



Pre-Service School Librarians' Perceptions of Research Pedagogy: An Exploratory Study

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Abstract

This article is an exploratory study of graduate-level instruction on research designs and methods for pre-service school librarians (PSSLs). Using a focus group of one cohort of PSSLs, we examine students' perceptions of understanding research methods, course content and delivery, and self-reported application of new knowledge from a sequence of two graduate research courses in a Master's degree program. Findings indicate increased appreciation and understanding of the research process among participants and the ability to integrate the research findings of others into their own practice, while also indicating little or no confidence in their own abilities to conduct research in their new positions as school librarians or report on their findings to others. Findings point to opportunities to improve instruction through intellectual accessibility, focusing on action research for the practitioner, and scaffolding learning throughout the graduate program.

Introduction

Research Question and Purpose

The American Association of School Librarians (AASL) recently added a strand to their national conference titled "Research Into Practice." As 2018–2019 AASL President Kathryn Roots Lewis stated in a 2019 press release authored by Jennifer Habley, "This session strand will inform best practice in school librarianship by bringing the latest research findings to us as practitioners. Well-crafted research is critical to evolving our roles as leaders who transform teaching and learning for all learners." As educators of future school librarians, we believe a part of our responsibility in preparing pre-service school librarians (PSSLs) is to guide them in understanding how to connect research and practice (AASL 2010). To better serve students,

teachers, administrators, parents, and the broader school community, school librarians, like other educators in K–12 schools, require the knowledge to incorporate into their work current research in the field (AASL 2010). Additionally, the incorporation of research as a part of best practice in K–12 instruction must include how to prepare PSSLS for the inquiry work necessary to improve their own practice.

How to effectively incorporate teaching these necessary research skills and practices into a school librarian preparation program remains a concern. The Competencies in the AASL Standards are robust with requirements, and there is only so much room for content in a graduate program. In the limited amount of time available for students to complete their graduate work, how should school librarian preparation programs ensure that students graduate with the knowledge and skills necessary to conduct and apply research as practitioners? In this study, we were guided by the following exploratory research question:

How should a school library program prepare pre-service school librarians to integrate research into their future practice?

Using a focus group of PSSLS, we critically examined our instruction through an existing two-course sequence of research methods in education with an emphasis on school libraries. Our purpose was to understand the effectiveness of the instruction and explore ways to improve our practice.

For a list of definitions for this paper, see Appendix A.

Practitioner Research in Library and Information Science

The library profession recognizes many options and opportunities for using research to improve practice (Ballard 2015; Cleyle and McKenna 2016; DiScala and Subramaniam 2011; Griffin, Lewis, and Greenberg 2013; Gordon 2009; Hamilton 2008; Henley 2006; Horowitz and Martin 2013; Oberg 2006). However, Lisa R. Horowitz and Jason Martin (2013) addressed concerns about the lack of quality research about practice and the corresponding failure of practitioners to understand research or how to conduct it. Additionally, very little practitioner research is disseminated through published research. In a study of the methodologies used in library and information science (LIS) research, Ahsan Ullah and Kanwal Ameen found only 1.2 percent of studies were case studies or action research (2018). (Ullah and Ameen grouped these two research types together in their data collection.) In practitioner journals for school librarianship such as *Knowledge Quest*, *Teacher Librarian*, and *School Library Connection*, few articles published can be categorized as research. In a study of the LIS literature, in which these three journals were included, Mirna E. Turcios, Naresh Kumar Agarwal, and Linda Watkins (2014) found that just 16 percent of the articles presented could be considered research, per their study's definition. Articles on school library instruction and practice in these journals, instead of reporting systematic evidence, tend to report more-casual observations about the self-described "success" of new programming and instructional techniques. The focus in the journal articles is on the perceptions and impressions of a new project or program. These articles often lack comparison to previous instruction, presentation of any systematic data collection, or reports of anything beyond personal observations. School librarians may lack fluency in the language of research and confidence in the application of data necessary to demonstrate impacts on communities (Todd 2009; Williams and Coles 2007). Additionally, Ray Lyons (2009) has argued that school librarianship may be overly concerned with conducting research that aims to support advocacy rather than more-rigorous research to improve practice (2009). This lack of replicable

research in school libraries occurs despite an emphasis in graduate programs of competencies based on the assertion that conducting research is a vital task for all librarians.

Research Pedagogy in School Library Programs

The competencies for librarians as articulated by professional organizations include numerous statements that point to pre-service librarians' need to be knowledgeable about understanding, conducting, and analyzing research. The American Library Association (ALA) competencies state that a librarian will know “the techniques used to analyze complex problems and create appropriate solutions,” the “fundamentals of quantitative and qualitative research methods,” and “the principles and methods used to assess the actual and potential value of new research” (ALA 2009). The Reference and User Services Association (RUSA) states that a librarian “collects and analyzes information about users and user interactions with the library and its services” (RUSA 2017, sec. 5F.3). This data collection is often done through surveys, focus groups, case studies, and/or evaluation of the research of others to enhance library services. In similar standards, other divisions of ALA have statements regarding the needs of librarians to be able to conduct research and analyze and incorporate the findings of other researchers (Young Adult Library Services Association 2017; Association of College & Research Libraries 2017; Association for Library Service to Children 2015).

AASL goes beyond just understanding research, stating, “Candidates use evidence-based, action research to collect data,” and “interpret and use data to create and share new knowledge to improve practice in school libraries” (AASL 2010). In particular, school librarians are expected to engage in action research directed at understanding student learning. Despite these requirements in the field's competencies, instruction on research and incorporating research into practice is missing in many graduate programs for librarianship and school librarianship. Lili Luo (2011) found that only 51.4 percent of MLIS graduates reported they took a research methods course but 73 percent said such a course should have been offered.

LIS graduate programs might benefit from examples and models of teaching research methods to other pre-service educators. Specifically, action research is taught to pre-service K–12 classroom teachers and is sometimes referred to as *classroom research* (Hopkins 2014). An educator conducts action research with the intent of completing “a systematic enquiry with the purpose of understanding and improving one's own practice” (Hopkins 2014, 8). Instruction in conducting action research and applying the findings could provide school librarians with a better understanding of how to reflect on their practice in a systematic way. Knowledge of action research as a process for action, reflection, and making adjustments to practice would benefit both pre-service school librarians and their students. PSSLs could also benefit from learning action research in a collaborative relationship with pre-service classroom teachers. Engaging in collaborative research with pre-service classroom teachers might also help solidify relationships with future colleagues (Christenson et al. 2002; Mitchell, Reilly, and Logue 2009; Moran 2007).

Teaching action research does not cover the entirety of integrating research into practice, and teaching evidence-based practice (EBP) could play a significant role for PSSLs. EBP in school librarianship is:

an approach to professional practice in school libraries that systematically engages research-derived evidence, school librarian-observed evidence, and user-reported evidence in iterative processes of decision making, development, and continuous improvement to achieve the school's mission and goals. (Todd 2008, 18–19)

Ross J. Todd's EBP framework includes three types of evidence:

- Foundational evidence: "Existing formal research provides the essential building blocks for professional practice."
- Process evidence: "Locally produced evidence—data generated by practice (librarian-observed evidence)—is meshed with research-based evidence to provide a dynamic decision-making environment."
- Outcomes evidence: "User-reported evidence shows that the learner changes as a result of inputs, interventions, activities, and processes." (2015, 9)

When action research is considered in the context of these three components of EBP, action research could be viewed as being in partial alignment with EBP. The data collected by school librarians as part of action research could be seen as the process evidence that Todd details. Additionally, the cyclical nature of action research matches with outcomes evidence in EBP because action researchers look at their own practices to make changes and adjustments to improve practice, and then go through the process again to measure for potential improvements. Both action research and EBP could be tools to improve instruction of PSSSLs on research completed by practitioners. Both provide some context for this research study.

Context: Our School Library Program

Most of the PSSSLs in our LIS graduate program are licensed teachers who want to add an endorsement as school librarians. Our program is entirely online, and we serve students across our state as well as out of state and outside the United States. As part of their required coursework for their Master of Education (M.Ed.) degree, PSSSLs take a two-semester course sequence at the end of their LIS studies in the preparation program. In these courses, students develop, conduct, and write a "problems paper." Our students generally take the first course of the sequence, an introductory research course, in another department with other graduate students earning an M.Ed. or preparing for a doctoral program. The first course is not tailored to school librarianship; students are expected to develop a research question immediately and write a three-chapter proposal by the end of the course. The introduction to research methods in this first course is likely to be PSSSLs' first exposure to the various paradigms of quantitative, qualitative, and mixed methods research designs. Yet by the end of the course, students are expected to produce a proposal with methodology. Students whose proposals included research with human subjects were required to submit their proposals to the university's Institutional Review Board process. The textbook for this first course in the sequence, authored by John W. Creswell (2009), is most familiar to and perhaps best suited for students in doctoral programs. In the second semester of the sequence, our PSSSLs are expected to conduct the research proposed during the first course in the sequence, analyze their findings, and complete a five-chapter paper. The cohort featured in this study took both courses in the sequence with an LIS faculty member; however, the course content was derived from the traditional courses.

The products of this course sequence resembled a mini-dissertation condensed into two academic semesters. Indeed, in a survey of LIS programs that focused on end-of-program assessments, respondents identified preparation for doctoral study as an advantage of the research thesis for the MLIS (Burke and Snead 2014). The kinds of problems PSSSLs at our university chose to explore were generally not problems of practice, as would be typical of the action research one might expect from a K–12 school librarian. Most PSSSLs were not in school library positions at

the time and, therefore, were unable to examine daily school library practices. Instead, PSSSLs frequently conducted surveys of practicing school librarians with participation elicited through a professional online discussion group. Finally, while PSSSLs may have been presented with the suggestion of publication, students had no requirement or incentive to publish their papers.

Methods

Guiding this study was the exploratory question: How should a school library program prepare pre-service school librarians to integrate research into their future practice?

Participants

Participants for this study had recently completed their M.Ed. with a school library endorsement. In the year prior to data collection, these graduates had completed the research sequence in their graduate program: two research courses sequentially over two semesters. The participants for this study took these courses as a cohort group with the same instructor teaching both courses. Participants were part of a competitively selected small cohort of students funded by an Institute of Museum and Library Services grant and were all teachers in rural areas of a state in the mid-Atlantic region of the United States. All eleven members of the cohort were invited to attend a focus group to discuss their perceptions of the courses, and six participants attended. Participant consent was obtained and documented through e-mail correspondence after university IRB approval had been received.

Data Collection

As the researchers of this study, we collected and analyzed various data to understand how the participants perceived their preparation for the course sequence, engagement during the sequence, and their ability to conduct and publish their own research after instruction. As previously described, data was collected during a focus group interview. Because participants were in a cohort with a shared experience, use of the focus group method allowed participants to share and compare their experiences and arrive at a common meaning for what they went through in the program (Morgan 2012, 168).

We conducted one semi-structured focus group session with the six participating PSSSLs. For data collection we developed questions with an exploratory focus using grounded theory. We employed Kathy Charmaz and Linda Liska Belgrave's symbolic interactionist theoretical perspective (2012) with constructivist methods, in which we assumed the perceptions of the participants as important, because multiple realities exist, and we wanted the data we collected to reflect mutual constructions of ours and the participants. We entered into the participants' world and were thereby affected by it (Charmaz and Belgrave 2012, 349). In keeping with grounded theory, the questions developed for the focus group were "sufficiently general to cover a wide range of experiences and narrow enough to elicit and explore the participant's specific experience" (Charmaz and Belgrave 2012, 351). Questions for the focus group permitted participants to go off on tangents and introduce new topics to the discussion. The protocol for the focus group is in Appendix B.

The focus group met and the interaction was recorded in an online space. The three researchers as moderators used video, and participants responded by typing in a chat box viewable by all

researchers and student participants. This type of space and method of conversation was familiar to the participants. Our program faculty use these types of synchronous meetings throughout the students' coursework with students typing responses to oral questions and prompts from their instructors. Participants were given sufficient time to reply to one another's responses, in addition to responding to each of the questions we posed.

Data Analysis

The analysis of the focus group data followed the same constructivist grounded theory method used in data collection (Charmaz and Belgrave 2012). The recording of the focus group was transcribed to include the oral questions from the researchers and the written responses from the focus group participants. To start the process of *initial coding*, each researcher independently read the entire transcript and conducted one independent round of coding, while remaining aware of any developing themes (Charmaz and Belgrave 2012, 356).

For the second step of initial coding, we researchers held consensus coding meetings to compare codes among us, replaced codes from different researchers that included similar terms, and established new or clarifying codes where discrepancies arose between different researchers' codes. With an established list of codes agreed upon by all researchers, each of us returned to the transcript to recode the data in another round of the initial coding phase. After this complete coding of the data, we researchers met again to discuss any discrepancies. Consensus was reached on all codes.

From the initially coded data, we participated in *focused coding*, “adopting frequently reappearing initial codes to sort and synthesize [the data]” (Charmaz and Belgrave 2012, 356). Using the same process of consensus meetings and discussion among us, we deductively collapsed the codes, and several themes emerged. The themes were collapsed again into three emergent themes. Presented in the findings below are the three major themes: student confidence, course design, and application to practice.

Findings

Overview

The participants in this study completed a two-course sequence for the competency requirements that focused on research methods for research. Pre-service school librarians (PSSLs) received instruction in conducting research, completing a research study, and reporting their findings from that study. Analysis of the transcripts produced three major themes: student confidence as researchers and consumers of research, the design of instruction, and applications of student learning to practice.

Student Confidence

A robust theme from the focus group was the PSSLs' perception that after they had completed this two-semester research sequence, they knew enough about research to believe:

- they had not conducted their own original research well, and
- they would not be able to conduct research successfully out in the field.

Student confidence during and after the course remained low. As one participant remarked: "I felt like a dope for two semesters, really. Like I should have known how to do it, but didn't."

Students stated that from the very beginning of their instruction, they lacked confidence about their understanding of research methods and about conducting research. A contributing factor to low confidence at the outset was the students' perception that they were not prepared for the research sequence by other courses earlier in the program. A participant said, "It was like jumping into a lake and not knowing how to swim." While the students were comfortable discussing other topics about school libraries by the end of the school librarian preparation program, the research sequence was "so different from anything else [they] had done" in their coursework or practicum experiences, and they did not have any sense of mastery.

Students detailed some ways the program might have prepared them more for learning about research:

- reading more academic articles in other courses similar to the ones presented in the sequence,
- completing a mini-review of literature in another course,
- incorporating elements on conducting action research throughout other courses, and
- introducing the different parts of original research and scientific reporting earlier in the program.

While students focused largely on feeling like a "lost puppy" as they began the research course sequence, they did describe some parts of the program that had helped them prepare for understanding research. These included learned skills such as how to use the university databases and writing using the formal style of the American Psychological Association. However, students did not see their preparedness for these tasks as being as impactful as the previously mentioned opportunities for preparation that they had not received.

Generally, students came away from the two-course sequence feeling they were competent consumers of research. For example, a student said, "I think [the sequence] made me more comfortable and better able to understand when I read research that others have conducted." Other students also stated they could better read and understand the literature, findings, and analysis presented in formal research studies. This new understanding also changed their perspective on the value of the research process. A student said, "I feel I have a lot more respect for articles that I read now because I realize how much went into [them]."

Their confidence in understanding research did not stretch into the areas of conducting research or reporting research findings. Students expressed a situation analogous to a person learning a new language. The students were at the point of feeling comfortable getting some understanding from reading the language but were not yet brave enough to converse with other fluent speakers. A representative comment from one participant was: "If/when I have a library I feel like I would be able to make sense of or emulate the necessary steps to program implementation. Still feel like I would make a lousy researcher myself, however." Another student mentioned feeling incompetent in her ability to conduct future research or to publish the results of her research. She expressed knowing her work was not of the same caliber as what she was reading in the literature. She said, "Some of the other research samples I looked at had LOTS and LOTS of statistical data....mine was much more 'lower-level' and simplistic."

For the culminating assignment in the second course in the sequence, PSSLs produced a Master's thesis with original data collection and analysis, with final products totaling around seventy pages in length. Despite completing such a significant product, students lacked confidence in working towards publishing their findings to a broader audience after the research sequence was completed. Among their comments were:

“I thought about publishing, but have no idea on what to do with it!”

“I still feel as though I don't have a solid enough understanding to publish myself. I'm not sure why that is....”

Course Design

A second theme related to the design of the course. Students reported that, from their perspective, numerous aspects of the course design failed to contribute to their learning about research. Issues with the course design included: understanding expectations, the intellectual level of the material, their need for more direct instruction, preparation of prior knowledge, and the amount and kinds of instructional feedback students received.

Students indicated being unclear as to whether the work they had completed was above or below the expectations of the instructor. “I felt so overwhelmed.... I felt like we had to do so much without even knowing yet what was expected of us.” Students reported feeling they had to discover their own way through the beginning course, but felt they lacked the basic knowledge and skills necessary to understand even the introductory material. Student perceptions of course content indicate that it was not at an intellectual level that was accessible to them. The required Creswell text (2009) was beyond their comprehension. Among the comments was: “This stuff was more for doctoral studies, right?”

Students indicated they still had much confusion about the different types of research and research methods, with one participant articulating the shared confusion as: “Qualitative, quantitative, mixed methods...just a jumble.” The difficulty of identifying different types of research persisted throughout the research sequence, including the ability to determine which methods would be most appropriate to answer a particular research question. “I ended up doing mixed methods, partly because I couldn't decide on what would be best, so I threw it all in!” Exemplifying this point, one student said, “[my study] was quantitative, I think, but yet I did NO statistical analysis...huh??”

Beyond not understanding the chosen textbook and some of the assigned readings, students discussed the need for more direct instruction in the course and the need for clarity on basic principles before moving forward with assignments. They did not understand the materials and felt they were not receiving enough instruction or clarification on content they didn't understand. One participant said:

It was very hard to be told “read the chapter in Creswell's book and think about whether you want to do quantitative, qualitative, or mixed methods.” I read the chapters in the book and still didn't understand the difference.

This confusion continued during the focus group discussion as students had difficulty differentiating between conducting original research and finding background information on an area of inquiry or interest. For at least one student, there was still confusion between the processes by which one conducts traditional and action research (systematic processes for analyzing collected data) and background investigation (processes of problem solving through

seeking information as provided by others). Even after completing the courses, this student talked about the Super3 and the Big6 (Berkowitz and Eisenberg 1990), which are taught to K–12 learners as an inquiry process, as though K–12 learners were doing the same type of original research and data collection expected of these Master's degree candidates in the research class.

Students did identify the required review of the literature as a helpful course assignment. This review allowed them to enter the field of school librarianship possessing information based on empirical evidence. Students discussed the benefits of using research findings from the field to engage other educators in discussions from an informed, rather than anecdotal, stance. As one participant said, "All those articles and research I gathered have come in VERY handy during my discussions with the new principal and the teachers." Some students felt they learned far more from conducting background investigations on their topics than they did from attempting original data collection and analysis.

Students reported mixed perceptions on the feedback they received from the instructor. Some students stated the feedback from the instructor was essential to their success. Those students who reported positive discussions with the instructor felt reassured that they were "on the right track." Students talked about getting stuck determining their research methods and not knowing if their research ideas were too broad or narrow, and found the feedback in conversations with the instructor to be "invaluable." Other students reported the feedback they received as insufficient, and they did not feel encouraged in their understanding of the research process.

This group of students went through the program in a cohort, specifically taking all classes together and beginning and ending the program at the same time. Prior to the research sequence, they had completed numerous group projects together and interacted on a regular basis both formally and informally. With the research sequence at the end of the program, students in the cohort knew each other well, and some relied on one another for feedback and support. "I got more of my feedback from peers, because we talked frequently." One student stated the feedback received from peers was "amazingly encouraging!!!!!!" Another indicated that she was uncomfortable providing informal feedback to other students because she did not feel she understood the material well enough to help anyone. Not all students sought peer feedback, and one student indicated that she felt she was "floundering on my own" in a "very lonely" semester.

Application to Practice

Along with the themes of students' lack of confidence in understanding and applying research methods, and their issues with the course design, a third theme that emerged was the PSSSLs' confidence in applying research to practice. Participants:

- identified a reluctance to publish their work,
- expressed apprehension about applying what they had learned when they entered the profession,
- evidenced having failed to recognize the importance of sharing their findings and the potential use of research toward strengthening their own practice, and
- expected a lack of support for future research in their districts.

Student reluctance to publish their research was in contrast to the comfort and accomplishment they felt in writing for publication at another point in their graduate program. This other publishing experience did not include original research, but was instead a commentary and

reflection on certain aspects of practice, such as collaboration with classroom teachers. Students expressed a continued interest in publishing and writing about experiences other than original research: "I will definitely want to publish again, but not based on that research. I would publish as a practitioner, not necessarily a researcher."

The lack of confidence that students felt in their final products of the research sequence was echoed by apprehension about applying their new knowledge of research to practice. While students expressed a new understanding of research, it did lead to application in the field. "I could understand and see how to apply research within a library, but since the opposite was our goal, I'm not sure that I became a better researcher."

Students did see some value in application. However, they looked at it more casually, without a willingness to share empirical evidence from research, but rather collecting data only for their personal needs of making changes in their own instruction. Their new knowledge gave them some agency about collecting data. One participant said, "I think the research sequence probably taught all of us that when issues come up, we can be more confident in our ability to go out there and find the reliable information we need." As an example, one student talked about conducting research for personal reflection on practice: "I will definitely do surveys again to see what people in my school think about something I am planning to implement." But that student was clear that it would not be at the level of rigor done in the research sequence: "I would do research in my library, but I don't think I would go about it in the same way." Reluctance persisted. Another student commented: "I never would have known how to approach research before, so now I know all that goes into it, with the permissions, different types of research, the lit review. I know that if I needed to, I could plod through it again."

Regarding the research they conducted with their own data collection, students framed the outcomes of their work in the course through the lens of traditional research at a highly rigorous level, rather than through the practitioner lens of action research. For example, one participant said:

I don't think I would feel like I need to set it up with a proposal and an outline ahead of time. I would do research to improve my own practice, and then if it seemed that it could have implications for others, I would start to frame the research from that point. I feel that it would need to be more fluid (that's probably not the right word, but I can't think of a better one right now).

In this example the student is describing action or practitioner researcher but sees it as disconnected from the proposal and outline that were features of the research protocol they were taught.

In discussing application of research in their future practice, some students expressed concern about the obstacles they might encounter. The research sequence gave PSSLS experience that was often surprisingly negative when they attempted to elicit participation from colleagues in the school and district. One stated frankly, "I had to beg." All students in this course sequence were required to go through the university process for approval to use human subjects. The experience left them paralyzed about future research because they didn't really understand if and when they needed to seek this approval—or even from whom to request approval after they left the university. PSSLS also talked about time or lack of an assistant in the library as a barrier to conducting research in their new positions.

Discussion

This exploratory case study examines one librarian preparation program's instructional approach to PSSSLs' research methods preparation. Developed findings from one focus group of PSSSL graduates who recently completed the course sequence suggest inadequacies in coursework design for research development as well as potential program improvements to better structure research instruction and improve outcomes.

Seeing Value in Research

As a result of this course sequence on research methods, the views of the participants in this case study changed in regard to research. The PSSSLs felt they had a better understanding of empirical research overall and the components and results of studies typically found in academic and refereed journals, as well as the more-accessible practitioner journals. As their understanding of academic research increased, they also recognized the value of incorporating the findings into their practice, adopting new ideas, and adjusting their practice. From the new experiences in conducting action research, the students had an increased respect for the amount of time and effort that goes into conducting and reporting original research. These perceptions of research align with what is described by Todd's evidence-based practice (EBP) framework (2009) as foundational evidence, in which practitioners focus on *understanding* research.

Despite the explicit attention of the faculty to address competencies related to original research (AASL 2010, 2018; ALA 2009) in coursework, the PSSSLs in this study still did not recognize the inherent value in *conducting* research on practice in the school library setting. After the completion of the research sequence, a disconnect remained between participants' perception of the value of conducting research and their perception of the value of interrogating one's own practice for the purpose of instructional improvement to enhance student learning. Participants in this study expressed understanding of the need to collect evidence to reflect on their practice, showing some indication of the importance of both reflection and the evidence used to inform that reflection. However, they did not see the research process as a required series of actions. This perception created a further disconnect for the student participants who failed to make a strong connection between the research they were conducting and its application to their practice of facilitating K–12 students' learning.

Additionally, understanding the process to collect evidence for oneself did not transfer to a confidence in sharing the evidence and results with others. This process of analyzing data sources and outcomes to imply valid justifications is known as disseminating research. The *Standards for Preparation of School Librarians* clearly emphasizes sharing knowledge with the expectation that candidates “interpret and use data to create and share new knowledge to improve practice in school libraries” (AASL 2010). However, the students in the focus group gave no indication that they were ready to conduct action research in their libraries and publish their findings for the benefit of others. Either they did not see the value in reporting their findings or did not feel comfortable reporting on their data collection—or they felt that their work was not as relevant or at the caliber of what they regularly read for class.

The National School Library Standards emphasize “Share” as one of four Domains applied throughout the standards for learners, school librarians, and school libraries (AASL 2018). However, despite the clear emphasis on sharing and creating new knowledge, few models of published research exist in the literature for school library practitioners and PSSSLs (Turcios,

Agarwal, and Watkins 2014). In fact, many models of action research do not include a dissemination stage. The outcome of action research is assumed to be only further action. Many models depict action research as an iterative cycle through which data continuously informs practice, but these models do not articulate when or how it is appropriate to share methods or findings. Carol A. Gordon has suggested that “action research is distinguished from formal research in that its results are articulated through an action plan that addresses the problem identified in the action research” (2006, 8). In 2009 Todd emphasized dissemination as a component of EBP, but he did not specify the type of dissemination that might contribute to the broader practice of school librarianship through publication. When dissemination is discussed it is often localized with a focus on sharing at the building or community level, rather than by means of national publications (Ballard 2015).

Students in this exploratory study saw the value in being reflective of their practice. However, they did not always see these efforts as being a form of research, action or otherwise. Students specifically mentioned tasks such as using surveys to find out about the perceptions and knowledge of teachers or students in respect to the school library, but did not recognize such acts as performing action research. After students had completed the course sequence, a disconnect continued to exist between what the students considered to be legitimate research and the reflective action research practices these students were already conducting as practicing school librarians.

Not Being Ready, and Knowing It

Students' responses in this focus group provided evidence that they were not ready to conduct research of their own. Students remained confused by some of the basic terms used in research, particularly how to distinguish between quantitative, qualitative, and mixed methods research. The students had spent two semesters in the course sequence, collected original data, and produced lengthy reports, but still lacked some basic knowledge and essential terminology. One student even indicated an inability to differentiate between conducting research with original data collection and the process of examining others' research through a process of inquiry.

Though gaps in the participants' knowledge of research were evident, the students expressed an awareness of their ignorance and confusion, which came through in expressions of *conscious incompetence*. Students came away from the course knowing they were incapable of conducting research in their future practice. Conscious incompetence is a step recognized in a learning sequence often referred to as a ladder beginning with unconscious incompetence (you don't know what you don't know); conscious incompetence (wow – there's so much I don't know); conscious competence (I can do this); and unconscious competence (I did this, but I don't know how) (Howell 1982). In some ways, this recognition of their own lack of readiness to conduct research in the field is connected to the confusion between original research and the process of inquiry. PSSSLs came away from this experience feeling like they were competent consumers of research (perhaps) but not competent research practitioners. They felt like they knew enough about research to view their own work as unworthy of sharing with others in the field.

Instructional Barriers

Beyond their own perceptions, the students identified a number of potential problems with the course sequence and their preparation elsewhere in the program. Many comments students made in the focus group expressed their feeling of being lost and the need for more guidance, structure,

and scaffolding before the course sequence began. They felt they would have benefitted from more interaction with action research throughout the preparation program. The content of the course sequence was largely inaccessible to the Master's students in the program. They felt they were expected to learn material and produce deliverables that they considered—accurately—to be doctoral-level coursework. They recognized this reality and rose to the challenge, but expressed a lack of confidence in being successful at the task.

Connecting these two issues of structure and content within the course sequence was the need for more guidance and instruction to compensate for the students having been overwhelmed by the high level of complex material. The PSSSLs were expected to do too much on their own and did not receive an adequate amount of feedback from the professor. This situation resulted in reliance on feedback from their peers, who were no better equipped to answer their questions.

Future Actions

Changes in the Master's Program

Based on the outcomes of this study, faculty are considering a number of changes to our program to better prepare students for the course in research methods. One of the biggest changes will be the terminology we use. When action-related research has been presented during the Master's program, it has been referred to by different names, including "action research," "evidence-based practice," and/or "data-driven decision-making." When hearing and reading different terminology, students may have difficulty making connections between the topics, despite their being closely related. In the future, we hope to provide consistency by highlighting similarities among types of research and aligning language throughout coursework. How to understand the research of others and how to conduct reflective, evidence-based practice should be woven into coursework throughout the program. By making the topic easily identifiable, PSSSLs within the program can make connections between the different types of evidence and action research conducted by practitioners.

We plan to incorporate more instruction about research into the introductory foundations course students take as they begin the program. Teaching PSSSLs about research in a single course is insufficient to support their building an understanding of how they can conduct action research in their practice (Christenson et al. 2002). This consideration of research in other courses will include looking at current trends in both academic and action research in school libraries. Along with an earlier introduction to research results, at earlier points in the program students will be introduced to the parts of the research process and the activities involved. For example, in their course on leadership and management, students may create a literature review, annotated bibliography, or grant proposal (which would likely include one of the former). Finally, with the continued emphasis on data-driven practice in education, we plan to include more opportunities for students to examine evidence of practice in school libraries, including the identification of how they could conduct such an examination of their own work as practitioners.

Changes in the Course Experience

Based on the data collected in this exploratory study, we plan to make changes to the action research experience that align with best practices in higher education. The research sequence will be replaced by a single course rather than two courses. In the new single course students will

complete an action research proposal they can submit to their school districts if they choose. It has been recognized that in the first of the two courses presented in the past, students did not have enough time to plan, conduct, and write up the findings of a research project.

In the single replacement course students will complete all parts of the proposal but only as they learn the different steps in the research process. Students will consider their research idea, complete a literature review (which participants in this study indicated was of high value in their practice), propose the methods to answer their research question, and round out the proposal with an introduction and potential impact of the proposed study. Each section of the proposal will be reviewed separately throughout the semester and then brought together with evaluation and reflection occurring during the process and with the submission of the final proposal. Students will receive feedback from the instructor and from their peers at each step of the process. This cumulative assignment will provide students with first-hand experience of how iterative the action research process is and the amount of personal reflection that is required of one's own work.

Conclusion

As Luo (2011) has pointed out, with just more than half of graduate students reporting learning about research methods while studying for their Master's degree in librarianship, students need more and better opportunities to learn about research methods for practitioners. As educators of PSSSLs, we are missing opportunities for collaborative action research between practitioners and academics if school librarians do not see the value of contributing to research in the field.

Participants in this study noted an increased understanding and appreciation of research and the research process after completing the course sequence. However, there is room to improve our efforts through changes in course delivery and content. Such changes may not only help students understand research but may also help them feel more confident in conducting such research in their own practice. By introducing a thread of action research throughout the Master's program, we may see students who are better prepared to conduct and report on action research experiences of their own, thereby contributing to the literature in the field and improving instruction of K–12 students in school libraries and classrooms.

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Appendix A: Definition of Terms

action research: “a systematic enquiry with the purpose of understanding and improving one’s own practice” (Hopkins 2014, 8). This includes research conducted by practitioners, primarily in K–12 education, but possibly in collaboration with others in higher education. The process of action research is cyclical, including an examination of one’s own practice to make improvements in future instruction.

classroom research: original research conducted by teachers in the classroom. *See also* practitioner research *and* action research.

course sequence: *see* research sequence

evidence, types of:

- **foundational evidence:** “Existing formal research provides the essential building blocks for professional practice” (Todd 2015, 9).
- **process evidence:** “Locally produced evidence—data generated by practice (librarian-observed evidence)—is meshed with research-based evidence to provide a dynamic decision-making environment” (Todd 2015, 9).
- **outcomes evidence:** “User-reported evidence shows that the learner changes as a result of inputs, interventions, activities, and processes” (Todd 2015, 9). This evidence is derived from action research.

evidence-based practice: in school librarianship: “an approach to professional practice in school libraries that systematically engages research-derived evidence, school librarian-observed evidence, and user-reported evidence in iterative processes of decision making, development, and continuous improvement to achieve the school’s mission and goals” (Todd 2008, 18–19). This process can include action research (practitioner-gathered evidence), but also includes practice informed by and based on evidence from other sources.

practitioner research *or* classroom research: original data collection and analysis conducted by practitioners in education. A process sometimes referred to as action research. *See also* action research.

pre-service school librarians (PSSLs): graduate students earning a Master of Education degree with an endorsement in school librarianship, preparing to become K–12 school librarians.

research pedagogy: the instruction of research methods and practice to pre-service school librarians at the university program described in this paper.

research sequence: the two courses taken by pre-service school librarians in the graduate program at the authors’ university. The first course provided instruction on research methods. The second course provided an opportunity to practice those methods through a research proposal, data collection, and reporting.

Appendix B: Focus Group Questions

Opening Questions

- Looking back on the last year, you've accomplished a lot. What stands out for you as your biggest accomplishment, or what you overcame as your biggest challenge?
- How did your other coursework in the library science program prepare you (or not prepare you) to be successful in the research sequence?

Reading and Comprehending

- What are all the ways that the research sequence helped you in your ability to read and comprehend research in the field?
- What are all the ways that the research sequence did NOT help you be a better reader of research on school libraries?

Elaborating questions:

- Has your ability to comprehend publications reporting research in school libraries changed since taking [the research sequence]?
- What about reading and analyzing research articles on school libraries still confuses you?
- Having completed the research sequence, what do you think you still need to learn about [the research process]?

Applying

- What are all the ways that the research sequence helped you in your ability to apply research to current practice?
- What are all the ways that the research sequence did NOT help to apply research to current practice?

Conducting and Sharing

- What are all the ways that the research sequence helped you in your ability to conduct and share research?
- What are all the ways that the research sequence did NOT help you conduct and share research?

Elaborating questions:

- Do you feel prepared to conduct action-based research in your school library?
- Do you feel prepared to use evidence-based practice in your school library?
- What do you still need to learn to be more comfortable conducting research in your school library?

- What do you think will be the impact of the research you conducted, if any?

Closing Questions

- Is there anything you did in [the research sequence] that you plan to do again in your school library?
- Do you have any plans to share the work you did for [the research sequence]? A publication or presentation?

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