybee, C. (2014). Experiences of informed learning in the undergraduate classroom. In Bruce, C. S., David, K., Hughes, H., Patridge, H. L., & Stoodley, I. (Eds.). *Information experience approaches to theory and practice*. Emerald Group Publishing, pp. 259-271.

Mirijamdotter, A. (2010). Toward collaborative evidence based information practices: Organization and leadership essentials. *Evidence Based Library and Information Practice*, *5*(1), 17–25. Retrieved from https://ejournals.library.ualberta.ca/index.php/EBLIP/article/view/7221

Noh, Y. (2012). The impact of university library resources on university research achievement outputs. *Aslib Proceedings*, *64*(2), 109-133. doi: 10.1108/LHTN-07-2013-0046

Oakleaf, M. (2010). *Value of academic libraries: A comprehensive research review and report*. Chicago, IL: Association of College & Research Libraries. Retrieved from http://www.ala.org/acrl/sites/ala.org.acrl/files/content/issues/value/val_report.pdf

Ojennus, P, & Watts, K. A. (2016). User preferences and library space at Whitworth University Library. *Journal of Librarianship and Information Science*, [published online ahead of print]] doi: 10.1177/0961000615592947

Pan, D., & Howard, Z. (2009). Reorganizing a technical services division using collaborative evidence-based information practice at Auraria Library. *Evidence Based Library and Information Practice*, *4*(4), 88-94. Retrieved from https://ejournals.library.ualberta.ca/index.php/EBLIP/article/view/6516/5869

Pan, D., & Howard, Z. (2010). Distributing leadership and cultivating dialogue with collaborative EBLIP. *Library Management, 31*(7), 494-504.

Passonneau, S., & Erickson, S. (2014). Core competencies for assessment in libraries: A review and analysis of job postings. *Library Leadership & Management, 28*(4), 1-19. Retrieved from https://journals.tdl.org/llm/index.php/llm/article/view/7080

Pinto, M., & Sales, D. (2015). Uncovering information literacy's disciplinary differences through students' attitudes: An empirical study. *Journal of Librarianship and Information Science, 47*(3), 204-215. doi: 10.1177/0961000614532675

Rambo, N. (2015). *Research data management roles for libraries*. New York, NY: Ithaka S+R. Retrieved from http://www.sr.ithaka.org/publications/research-data-management/

Research Information Network & Research Libraries UK. (2011). *The value of libraries for research and researchers*. London, England: RIN & RLUK. Retrieved from http://www.rluk.ac.uk/wp-content/uploads/2014/02/Value-of-Libraries-report.pdf

Rutner, J., & Schonfeld, R. C. (2012). *Supporting the changing research practices of historians*. New York, NY: Ithaka S+R. Retrieved from http://www.sr.ithaka.org/publications/supporting-the-changing-research-practices-of-historians/

Sayyad Abdi, E., Partridge, H., & Bruce. C. S. (2013). Website designers: How do they experience information literacy? *The Australian Library Journal, 62*(1), 40-52. doi: 10.1080/00049670.2013.771767

Schonfeld, R. C. (2015). *Meeting researchers where they start: Streamlining access to scholarly resources*. New York: Ithaka S+R. Retrieved from http://www.sr.ithaka.org/publications/meeting-researchers-where-they-start-streamlining-access-to-scholarly-resources/

Schonfeld, R. C., & Housewright, R. (2013). *US Faculty Survey 2012*. New York: Ithaka S+R. Retrieved from http://www.sr.ithaka.org/publications/us-faculty-survey-2012/

Sieberhagen, A., & Cloete, L. (2012). The evaluation of a digital information literacy program. *South African Journal of Libraries & Information Science*, 20-41. doi: 10.7553/80-2-33

Somerville, M. M. (2009). *Working together – Collaborative information practices for organizational learning*. Chicago: Association of College & Research Libraries/American Library Association.

Somerville, M. M. (2013). Digital Age discoverability: A collaborative organizational approach. *Serials Review*, 39(4), 234-239. doi: 10.1016/j.serrev.2013.10.006

Somerville, M. M. (2015a). Adopting Informed Systems learning theory: How 21st century organizations can move from theory to practice. *Strategic Library*, issue 20 (September), 11-15.

Somerville, M. M. (2015b). *Informed Systems*. Oxford, England: Chandos Publishing.

Somerville, M. M., & Brown-Sica, M. (2011). Library space planning: A participatory action research approach. *The Electronic Library, 29*(5), 669-681. doi: 10.1108/02640471111177099

Somerville, M. M., & Chatzipanagiotou, N. (2015). Informed Systems: Enabling collaborative evidence based organizational learning. *Evidence Based Library and Information Practice, 10*(4), 24-39. Retrieved from https://ejournals.library.ualberta.ca/index.php/EBLIP/article/view/25326

Somerville, M. M., & Conrad, L. Y. (2014). *Collaborative improvements in the discoverability of scholarly content: Accomplishments, aspirations, and opportunities.* A SAGE White Paper. Los Angeles: SAGE Publications Ltd. doi: 10.4135/wp140116.

Somerville, M. M., & Conrad, L. Y. (2013). Discoverability challenges and collaboration opportunities within the scholarly communications ecosystem: A SAGE white paper update. *Collaborative Librarianship*, 5(1), 29-41. Retrieved from http://collaborativelibrarianship.org/index.php/jocl/article/viewFile/240/181

Somerville, M. M., & Howard, Z. (2010). 'Information in context': Co-designing workplace structures and systems for organisational learning. *Information Research, 15*(4): paper 446. Retrieved from http://InformationR.net/ir/15-4/paper446.html

Somerville, M. M., Rogers, E., Mirijamdotter, A., & Partridge, H. (2007). Collaborative evidence-based information practice: The Cal Poly digital learning initiative. In E. Connor (Ed.), *Evidence-Based Librarianship: Case Studies and Active Learning Exercises* (pp. 141-161). Oxford, England: Chandos Publishing.

Somerville, M. M., Schader, B. J., & Sack, J. R. (2012). *Improving the discoverability of scholarly content in the Twenty-First Century: Collaboration opportunities for librarians, publishers, and vendors*. A SAGE White Paper. Los Angeles: SAGE Publications Ltd. Retrieved from http://www.sagepub.com/repository/binaries/librarian/DiscoverabilityWhitePaper/

Soria, K. M., Fransen, J., & Nackerud, S. (2013). Library use and undergraduate student outcomes: New evidence for students' retention and academic success. *portal: Libraries and the Academy*, 13(2), 147-164.

Stone, G., Pattern, D., & Ramsden, B. (2012). Library impact data project: hit, miss or maybe. In: *Proving Value in Challenging Times: Proceedings of the 9th Northumbria International Conference on Performance Measurement in Libraries and Information Services*. York: University of York. pp. 385-390.

Swauger, S., & Vision, T. J. (2015). What factors influence where researchers deposit their data?

A survey of researcher submissions to data repositories. *International Journal of Digital Curation*, *10*(1), 68-81. doi: 10.2218/ijdc.v10i1.289

Tenopir, C. (2010). *University investments in the library, phase II: An International study of the Library's value to the grants process*. Library Connect White Paper. San Diego: Elsevier. Retrieved from http://libraryconnect.elsevier.com/university-investment-library-phase-ii-international-study-librarys-value-grants-process-2010

Tenopir, C., Birch, B., & Allard, S. (2012). *Academic libraries and research data services: Current practices and plans for the future*. Chicago: Association of College & Research Libraries. Retrieved from http://www.ala.org/acrl/sites/ala.org.acrl/files/content/publications/whitepapers/Tenopir_Birch_Allard.pdf

Tenopir, C., King, D. W., Christian, L., & Volentine, R. (2015). Scholarly article seeking, reading, and use: A continuing evolution from print to electronic in the sciences and social sciences. *Learned Publishing*, *28*(2), 93-105. doi: 10.1045/november2008-tenopir

Tevaniemi, J., Poutanen, J., & Lähdemäki, R. (2015). Library as a partner in co-designing learning spaces: A case study at Tampere University of Technology, Finland. *New Review of Academic Librarianship*, 21(3), 304-324. doi: 10.1080/13614533.2015.1025147

Turcios, M. E., Agarwal, N. K., & Watkins, L. (2014). How much of library and information science literature qualifies as research? *The Journal of Academic Librarianship*, *40*(5), 473–479. doi: 10.1016/j.acalib.2014.06.003

Warren, R. (2015). Staff as users: Designing an evidence based intranet. *Eighth International Evidence Based Library and Information Practice Conference (EBLIP8) – Evidence and Practice: Working Together*, July 6-8, 2015, Brisbane, Australia.

Watson-Boone, R. (2000). Academic librarians as practitioner-researchers. *The Journal of Academic Librarianship*, *26*(2), 85-93.

Weightman, A.L., Farnell, D.J., Morris, D., Strange, H. (2015). Information literacy teaching in universities: a systematic review of evaluation studies: preliminary findings for online v traditional methods. Poster presentation at *8th Evidence Based Library and Information Practice Conference*, Brisbane, July 2015.

Williams, J. F., & Winston, M. D. (2003) Leadership competencies and the importance of research methods and statistical analysis in decision making and research and publication: A study of citation patterns. *Library & Information Science Research*, *25*, 387-402.

Wilson, V. (2010). Applicability: What is it? How do you find it? *Evidence Based Library and Information Practice*, 5(2), 111-113. Retrieved from https://ejournals.library.ualberta.ca/index.php/EBLIP/article/view/8091/6970

Woodfield, J., & Lamond, H. (2015). Evidence-based redesign of an academic library home page. *Eighth International Evidence Based Library and Information Practice Conference (EBLIP8) – Evidence and Practice: Working Together*, July 6-8, 2015, Brisbane, Australia.

Yoo-Lee, E.Y., Lee, T. H., & Valez, L. T. (2013). Planning library spaces and services for Millennials: An evidence-based approach. *Library Management*, *34*(6/7), 498-511. doi: 10.1108/LM-08-1108

Zhang, L., Watson, E. M. & Banfield, L. (2007). The efficacy of computer-assisted instruction versus face-to-face instruction in academic libraries: A systematic review. *The Journal of Academic Librarianship, 33*(4): 478-484. doi:10.1016/j.acalib.2007.03.006