

My professional development approach is best characterized by the practitioner-researcher model described by Peter Jarvis. I strive to fill the gap between research and practice in academic librarianship with systematic and intentional inquiry to advance my own practice as well as that of other librarians. This is particularly important given that my field of practice – data librarianship – is still emerging and is shaped by the rapidly changing policies of funders, publishers, and institutions. In my daily work, I engage in systematic and intentional inquiry related to various aspects of my practice. This is most often related to instructional design, research support needs of researchers, understanding the complex ecosystem in which academic research is conducted, disseminated, and evaluated. In practice, I look to the scholarly discourse for evidence and ideas, deliberately apply evidence based practice and critical reflection in implementing new strategies, then extrapolate lessons learned through implementation to contribute back to the scholarly discourse. In librarianship, these pragmatic insights are often shared through webinars and conference presentations and posters. I have met and exceeded the criteria for beyond satisfactory in professional development by publishing 1 peer-reviewed article, 7 peer-reviewed evidence summaries, 6 peer-reviewed national or international conference presentations, a book chapter, and several invited presentations to regional and national conferences. Most of the materials I developed for teaching data management skills have been openly shared; my materials on [Slideshare](#) have been viewed more than 14,500 times by an international audience (see Table 3).

Evidence-based library and information practice

I am especially interested in exploring the value of evidence-based practice (EBP) in librarianship as it applies to digital collections, library literature, and service evaluation. Evidence Based Library and Information Practice (EBLIP) is an international open access journal based at the University of Alberta (Canada). As a member of the EBLIP Evidence Summaries team, I have published seven summaries since 2013. Evidence summaries are post-publication reviews that critically appraise the overall design and execution of a study as well as individual components like the sampling strategy, methods, and statistical techniques used. Writing these summaries gives me an opportunity for me to maintain this skillset while providing a valuable service to my colleagues. These summaries enable practitioners who lack research experience to understand how the results of a particular study could inform their practice. Second, the summaries serve as a model for post-publication peer review in librarianship and demonstrate the value of critically appraising the evidence base for librarianship. Evidence indicating the reach of these publications is provided in Table 2.

Research Support

Research data services: In 2015, I published a practice article titled *“Building data services from the ground up: Strategies and resources”* that filled a gap in the literature on practical guidance and considerations for librarians who have been asked to develop research data services for their institution. Less than 30% of Association of College and Research Libraries institutions currently offer research data services, only 7% of those providing such services are specialized data librarians, so this audience is quite large. The article was highly discussed on Twitter, shared on two prominent library blogs, and has very strong altmetrics. It ranks 4th in altmetrics for the journal and in the top 5% of all articles tracked by Altmetric (<https://www.altmetric.com/details/3057860>). See Tables 1 & 5 for further details. These metrics are particularly significant considering the relatively small fields of data librarianship and academic librarianship.

Data management training and data literacy instruction: I have presented on my data management curriculum and training at several regional, national, and international conferences. Evidence and altmetrics describing the impact of these products are included in Tables 4-5. I recently published (2016)

a book chapter on teaching good research data practices in a Facet book [Dynamic Research Support for Academic Libraries](#). Initial downloads of the [open pre-print](#) indicate interest from the community.

Data sharing & exchange: In a collaborative project (2012-2013) with the former Social Sciences Librarian, we implemented Google Analytics tags to enhance the metrics gathered on IUPUI DataWorks. Our aim was to use these metrics to inform outreach efforts by enhancing our understanding of how users search and browse the data repository. These data have been useful for making decisions related to site design and the success of outreach initiatives. Our [presentation](#) at the 2013 Library and Information Technology Association Forum has been cited twice and is popular across a diverse range of librarians. My work exploring incentives for greater data sharing and exchange has often overlapped with the broader discussions of open access, open research, and promotion and tenure practices. In a *College & Research Libraries News* [Scholarly Communication column](#), I explored the role of data practices in support of research integrity or the responsible conduct of research as defined by the National Institutes of Health. It has been cited three times, downloaded nearly 600 times, and viewed more than 3,500 times. Recently, my involvement with the SPARC and OpenCon communities led to an invitation to co-present a [webinar](#) on open science support in libraries organized by Electronic Resources & Libraries and Library Journal. The webinar was well attended and my [slides](#) have been viewed more than 350 times in the three months since it was broadcasted. Additionally, the webinar was written up in [The Charleston Report](#), a subscription newsletter widely distributed to publishers, library vendors, and academic libraries.

Practical application of research metrics: To extend my work supporting the responsible use of citation and altmetrics in IUPUI promotion and tenure dossiers, I have shared presentation slides and handouts as well as writing and speaking to share the practical insights gained. The spring 2015 webinar "[Altmetrics for Team Science](#)" led to invited blog posts for the Digital Science blog. These posts attracted a significant amount of attention on Twitter, blogs, and Mendeley (see Table 6), among both researchers and librarians. That attention led to an [interview](#) on altmetrics for a Library Journal article and an [invited presentation](#) at the international Future of Research Communication and e-Scholarship (FORCE) 2016 conference. My proposal for the [FORCE2016 Pitch It Challenge](#) to develop a metric toolkit was one of two projects selected to win. The prize money (\$1500) is being matched with funds and in-kind donations from University Library, Oregon Health Sciences University, and Altmetric.

My reputation as an innovator in the research data librarian and altmetrics communities is demonstrated by engagement with my work (see Tables 3-5, [Google Scholar profile](#), [ImpactStory profile](#)), invitations to speak at conferences such as the Data Symposium hosted by the Middle Atlantic Region of the Medical Library Association, as well as invitations to review funding proposals for the National Institutes of Health and Institute of Museum and Library Sciences (IMLS). I have also been contacted by several potential data librarians and specialists in the past two years for professional interviews and guidance on developing research data services. Finally, I recently received an invitation to present to librarians at Boise State University based on my [presentation](#) at FORCE16.

Future Plans

My professional development plans include the continuation of two key areas. I will continue to explore the use of citation and altmetrics for documenting the impact of research, including the recently funded metric toolkit project. The second is the IUPUI dossier project, which will be used to inform how the IUPUI Libraries support the open dissemination of scholarship and advocacy for promotion and tenure guidelines that rely on a broader range of evidence to indicate impact and which reflect the full range of scholarly outputs produced by faculty.

Table 1: Online engagement with popular products

Product Title	Online engagement
Building Data Services From the Ground Up: Strategies and Resources (2014)	https://www.altmetric.com/details.php?domain=escholarship.umassmed.edu&citation_id=3057860
Data outcomes mapping exercise (Slideshare , Figshare ; 2014)	Viewed nearly 6,000 times on Slideshare & Figshare
Ensuring research integrity: The role of data management in current crises (2014)	Twitter engagement: https://storify.com/landPangurBan/c-and-ri-news-article
Promoting sustainable research practices through effective data management curricula (2015)	Twitter engagement: https://storify.com/landPangurBan/teaching-dil-acrl-2015
Demonstrating Impact as a practitioner-scholar (2016)	<ul style="list-style-type: none"> • Twitter engagement at FORCE16: https://storify.com/skonkiel/force-2016-panel-altmetrics • Blog post by Noella Natalino, Product and Content Manager, Plum Analytics: http://plumanalytics.com/force11-observations-and-thoughts/

Table 2: Citation metrics & webometrics for EBLIP Evidence Summaries (2013-2016)

Evidence Based Library and Information Practice (EBLIP): Evidence Summaries	Citations	Views	Downloads
Exploring the Disconnect Between Information Literacy Skills and Self-Estimates of Ability in First-Year Community College Students (2013)	2	454	312
Academic Historians in Canada Report Both Positive and Negative Attitudes Towards E-books for Teaching and Research (2013)	0	261	147
Critical Thinking Exercises in the Classroom are Helpful but not Sufficient for Improving Critical Thinking Test Scores (2014)	0	179	137
Surveying North American academic library websites for instructional outreach and delivery reveals a broad range of approaches employed (2014)	0	302	128
Developing Countries Lag Behind the US and UK in Contributing to Institutional Repository Literature (2015)	0	57	40
Library and Information Science Research Literature is Chiefly Descriptive and Relies Heavily on Survey and Content Analysis Methods (2015)	0	453	189
Metric Totals for Evidence Summaries	2	1706	953

Table 3: Webometrics for teaching research data management materials on Slideshare (uploaded 2014)

Product Title (Slideshare Profile)	Views	Downloads
Data Management Lab: Data management plan instructions	1025	4
Data Management Lab: Data mapping exercise example	5802	5
Data Management Lab: Data mapping exercise instructions	913	4
Data Management Lab: Session 1 Slides	811	4
Data Management Lab: Session 2 - Documentation Instructions	376	2
Data Management Lab: Session 2 slides	495	2
Data Management Lab: Session 3 Data Coding Best Practices	310	2
Data Management Lab: Session 3 Data Entry Best Practices	458	2
Data Management Lab: Session 3 Data Review Checklist	496	4
Data Management Lab: Session 3 Slides	745	2
Data Management Lab: Session 4 Review Outline	680	3
Data Management Lab: Session 4 Slides	696	7
Data Topics Series: Ensuring data quality	743	12
Data Topics Series: Practical Data Management Plans	472	2
Data Topics Series: Preventing data loss	545	2
Metric Totals for Teaching RDM Materials	14,567	57

International reach (more than 20 views; descending order) includes France, India, Russian Federation, Germany, United Kingdom, Canada, Japan, Italy, Phillipines, Pakistan, Spain, Australia, Netherlands, Sinagapore, South Korea, Austria, Finland, China, Israel

Table 4: Citation metrics and webometrics for teaching research data management scholarship

Product Title (YEAR, type)	ScholarWorks			Publisher/ Conference/ Slideshare	
	Cites	Views	Downloads	Views	Downloads
Developing a data management lab: Teaching effective methods for health and social sciences research (2013, presentation)	0	480	116	--	--
Clinical Data Management: Strategies for unregulated data (2013, presentation) <i>*stats are aggregated from RDAP Slideshare account & my personal Slideshare account</i>	0	193	356	1862	23
Building the Future of Research Together: Collaborating with a Clinical and Translational Science Award (CTSA)-Funded Translational Science Institute to Provide Data Management Training (2014, presentation)	0	108	47	475	4
Teaching data literacy skills in a lab environment (2014, presentation)	0	180	49	681	3
Improving data management in academic research: Assessment results for a pilot lab (2014, presentation)	0	187	59	--	--
Practical data management: Enabling graduate students and staff to function as ethical actors (2014, presentation)	0	590	222	--	--
Training researchers how to manage data to produce better results, enable reuse, and provide for long-term access (2016, book chapter)	0	114	100	--	--
Metric Totals	1	1852	949	3018	30

International reach includes China, India, Spain, South Korea, Ukraine, Czech Republic, Denmark, Germany, United Kingdom, France, Canada, Iran, Switzerland, Ireland, South Africa, Australia, Netherlands, Trinidad and Tobago

Table 5: Citation metrics and webometrics for research data services scholarship

Product Title (YEAR, type)	ScholarWorks			Publisher/ Conference/ Slideshare	
	Cites	Views	Downloads	Views	Downloads
Opportunities in data curation: Integrating the library into the research process (2012, presentation)	0	500	220	--	--
Librarian roles in data curation (2012, guest lecture)	0	310	88	--	--
Improving user engagement in a data repository with web analytics (2013, presentation)	2	302	109	436	--
Data Services: Making it Happen	1	598	338	--	--
Building Data Management and Repository Services: The IUPUI Approach (2014, presentation)	0	239	59	--	--
Developing incentives for data stewardship and sharing: Library engagement beyond liaison relationships (2014, presentation)	0	144	28	--	--
Ensuring research integrity: The role of data management in current crises (2014, column)	4	70	36	3509	592
Building Data Services From the Ground Up: Strategies and Resources (2014, journal article)	4	55	17	--	840
Big Data (2015, presentation)	0	28	13	567	7
Promoting sustainable research practices through effective data management curricula (2015, presentation)	0	385	257	--	--
Metric Totals	11	2631	1165	4512	1439

International reach includes Australia, Canada, China, Czech Republic, Germany, France, Greece, India, Sierra Leone, South Korea, United Kingdom, Ukraine, Venezuela

Table 6: Citation metrics and webometrics for research metrics services & practical application

Product Title (YEAR, type)	Publisher/ Conference/ Slideshare	
	Views	Downloads
Gathering Evidence to Demonstrate Impact (2012, workshop slides)	754	16
Citation & altmetrics - a comparison (2014, workshop handout)	834	38
Altmetrics for Team Science (2015, workshop slides)	1699	56
How to do successful altmetrics outreach (2015, blog post)	946	--
Planning an altmetrics workshop: Themes to emphasize (2015, blog post)	240	--
* Demonstrating Impact as a practitioner-scholar (2016, presentation)	253	13
Metric Totals	4726	123

Table 7: Products with citations (excludes self-citations; some citations not captured in [my Google Scholar profile](#))

Product Title	Citations	Cited References
Ensuring research integrity: The role of data management in current crises (2014)	3	<p>Giesen, E. (2015). Ethical and efficient research management: A new challenge for an old problem. <i>International Journal of Metrology and Quality Engineering</i>, 6(4), 406.</p> <p>Flores, J. R., Brodeur, J. J., Daniels, M. G., Nicholls, N., & Turnator, E. (2015). Libraries and the Research Data Management Landscape. <i>The Process of Discovery</i>, 82.</p> <p>Partlo, K., Symons, D., & Carlson, J. (2015). Revolutionary or Evolutionary? Creating Research Infrastructures in the 21st-Century Academic Library: Conceiving, Funding, and Building New Facilities and Staff, 4, 175.</p> <p>ACRL Research Planning and Review Committee. (2015). <i>Environmental Scan</i>. Retrieved from Association of College & Research Libraries (ACRL) website: http://www.ala.org/acrl/sites/ala.org/acrl/files/content/publications/whitepapers/EnvironmentalScan15.pdf</p>
Building data services from the ground up: Strategies and resources (2014)	4	<p>Lewis, D. W. (2016). <i>Reimagining the Academic Library</i>. Rowman & Littlefield.</p> <p>Maybee, C., Carlson, J., Slebodnik, M., & Chapman, B. (2015). "It's in the Syllabus": Identifying Information Literacy and Data Information Literacy Opportunities Using a Grounded Theory Approach. <i>The Journal of Academic Librarianship</i>, 41(4), 369-376.</p> <p>Erway, Ricky, Laurence Horton, Amy Nurnberger, Reid Otsuji, and Amy Rushing. (2015). Building Blocks: Laying the Foundation for a Research Data Management Program. Dublin, Ohio: OCLC Research. http://www.oclc.org/content/dam/research/publications/2016/oclcresearch-data-management-building-blocks-2016.pdf</p> <p>Johnson, Andrew M., and Shelley Knuth. (2016) "Data Management Plan Requirements for Campus Grant Competitions: Opportunities for Research Data Services Assessment and Outreach." <i>Journal of eScience Librarianship</i> 5(1): e1089. doi:10.7191/jeslib.2016.1089</p>
Exploring the Disconnect Between Information Literacy Skills and Self-Estimates of	2	<p>Booth, C., Lowe, M. S., Tagge, N., & Stone, S. M. (2014). Degrees of impact: Analyzing the effects of progressive librarian course collaborations on student performance. <i>College & Research Libraries</i>, 76:623-651. doi:10.5860/crl.76.5.623</p>

Product Title	Citations	Cited References
Ability in First-Year Community College Students (2013)		Lanning, S. (2014). Reference and Instructional Services for Information Literacy Skills in School Libraries. ABC-CLIO.
Data Services: Making it Happen (2013)	1	Melero, R., & Hernández-San-Miguel, J. (2014). Acceso abierto a los datos de investigación, una vía hacia la colaboración científica. <i>Revista española de documentación científica</i> , 37(4), e066.
Autism spectrum disorders: Wading through the controversies on the web (2009)	3	<p>Reichow, B., Halpern, J. I., Steinhoff, T. B., Letsinger, N., Naples, A., & Volkmar, F. R. (2012). Characteristics and quality of autism websites. <i>Journal of autism and developmental disorders</i>, 42(6), 1263-1274.</p> <p>Reichow, B., Naples, A., Steinhoff, T., Halpern, J., & Volkmar, F. R. (2012). Brief Report: Consistency of Search Engine Rankings for Autism Websites. <i>Journal of autism and developmental disorders</i>, 42(6), 1275-1279.</p> <p>Barry Cournoyer, D. S. W. (2010). Proposed Change to the IUSSW Guidelines for Promotion and Tenure: The "Performance" Criteria (Doctoral dissertation, Indiana University).</p>
Integrating patient-centered care and evidence-based practices: What is the prognosis for healthcare? (2007)	2	<p>Stewart, M. (2012). <i>Practical patient literacy: The medagogy model</i>. McGraw Hill Professional.</p> <p>Eyssen, I. C., Dekker, J., Vincent de Groot, M. D., Steultjens, E. M., Knol, D. L., Polman, C. H., & Steultjens, M. P. (2014). You are not logged in. Press here to login. <i>Journal of Rehabilitation Medicine</i>, 46, 527-531. doi:10.2340/16501977-1797</p>

Figure 1: Webometrics for all products deposited in IUPUI ScholarWorks

