Library Research Skills: Need Some?

A report on professional development opportunities and my experiences

at the Institute of Research Design in Librarianship

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Abstract

Between June 15 and June 27, 2014, 21 scholars in the inaugural cohort of the Institute of Research Design in Librarianship (IRDL) completed a nine-day research design boot camp at Loyola Marymount University's William H. Hannon Library. The author of this paper was selected as one of the 21 attendees. This paper reports on his experiences at the institute, framing the institute with a short review on library-practitioner research and the various professional development opportunities available to librarians wishing to improve their understanding of research methods and designs. The review situates IRDL in the list of continuing education opportunities available to librarians who seek training in research methods and research design. The review section also looks at some of the key documents relating to the development of IRDL and the research culture the institute instills in its participants. This article was written independently of the institute, so views and opinions expressed here are the author's own views as a participant, and do not represent those of the IRDL or its staff.

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Introduction

This paper presents the experiences and perspectives of a librarian who participated in the inaugural class of the Institute of Research Design in Librarianship (IRDL), which was held at Loyola Marymount University's (LMU) William H. Hannon Library between June 15 and June 27, 2014. In order to give the readers a context for the institute, the author reviews the current literature on professional development opportunities in research methods and design as it applies to librarianship. The paper proceeds from informal ways of building expertise through professional development to formal research boot camps, institutes, and continuing education opportunities both inside the library profession and in the social sciences in general. IRDL is uniquely placed to fill a gap in our profession, as an institute that encourages a dynamic culture among practitioner-librarians at a national level by taking 63 librarians over a period of three years, and building their understanding of research from the ground up. These are the early stages of IRDL, so formal results are being disseminated at conferences by the IRDL's principle investigators.. This paper is not linked to any of those formal assessments of the program, but rather it attempts to present the profession with a single perspective on the value IRDL has brought to this author, who is currently a tenure-track junior faculty librarian.

Why Do Academic Librarians Do Research?

Like any organization, academic libraries need quality data to make informed decisions about programming, collection development, access services, outreach, reference, archives, and instruction. In a study of 23 library administrators' views of the value of research performed by academic libraries, Perkins and Slowik (2013, p.152) report that in addition to improving services and outreach, there are many benefits to library research, including added recognition for the library within the university; when research is encouraged in libraries it helps in the

recruitment of new faculty while advancing university research goals. In Kennedy & Brancolini's (2012, p.432) article on librarians and their ability to do primary research, they point to the importance of "evidence-based decision making," which means that libraries need to "study their own operations in a systematic and reliable manner." In this article the author employs the term "library research" in the same way Kennedy and Brancolini use it, with emphasis on the systematic and reliable study of library operations. Thus library research projects can take many forms; some examples include program assessments, self-studies, and strategic planning. These often result in publication and dissemination of study findings to a library's stakeholders or more generally to the larger profession.

Social science research methods and data collection techniques are often used to systematically study operations in an organizational context. Audiences interested in research methods in library science will find it helpful to read Virginia Wilson's column Research 101, in the open-access journal *Evidence Based Library and Information Practice*. Wilson covers different research methods in each issue, giving straightforward definitions and relevant citations. In her 2011 article "A New Path: Research Methods," she provides a good introduction to the quantitative and qualitative binary so common in research design: "Methods common to quantitative research include surveys, randomized controlled trials, and highly structured observation. Methods common to qualitative research include in-depth interviews, focus groups, and participant observation" (p. 86). She summarizes the tension regarding validity and qualitative and quantitative approaches to data. In IRDL, both approaches were taught so that participants could use a variety of methods to explore research questions. Choosing which method works best to answer a particular research question is the essence of research design.

A recent content analysis of 307 research articles by Turcios, Agarwal, & Watkins (2014,

p. 477) showed that librarians employed a variety of research methods, with surveys being the most frequently occurring method followed by the case studies, content analysis, interviews, experimental research, bibliometrics, action research, classroom research, observation, focus groups, and usability techniques. Keeping in line with this trend, IRDL trains its participants in three methods of data collection: surveys, in-depth interviews, and focus groups. In addition to creating and gathering data, a wide variety of existing data sources are available to librarians. Part of research includes being able to identify existing data sources to answer research questions, in addition to creating new data where no data exists. Koufogiannakis (2011, p. 2) offers some insight into how local data is used to inform decision making in academic libraries:

> For example, usage stats on ejournals, feedback and comments about our services, usability testing on a website, titles on our interlibrary loan requests; these are just a few examples of local evidence that is invaluable to our decision making. This local data doesn't often mean much to others, but it is of utmost importance to our local knowledge. The trick is to figure out what local information to collect, and how to use it. And remember to use it. This is where others' experiences of how they use such local evidence can give us ideas and inspiration. (p. 2)

To paraphrase Koufogiannakis, research design is knowing what local information exists and what you need to collect to answer your research question. Collecting information involves selecting systematic methods to collect data, including identifying the appropriate sources (datasets, survey results, people, etc.) of information. As with tools, some methods work better for certain types of information, and it is up to the librarian to decide which research method is appropriate for his or her question. In addition to knowing about research design, we also have to consider time, resources, audience, and money when trying to answer a question.

From Library School to Professional Development Opportunities

Librarians can learn about research methods in library school as part of their LIS program. Unfortunately not that many library schools require that students take a research methods course. According to a Luo's (2011) article on how taking a research methods course in library school helps librarians later in their careers, "only 61% list research methods as a required course in the curriculum" (p.191). Additionally there is much variation in how programs teach research. Kennedy and Brancolini (2012, p. 432) note that "Research training at the [M]aster's level is especially varied, leading to an uneven skill set among librarians." Adding to this uneven skill set, academic librarians with a second master's degree might get instruction in research methods from another discipline. The author of this paper came from an ALA-accredited program that did not require a research methods course, and he received his training in research methods as part of his second master's degree in another social science field. Although the training involved statistics and qualitative techniques, the data and the research context were very different from the data generated in a library setting. The author did not fully understand the wide range of research designs as practiced by librarians until he encountered Wildemuth's 2009 book *Applications of Social Research Methods to Questions in Information and Library Science* one year after graduating and working as a full-time librarian.

After graduate work there are informal and formal ways of learning how to design research studies in libraries. One of these ways to informally learn about research is through a personal learning network. Rajagopal, Brinke, Bruggen, and Sloep (2011) give a good definition: "a personal learning network (PLN) is a network set up by an individual specifically in the context of her professional activities through online platforms to support her professional non-

formal learning needs." They discuss how these networks help professionals maintain their skills and support life-long learning. To put this definition in the context of libraries, opportunities to do research include opportunities through library associations. The Metropolitan New York Library Council has an Assessment in Focus series where members can get an introduction to a variety of research methods such as surveys, interviews, and focus groups. Often members discuss the projects they are working on and exchange contacts with others who have expertise and are willing to engage in collaborations. Sometimes librarians leave a meeting with contact information of other librarians to call on for advice on their project. These are half-day sessions, often facilitated by other librarians, which help frame these methods in the context of libraries. Often the facilitator is happy to answer follow-up questions after the training via email.

Another example of librarians increasing personal learning networks for tenure-track librarians is the Junior Faculty Research Roundtable formed by the Library Association of the City University of New York (LACUNY). In their 2011 article on starting the roundtable Cirasella and Smale describe the variety of activities to facilitate peer mentoring and discussion. These include "inviting speakers, structured discussions on a specific topic, and informal conversations about scholarship" (p.102). This group meets several times during the academic year and also serves as a support group for tenure-track librarians. Returning to Perkins & Slowik's (2013) study of library administrators, they found that some administrators "personally guided their librarians' research projects, edited, reviewed, and sometimes coauthored their work" (p. 151). Finding research mentors, friendly reviewers, and attending research workshops are typical experiences of a library-practitioner researcher.

Beyond local associations and university libraries there are more formal programs that attempt to grow the research culture of the profession. Jacobs and Berg's 2013 article entitled

"By librarians, for librarians: Building a strengths-based institute to develop librarians' research culture in Canadian academic libraries" describes the Canadian Association of Research Libraries' (CARL) four-day inaugural Librarians Research Institute (LRI), which began in 2012 (p. 227). LRI's does not focus on "hosting skill intensive workshop[s]," but rather the focus is on cultivating the strengths of the participants in combination with peer mentoring for a more holistic approach that considers time management, critical thinking, collaborative approaches or what Jacobs and Berg refer to as "habits of mind" (p. 230). In contrast to LRI, IRDL is a skills-based institute where acquiring research skills and building confidence with research projects are emphasized.

Other formal programs where librarians can encounter discipline-specific research methods are full-day to multi-day boot camps aimed at subject librarians. Some examples of research boot camps include Social Sciences Librarians Boot Camp (http://sites.tufts.edu/sslbc2014/), Science Boot Camp of the West (http://guides.lib.washington.edu/ScienceBootCampWest2014), Science Boot Camp for New England (http://esciencelibrary.umassmed.edu/science_), and Science Boot Camp Southeast (http://guides.ucf.edu/sciencebootcampSE)

Outside the profession there are short courses for those with some background who want to continue improving their tool belt of social science research methods. The University of Michigan also has a summer Institute for Social Research (http://home.isr.umich.edu/education/programs/). These are just some of the opportunities for academic librarians and libraries to seek further professional development with research methods that focus on library applications and beyond. This leads us to the exciting new opportunity available through the Institute of Research Design in Librarianship.

Institute of Research Design in Librarianship (IRDL)

IRDL is a professional development program funded by IMLS to provide additional training for 63 librarians (21 librarians per year for three years) to improve their "research skills and output" by providing a nine-day summer research workshop and one year of ongoing support (Institute for Research Design in Librarianship, 2013). IRDL is free of cost to attendees. In addition, IRDL covers the cost of travel, food, and housing for the duration of the summer workshop.

Pre-Institute Activities

There were several pre-institute activities. Participants had to complete their Institutional Review Board (IRB) training before the first day of the summer workshop. IRB training ensures that researchers are familiar with the rights of humans as research subjects. Smale's (2010) article gives a good overview of the IRB for librarians. Consent to research must be voluntary, subjects must be informed of any risks, a board of reviewers must evaluate "the ratio of risks to benefits" of a particular project, and the selection process of subjects must be fair (Smale, 2010, p. 312).   Generally the training varies across institutions. Most research like online surveys, interviews, and even the use of pre-existing data for publication will often require an IRB approval depending on the sensitivity of the data collection method and the nature of the data.

The Institute Curriculum

Before we dive into the details of the curriculum and the author's experiences at IRDL, it will be helpful to have a formal definition of research design. There are whole books written on research design, but a good definition is found in Cresswell and Clark (2011), two experts in research methodology, who say, "research designs are procedures for collecting, analyzing, interpreting, and reporting data in research studies" (p. 53). This is the essence of the training we

received at IRDL. In even simpler terms, the IRDL helped us create research plans. The discrete

steps were as follows: forming and refining a research question; reviewing the literature and

seeing what and how this question has been studied; writing up or improving or existing

proposal; thinking about resources and how much can or should be invested in the project;

thinking about the kind of data needed to answer the question and the ways of obtaining that

data; collecting data; synthesizing or analyzing the data; and reporting in a transparent manner.

These steps are useful to keep in mind as we review the nine days of topics we covered in Table

1.

Table 1: IRDL Topics

Basic types of research designs	Creating a codebook
Qualitative data collection Techniques	Operationalization of study variables
Reliability and validity	Writing questions
Sampling	Research designs for survey research
Censuses	Univariate analysis
Non-probability sampling	Bivariate analysis
Probability sampling	Mixed methods
In-depth interviews (IDI)	Inferential statistics
Focus groups (FG)	Presenting vs. publishing
Approaches to qualitative data analysis—exploratory and confirmatory	Writing for peer-reviewed journals
Data reduction techniques	Writing titles
Comparing qualitative data	Writing abstracts
Qualitative data analysis software	Submission strategies
Writing an analysis plan	Writing tips
Themes and codes	Choosing a journal

The following day-by-day review of the institute uses mostly the author's personal notes

and social media posts archived on Storify (https://storify.com/IRDL/irdl-2014). The purpose is

to show how IRDL progressed from the perspective of a single participant. The curriculum

included quizzes and allocated time for writing and consultation in addition to the opportunity to gain valuable research skills through lecture, activities, and discussion. The librarians selected for IRDL had a variety of projects, skills, and backgrounds, adding to the lively discussions. Themes came from a wide range of librarianship and included data librarianship, access services, music and special collections, information literacy and instruction, diversity projects, and distance librarianship. Figure 1 is a photograph of one of the workshop sessions taken in the main space used by IRDL.

Figure 1: IRDL Workshop Session

Days 1–3 introduced participants to basic research design. This included an exploration of different approaches: descriptive/predictive, observational/quasi-experimental/experimental, and cross-sectional/longitudinal/retrospective. In addition to research designs we discussed writing research proposals, and covered quantitative and qualitative methods. By the third day we were focusing more on in-depth interviews. Most of the workshops were led by Dr. Greg

Guest, Research Director at fhi360, and Dr. Lili Luo, Associate Professor at San José State University School of Library and Information Science. In addition to research design, the first few afternoons included workshops on online participatory culture, personal learning networks, Web 2.0 research tools, and MOOCs led by Dr. Michael Stephens, Assistant Professor at San José State University School of Library and Information Science. These sessions with Dr. Stephens focused on "community platform exploration & play," giving us some time to explore our online identities and populate social media platforms. Most participants were familiar with these technologies, and prior to our arrival at the institute a participant created a private Facebook group that remains quite active to date.

Figure 2: IRDL Facebook Group

Days 4–6 concentrated on focus groups and data analysis. Participants practiced planning logistics, writing focus group questions, facilitating, probing subjects, and analyzing elicited data covering topics like reliability and intercoder-agreement, data reduction techniques, and thematic

coding. We briefly discussed qualitative data analysis software like NVivo and Atalas-Ti. On the second half of day 6 we began discussing survey design.

Days 7–9 concentrated on quantitative data analysis, focusing on survey data using SPSS. Day 7 was particularly long with a workshop on mixed methods that took place from 7:30 to 9:00 pm. The last half of day 8 focused on choosing a method to disseminate research results. This included topics like choosing LIS journals and conferences. By day 9 the group had fallen behind schedule and did not finish the planned ANOVA exercise. The half-day workshop also covered writing tips and submission strategies.

The author found the schedule rigorous. In addition to the workshops conducted all day and the assigned course readings and homework, the institute offered optional lectures and activities at night. The author was able to meet several times to discuss his project with the facilitators, all three of which are research experts. The time for writing and consultation was very important, because it helped participants immediately apply the concepts learned in the workshops. The facilitators did a great job, mixing the content and making the concepts relevant to practicing librarians. In this author's opinion they chose a talented and engaging team of trainers. Dr. Luo framed many examples of analysis using academic library situations and library-related data (LibQual data and examples from library literature). Many of Dr. Guest's examples came from his work in public health. Lecture formats were balanced with activities. Many of the conversations about research did not end with the workshops, but continued in the lunch and dorm room discussions. The atmosphere was safe and collegial. It is likely that the future IRDL classes of 2015 and 2016 will continue to evolve the workshop topics and timelines in the 2014 IRDL curriculum.

Figure 3: IRDL Inaugural Class

From idea to institute, the IRDL took years of planning and required the work and effort of variety of people and institutions. Figure 3 shows the IRDL class of 2014, and figure 4 shows some of the key individuals that made IRDL possible in 2014.

Figure 4: The IRDL Team

Post-Institute Activities

There is a monthly post-institute virtual meeting for IRDL scholars to reach out to other members or the instructors. Institute scholars also received a variety of online assessments after the institute. There is a formal project update report where scholars will present the status of their projects during one of the virtual meetings. In the author's opinion, the most active channel of communications is for IRDL is the private Facebook group, followed by the monthly meetings and emails. The Facebook group is a place where IRDL scholars ask questions or report their progress with administrative tasks, data collection, and analysis. Conversations about conferences and discussions of writing collaborations also take place in the Facebook group. At the time this article was written the principle investigators were still conducting and analyzing formal assessments of IRDL outcomes. Readers can find IRDL project publications in the institute's website.

Additional Thoughts

Since the summer workshops at LMU, IRDL has already expanded the author's personal research network and increased his confidence level when faced with research questions in committees or at the workplace. The author has been invited to speak about IRDL and library research at different venues within his university system. IRDL also kindled in the author a new interest in applied research methods. The institute instilled the notion that data can be collected and analyzed on any problem and results can be reported as long as this is done in a transparent manner in a way that the audience understands – bridging the gap between theory and practice.

In this author's opinion the cohort experience, involving 21 participants per year, will benefit the profession by providing consistent training in library research methods and design to new professionals. Consistent training allows a common research vocabulary to develop, improving communication related to research problems so the cohort can respond quickly and efficiently to research related questions like reliability, subject recruitment, QDAs, or IRBs.

In this author's experience, IRDL training is more relevant than a research methods class in graduate school because the IRDL scholar is actually immersed is in their work environment, so that motivation to learn is quite high. In graduate work, students' research scenarios can produce sound approaches to problems and questions that libraries encounter; however, it may be a while before that same student is in position to apply those skills professionally so that research skills atrophy. IRDL gives practical research skills to working information professionals. It is in this author's opinion that the IRDL cohort experience in 2014 created an immersive and engaged culture of research around library topics. This research culture includes building trust with our colleagues as sources of critique, sharing articles and bibliographies, and continuing to engage research online via email, monthly meetings, and our private Facebook group and Twitter.

Conclusion

IRDL is a unique professional development experience aimed at giving working information professionals a comprehensive introduction to research design, data collection, and analysis. In addition to learning research skills, this author argues that IRDL's cohort experience creates a culture of library research support for workshop participants long after the Institute has concluded. For librarians seeking to improve their research skills this article discusses IRDL is an exciting new opportunity available to information professionals amongst the others continuing education programs that expose librarians to research methods discussed in this article. The program has two more years of funding. One of the goals of IRDL is to make the program self-sustaining past the initial three-year grant period. Those interested in applying should consult the IRDL webpage at http://irdlonline.org/. This author felt very privileged to take part in this wonderful professional development experience and encourages interested academic librarians to apply. Interested applicants would benefit from reading the IRDL bibliography http://irdlonline.org/bibliography/

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