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Kristine R. Brancolini and Marie R. Kennedy

9 A Model Research Methods Training Program: Implications for the Curriculum

Abstract: The majority of academic librarians in the US are employed by their institutions either on tenure track, similar to teaching faculty, or they have some form of status that requires them to conduct and share the results of research to receive annual salary increases, achieve tenure or continuing employment, and/or gain promotion or enhanced ranking. Research published during the past two decades, however, confirms that most academic librarians enter the profession perceiving themselves to be unprepared for conducting research. To address deficiencies and alleviate anxieties surrounding research, the authors created a continuing education program for novice academic librarian researchers, the [Institute for Research Design in Librarianship](#) (IRDL). The program was based on Albert Bandura's theory of self-efficacy and was designed to instill participants with confidence in their ability to conduct research through mastery experience, verbal encouragement, and vicarious learning. IRDL proved to be an effective way for librarians to gain knowledge about research methods, receive timely feedback on research projects through mentoring and peer support, and become part of a research community. The majority entered the program feeling tentative about their roles as researchers and emerged as more confident researchers. Master's students would benefit from revisions to the LIS curriculum that would better prepare them for becoming librarian-researchers.

Keywords: Library science—Research; Academic librarians – Tenure; Research – Methodology; Library education (Continuing education); Evidence-based library science

Academic Librarians and Research in the US

Academic librarians may be one of the only professional groups employed in US colleges and universities who enter their chosen profession with unclear expectations about conditions of employment related to research productivity. The lack of clarity is potentially linked to the employment status for academic librarians in the US who may be classified by human resource regimes within academic institutions as faculty, professional staff, or administrative personnel. A survey examining faculty status for librarians in research libraries found that definitions of faculty status and expectations vary among institutions (Walters 2016). The study found

that librarians in 52% of the libraries in the study had “nominal faculty status” (Walters 2016, 167), recognizing that faculty status for librarians is difficult to define. The status of librarians may have varying components related to length, level or conditions of employment and include such elements as: tenure, rank, peer review, sabbatical leave, access to research funding, and more, making it difficult to provide simple answers in the negative or affirmative to the question of faculty status. A further 69% of libraries responding to the survey required librarians to produce scholarship, a percentage that exceeded those with “nominal faculty status” (Walters 2016, 167).

The study’s findings are consistent with Sassen and Wahl’s (2014) finding that research libraries without faculty status for librarians still expect them to engage in scholarship. Librarians on tenure track reported high levels of stress, especially around uncertain expectations for tenure, including measurements of research productivity and availability of support for research (Cameron, Pierce, and Conroy 2021). Other researchers confirm that the need for research training and institutional support for research is especially critical for early-career librarians on tenure track (Ackerman, Hunter, and Wilkinson 2018; Vilz and Poremski 2015), including librarians of color (Damasco and Hodges 2012; Griffin 2013). Variation in the employment status and conditions of academic librarians leaves the profession with an inconsistent culture of research.

The situation for librarians differs from typical faculty positions in an academic teaching department or research institute in the same college or university environment. Faculty customarily graduate from disciplinary programs that clearly define the work environment for which they are preparing themselves within specific areas of academic expertise. The environment requires either scholarly outputs through book or journal publication, blog or online postings, conference presentations, research investigations, reports or creative outputs to achieve tenure and promotion, as well as to gain salary increases, sometimes described as merit. Doctoral programs that educate students for faculty positions include coursework, research experience, and mentoring designed to prepare students for success in tenure-track positions.

On the other hand, academic librarians who enter the profession with the completion of a master’s program are typically not prepared for research responsibilities through formal education, direct research experience, or mentoring by more experienced colleagues. Most master’s programs touch lightly on research in library and information science (LIS), with any research-related coursework designed to teach reading, understanding, evaluating and applying scholarly literature in professional work and activities supporting the research of others, but not necessarily producing scholarship themselves (Luo 2011; Matusiak and Bright 2020; Vilz and Poremski 2015). Kennedy and Brancolini (2018) found that only 17%

of librarians believe their LIS master's degree programs adequately prepared them to conduct original research. In addition to lack of research training, it has been noted that “the socialization of librarians to the academic model lacks the full mentoring structure evident in graduate programs of many other disciplines” (Black and Leysen 1994, 232). Lack of preparation for research activity is a source of stress not only for early-career librarians but also for many librarians who find themselves on tenure track for the first time some years after graduation from an LIS program. A recent study of librarians transitioning to tenure-track positions found that the requirements of undertaking quality research projects, analyzing findings and publishing results produce significant anxiety in meeting tenure requirements (Hughes 2018). Post MLIS, most academic librarians rely on continuing education, formal and informal, for learning how to conduct research.

Based on their own research on academic librarians as researchers (Kennedy and Brancolini 2012), the authors designed and implemented the [Institute for Research Design in Librarianship](#) (IRDL) to provide a continuing education program which would develop research knowledge and skills. Partial funding for the program was provided by the [Institute of Museum and Library Services](#) (IMLS). The authors based their work on related research conducted by other LIS researchers (Powell, Baker, and Mika 2002), and the theoretical work of social cognitive psychologist Albert Bandura (1977, 1994). Additional research shaped the formative evaluation and revision of the IRDL program. The co-directors conducted rigorous assessments to ensure the program's effectiveness. This chapter describes IRDL, the only formal training program in research methods in the US for a general audience of academic librarian researchers, and relates how a program like IRDL can inform effective research training and institutional support for librarian-researchers. From 2013 to 2019, the [Institute for Research Design in Librarianship](#) (IRDL) provided continuing education, free of charge, to 124 novice researchers who were academic and research librarians.

The Institute for Research Design in Librarianship (IRDL)

The Institute for Research Design in Librarianship (IRDL) was a yearlong continuing education opportunity designed to meet the needs of novice academic librarian researchers who wanted to improve their social science research skills and increase their research productivity. The program was focused on eliminating or reducing the effects of known barriers to successful research involvement. Decades of research on librarians as researchers had identified multiple issues: lack of

time, unfamiliarity with research processes, inadequate institutional support, low research confidence, and insufficient training in research methods (Koufogiannakis and Crumley 2006; Miller and Benefiel 1998; Powell, Baker, and Mika 2002; Wilkinson 2013). Over time, the co-directors worked on the development of the program and shifted their attention from removing barriers to successful research activity to providing new, more effective supports to program participants who became known as the [IRDL Scholars](#).

The first iteration of IRDL was developed using the results of a national survey of librarians working in an academic setting conducted by Kennedy and Brancolini in late 2010, which was designed to gather evidence on librarian attitudes, involvement, and capabilities for engaging in research activities and to identify barriers to research involvement (2012). The study revealed that most academic librarians turned to continuing education to gain knowledge and skills to fill gaps in their research knowledge which had emerged following their initial education. The most popular form of continuing education was reported to be workshops, which guided the decision to make a research workshop the centerpiece of IRDL.

One component of the survey was a ten-question self-efficacy, or research confidence, questionnaire. The authors found that most librarians lacked confidence in their research abilities. Bandura's research found that people avoid tasks they feel exceed their capabilities, but pursue those they feel competent to perform (Bandura 1994). Perceived self-efficacy, or "people's beliefs about their capabilities to produce effects" (Bandura 1994, 71), has been widely applied to work-related performance and achievement. Research has shown that efficacy beliefs are dynamic; behavioral change occurs through changing self-efficacy. People with a high degree of research self-efficacy have confidence in their ability to perform successfully the tasks associated with conducting research (Bieschke 2006; Forester, Kahn, and Hesson-McInnis 2004). The ten-question survey was later expanded to thirty-eight items and administered to the IRDL Scholars before and after workshop attendance. Development and use of this instrument in the assessment of IRDL is described by Brancolini and Kennedy (2017).

IRDL was designed to maximize two of the four main sources that influence self-efficacy, as described by Bandura: mastery experiences and social persuasion (Bandura, 1977, 1994). The theoretical foundation chosen influenced the decision to focus on a hands-on workshop format to teach social science research methods, within a supportive community environment and with the objective of completing a research study within one year. Scholars had the opportunity to gain mastery through practice, while receiving positive verbal feedback during the research process, leading to increased research self-efficacy. To ensure that IRDL continued to address the research concerns of the academic librarian community, the co-di-

rectors re-administered a revised version of the survey in 2015 (Kennedy and Brancolini 2018), and used the findings to update the program.

The Institute for Research and Design in Librarianship (IRDL) Workshop

The yearlong program began with a nine-day, in-person summer research workshop which provided participants with time away from work and family obligations. Most costs of the program were covered with grant funding, including travel to Los Angeles, accommodation in a campus private room apartment, meals, and textbooks. For the first three years, the program spanned two full weeks, with the weekend in the middle and a couple of afternoons during the week available for leisure activities and socializing. The workshop time was shortened for the second three years of the program's duration and spanned nine days, with some free time during the week. The revised format was equally effective with regard to learning and community-building, and, according to participants, was easier for librarians with families to manage.

Applications for the IRDL included the submission of a draft research proposal, which became the basis for the IRDL experience. The workshop allowed participants to focus on revising a research project of their own design which would be ready for implementation during the upcoming academic year. The curriculum focused on social science research methods to give participants knowledge that could be applied to their projects, but would also impart the confidence to tackle new research and to commence subsequent projects. The social science research methods included in the program could also be applied to participants' work-related assessment projects and used to support internal evidence-based practice. The workshop curriculum commenced with the formulation of the research question and moved through all steps in the process. The format of content delivery for the workshop included short lectures and many hands-on, small-group activities. The learning sessions were supplemented by one-on-one consultations with faculty conducting the workshop and the program co-directors; in some years, the external program evaluator also consulted with the participants. At the conclusion of the workshop, attendees possessed the tools to transform their ideas from vague inklings through the selection of research design and methods to data gathering and analysis, and finally to the interpretation of their findings.

Building Networks, Mentoring, and Peer Support

Following the research workshop, IRDL Scholars returned to their home institutions. They were allocated one month to update their research proposals. The proposals, including both pre- and post-workshop proposals, were then scored through a normed rubric-based assessment activity, with the goal of determining if the components of the research process taught in the workshop curriculum were adequately applied in the updated proposal. Participants received a post-workshop survey about the content and format of the workshop. The results of the proposal scoring and the survey were used each year to amend and update the workshop for the following year. One of the co-directors conducted a research network survey at various times during the year, to determine how the IRDL Scholars' personal research networks might be changing due to their participation in the IRDL (Kennedy, Kennedy, and Brancolini 2017). At the time of the study there were 107 IRDL Scholars. The network analysis found that 55% of them described other scholars as both friends and colleagues. This relationship accounts for the highest percentage of reciprocal assistance in giving and seeking research advice, at about 69% (85). Furthermore, this group was the most likely to have collaborated on a major project.

In revising the IRDL for a second round of funding from IMLS, the co-directors were influenced by the work of Hoffmann, Berg, and Koufogiannakis (2014) which focused on research success factors rather than barriers among practitioner-researchers, including academic librarians. They conducted a content analysis of forty-two evidence-based studies and found sixteen research success factors which could be categorized within three areas:

- Individual attributes
- Peers and community, and
- Institutional structures and support.

While research mentoring had been an important success factor among other populations of practitioner-researchers, it has been infrequently studied among librarians. As a result of the research which highlighted the importance of mentoring, the second grant-funded iteration of IRDL, IRDL 2 which operated from 2016–2019, included a formal mentoring program, pairing each IRDL Scholar with an experienced researcher mentor. More about the research mentoring component can be found in Jason, Kennedy, and Brancolini (2021, 241–262). In addition to the formal mentoring component of the program, the cohort met throughout the year, in informal monthly online check-ins. Each Scholar was also admitted to a closed Facebook group for IRDL, which served as a communication mechanism between current

and past cohorts. The Scholars were also active on Twitter in communicating with each other.

Related Research on Research Training

The design and revision of IRDL was influenced by research in related areas, particularly research which focused on factors related to research productivity among early-career academic researchers and other practitioner-researchers. The results strongly suggested that a research training environment that emphasized both instructional and interpersonal components was the most effective (Borders, Wester, and Gonzalez 2018; Wester et al. 2019). Instructional components included the style of classroom instruction, along with content connecting research to practice, and engagement in research. Interpersonal components included mentorship, collaboration, and faculty excitement about research.

Doctoral students and new PhDs are the focus of most research training, first in graduate school, and then once they enter the academy as new faculty members. Coursework is the centerpiece of preparation; however, studies have shown the importance of a more comprehensive approach which focuses on the individual development of researchers and the creation of an environment conducive to research productivity. Government agencies and academic institutions recognize that post-doctoral support through short training courses focused on research methods and publishing seminars increases productivity. Researchers have identified organizational factors that contribute to and may predict research success, including interpersonal relationships and departmental enthusiasm for research (Bland et al. 2005; Wester et al. 2019).

Borders, Wester, and Gonzalez caution that the “effectiveness of programs designed to enhance faculty members’ research knowledge and skills could be thwarted by an unsupportive research culture that limits faculty members’ ability to enact their new learnings” (2018, 34). They urge the conduct of needs assessments and rigorous evaluation of the outcomes of programs designed to support research productivity among faculty; successful models must account for many variables and individual differences among researchers. The work of Borders, Wester, and Gonzalez aligns with elements of a 2017 study of librarian-researchers working at Canadian research universities which confirmed the complex interrelationships of the various factors impacting on successful research outcomes. In a follow-up to their 2014 content analysis, Hoffmann, Berg, and Koufogiannakis (2017) conducted a survey that linked research success factors to a calculated score of research productivity. Their study found that no single research success element dominated

the others. Rather, “the three categories – Individual Attributes, Peers and Community, and Institutional Structures and Supports – all had a positive effect on librarians’ research productivity...which reinforces that many elements contribute to librarians’ research productivity” (Hoffmann, Berg, and Koufogiannakis 2017, 116). Numerous studies suggest that the research training environment must incorporate appropriate research methods instruction with the opportunity to practice research skills within the context of interpersonal encouragement and modeling.

Implications for the LIS Curriculum

The Institute for Research Design in Librarianship (IRDL) proved to be an effective research-based continuing education program for academic librarians who wanted to improve their research skills and increase their research productivity. It also provided a model for similar programs which coupled an intensive learning opportunity with hands-on experience conducting a research project, supported by peer and expert mentors. The program that operated with IMLS funding from 2013–2019, however, had three drawbacks. First, it was expensive to bring librarians to California and pay their living expenses for the nine-day summer research workshop, an essential component of the program. Second, not all librarians had the support from their home institutions to participate in such a program; deans and directors were required to provide release time for staff to attend the workshop and work on a research project during the subsequent year. Third, some librarians had familial obligations that made it difficult for them to be absent from home for the time involved.

A later version of the program, IRDL Online, has addressed two of the problems identified by moving the summer research workshop to an online environment; however, deans and directors of libraries employing participating librarians must still release them from work responsibilities for the two weeks of the workshop. The larger problem is that regardless of the cost, only a fraction of the librarians who would benefit from IRDL can be accommodated, as participation is limited to thirty participants per year.

The basic problem addressed by continuing education programs like IRDL is the curricular deficit in MLIS programs. Thousands of librarians enter the profession of academic librarianship, where the need for research skills is critical, without the necessary training in research methods. Continuing education cannot meet the needs of all librarians for research training. The situation has been documented by numerous studies over many decades (Kennedy and Brancolini 2012; Kennedy and Brancolini 2018; Powell, Baker, and Mika 2002; Vilz and Poremksi 2015). Based on

the expressed needs of working librarians and administrators, a commitment to linking research to practice should motivate administrators and faculty in library and information schools or faculties to revise master's level curricula to provide substantive research methods courses. It would be beneficial if these courses were made essential for librarians preparing to become academic librarians.

At the very least, ALA-accredited programs should offer the necessary sequence of research-centered courses to MLIS students and encourage students interested in careers in academic librarianship to take them. It would also be useful for these schools to offer a post-MLIS certificate program, online or in-person, for librarians who would like to gain research skills after they have entered the profession. Schools could package research methods courses for those who have not taken them within initial master's programs with additional, more specialized courses and also target librarians who might have gained the skills elsewhere but require refresher or updating programs. Perhaps a capstone or thesis option could be made available in a certificate program. Conducting a research project in a supportive, positive environment has been an essential aspect of the IRDL experience. The MLIS course sequence, or capstone program, should include an overview of LIS research methods, quantitative research methods, qualitative research methods, and statistics.

All research courses should stress that conducting research, not simply reading and interpreting research, is an essential part of the practice of librarianship. Librarians who have entered PhD or EdD programs to gain and/or enhance their research skills should be consulted for advice on structuring effective course sequences at the master's level and post-master's level. Librarian-researchers might be employed as research mentors or capstone advisors. It would be advantageous for schools of LIS and academic librarians to work together to solve the ongoing problems related to the lack of research expertise in academic librarianship.

For librarians interested in programs like the IRDL with in-person workshops, the cost might be lessened by partnering with schools of library and information science who could offer regional programs that do not require students to travel. However, it will always be cost-prohibitive for some libraries to send librarians to programs like IRDL and it is hoped that online programs, like the latest iteration of IRDL, IRDL Online, which has been funded by IMLS for three years, 2021–2024, will offer more sustainable continuing education options.

Conclusion

The experience of creating and delivering a research-focused continuing education program led the authors to believe that better preparation for conducting research would help alleviate an identified source of stress for academic librarians. There is a recent body of LIS research devoted to the problems of low morale, stress, and burnout in academic librarianship (Cameron, Pierce, and Conroy 2021; Kendrick and Damasco 2019; Nardine 2019). Furthermore, there is evidence that the pressures of research productivity contribute to stress (Cameron, Pierce, and Conroy 2021) and stress contributes to feelings of injustice among academic librarians (Matteson, Ming, and Silva 2021). The onus is on library organizations and managers to create a fair and just work environment (Matteson, Ming, and Silva 2021). However, when it comes to the ability of libraries to create support structures for research, their options are limited. The lack of consistent research training in LIS master's programs exacerbates the research anxiety faced by academic librarians, especially for those new to librarianship or in their first library faculty position, with or without tenure. Academic library administration and supervisors face challenges to support librarians who enter the profession with varying levels of expertise in research. The transition to academic librarianship would be easier for early-career librarians if they were better prepared for the research requirements and expectations in academic libraries.

A more robust approach to research education in ALA-accredited master's degree programs in schools of library and information science would provide early-career librarians with research confidence and a consistent foundation on which to develop additional research skills. Many IRDL participants wrote in their application letters about anxiety surrounding the research requirements of their jobs, whether they were recent graduates in their first jobs or more experienced librarians, perhaps in their first tenure-track job. All applicants were self-described novice researchers, but although many had published co-authored articles in peer-reviewed journals, they felt unprepared to establish and carry out their own research agendas. LIS master's programs prepare students for professions in academic libraries through coursework and internships, but largely ignore the need to acculturate students to a profession that will expect them to conduct research. Librarians would benefit from formal coursework in research methods, direct research experience, and research mentoring. Internships in academic libraries could include opportunities to work on research teams with academic librarians.

Most studies of research training environments examine academic courses and academic departments, but IRDL demonstrates that short term continuing education workshops can produce similar results. In addition to conveying curricular

content and providing opportunities to practice skills like conducting a focus group or an in-depth interview, the summer research workshop also created a community of practice. The participants who came from outside the Los Angeles area lived in apartments on campus, were provided with opportunities to socialize on the weekends and days off, and were able to build communities around the shared purpose of working on research together. IRDL demonstrated that follow-up activities and peer support could extend the effectiveness of the workshop. During the last three years of the program, each Scholar worked with a research mentor through a structured program. The mentorship was critical for many librarians, especially when they encountered barriers to completing projects as planned. Few projects go exactly according to plan, and mentors were often instrumental in helping the Scholars find alternative paths to success.

As the effects of the pandemic lessen and workplaces normalize, there is evidence that “the librarians are not okay” (Petersen 2022). Many librarians are seeking new jobs (Heady et al. 2020) and more empathetic work environments (Petersen 2022). Appropriate preparation for, and ongoing support of, academic librarian research could be one way in which we show care and concern for our colleagues. LIS faculty and administrators must collaborate with library administrators and supervisors to develop and support a culture of research with and for librarians.

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