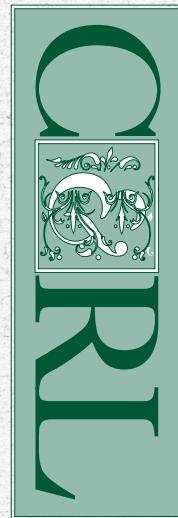

COLLEGE & RESEARCH LIBRARIES



March 2023 • Volume 84 • Number 2

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March 2023

VOLUME 84

NUMBER 2

ISSN 0010-0870

168 **Video Editorial**

Anatomy of a Book Review: Why We Write, Why We Read Video

Emily Drabinski, Kaia MacLeod, Mallary Rawls, Ashley Roach-Freiman, Charlotte Roh, Lynne Stahl, Darren Sweeper, Anders Tobiason

169 **The Library Is My Canvas: Art and Experiential Learning in an Academic Library**

Gerald R. Natal and David Remaklus

180 **Exploring Faculty Perspectives on Text Selection and Textbook Affordability**

Rachel Elizabeth Scott, Anne Shelley, Julie Murphy, Rachel Park, and Mallory Jallas

203 **More than a Decade Later: Library Web Usability Practices at ARL Academic Libraries in 2007 and 2020**

Yu-Hui Chen, Carol Anne Germain, and Abebe Rorissa

228 **DH Eh? A Survey of Digital Humanities Courses in Canadian LIS Education**

Marcela Y. Isuster and Donna Langille

238 **Digital Shred: Case Study of a Remote Privacy Literacy Collaboration**

Sarah Hartman-Caverly, Alexandria Chisholm, and Alexandria Glenn

260 **Breaking Barriers: How Libraries Can Better Support Female Architecture Students for Professional Success**

Cathryn Copper and Sara Jamal Eddin

280 **Liaising the Catalog: Collaborating Across Library Departments to Promote Successful Discoverability through Enhanced Cataloging**

Tammie Busch, Debbie Campbell, Susan M. Howell, Mary S. Konkel, Dennis Krieb, Mingyan Li, Cathy Mayer, and Ross Taft

296 **Book Reviews**

296 Paul M. Dover. *The Information Revolution in Early Modern Europe*. Reviewed by Jason Dyck

297 *The Community College Library: Reference and Instruction*. Janet Pinkley and Kaela Casey, eds. Reviewed by Jaime Hammond

301 *Practicing Social Justice in Libraries*. Alyssa Brissett and Diana Moronta, eds. Reviewed by Jessica Schomberg

301 Tracey Overbey and Amanda L. Folk. *Narratives of (Dis)Enfranchisement: Reckoning with the History of Libraries and the Black and African American Experience*.
Amanda L. Folk and Tracey Overbey. *Narratives of (Dis)Engagement: Exploring Black and African American Students' Experiences in Libraries*. Reviewed by Jamillah Scott-Branch

302 Kristin Briney and Becky Yoose. *Managing Data for Patron Privacy: Comprehensive Strategies for Libraries*. Reviewed by Jasmine Shumaker.

304 Becky Siegel Spratford. *The Readers' Advisory Guide to Horror, Third Edition*. Reviewed by Lizzy Walker.

Video Editorial

Anatomy of a Book Review: Why We Write, Why We Read Video

Book reviews have long been a staple of the scholarly conversation. Reviews connect researchers to recent publications, expand the audience for individual titles, and shape the boundaries of what counts as part of the library and information studies literature. At the same time, reviews can reinforce traditional academic hierarchies, particularly in terms of what books are reviewed and who is invited to render their opinion. Outgoing *C&RL* book review editor Emily Drabinski and a group of recent reviewers discussed the state of the academic book review in this lively conversation from January 20, 2023.

Emily Drabinski, *City University of New York*

Kaia MacLeod, *University of Calgary*

Mallary Rawls, *Florida State University*

Ashley Roach-Freiman, *University of Memphis*

Charlotte Roh, *California Digital Library*

Lynne Stahl, *Wesleyan University*

Darren Sweeper, *Montclair State University*

Anders Tobaison, *Boise State University*

View the recording of the Anatomy of a Book Review: Why We Write, Why We Read webcast on the ACRL YouTube channel at <https://youtu.be/iCIAEFPNkrM>.

The Library Is My Canvas: Art and Experiential Learning in an Academic Library

Gerald R. Natal and David Remaklus

The literature concerning experiential learning in academic libraries generally pertains to opportunities for student workers and library and information science students, along with case studies of experiential learning integration into the classroom. This article details the successful partnership between an academic library and university art program, demonstrating the library's progression from provider of traditional resources and space for displaying student artwork to experiential learning environment for project-based learning opportunities requiring total student involvement from conception to completion. These experiences provide for unique learning opportunities, beautification of the library, and expansion of the library's identity on campus as a learning space.

Introduction

The merits of learning by experience are evident in the library literature, starting with practicums and fieldwork as important elements of library and information science (LIS) education. Initially, workplace learning was the dominant philosophy in LIS, with theory in the curriculum and the importance of the classroom prominent from the 1920s until a swing back toward experience in the 1960s.¹ The broad term "experiential learning" encompasses practicums and fieldwork as well as internships, cooperatives, and a variety of approaches whose definitions are sometimes used interchangeably. Wurdinger and Carlson² identify five major approaches: active learning, problem-based (and inquiry-based) learning, project-based learning, service learning, and place-based learning. All of these approaches, with the exception of place-based learning, are common in the library literature. Active learning involves anything outside of the traditional lecture that engages students in classroom discussion with one another, such as debates or presentations. Problem-based and inquiry-based learning share the goal of fostering critical thinking skills by solving real world problems. Project-based learning allows students to plan their own projects grounded in their own interests. Service learning goes beyond volunteering and community service in that it must directly benefit the student in terms of "learning from service." What these approaches have in common and where they differ from internships, cooperatives, practicums, and volunteering is in their absolute requirement for reflecting on the experience. These topics are represented in the library literature, where those

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articles pertaining to art students are concerned mostly with collections and image resources. This article goes beyond such topics to endorse the use of project-based learning (PBL) as a source of meaningful experiences for art students. Markham³ insists that PBL is not merely doing projects, but instead must involve formative feedback, guidelines, systematic evaluation, and a de-emphasis of the curriculum in favor of a “shift in power” to the student. The case studies covered in this article substantiate the effectiveness of PBL and can serve as a blueprint for establishing similar connections between libraries and art programs.

History/Background

Conversations regarding experiential learning in formal education can be found in the education literature dating from the late 1800s. An educator of the time suggested teaching Colonial history by allowing students to participate in activities that give them an idea of the Colonial lifestyle; another recommended teaching English composition by allowing students to reflect on their own experiences prior to writing.⁴ Ideas such as these and criticism of the formal education of the day were a move away from an unnatural system of education designed as indoctrination for an industrial workforce.⁵ A major shift in view point was built on the work of several luminaries from the areas of education, philosophy, and psychology, including major contributions from Bruner, Dewey, Freire, Jung, Kolb, Lewin, and Piaget, among others. At the forefront was Dewey, who espoused the need for a theory of experience in education to establish what he called an “organic connection between education and personal experience.”⁶ A central concept for Dewey was the belief that not all experiences lead to positive learning; a student requires guidance, to be supplied by the teacher as facilitator, in a reciprocal relationship with the student.⁷ This idea that learning should not be a unilateral process was echoed by Freire in his now familiar disparaging of the traditional “banking” model of education, in which students are mere receptacles.⁸ Proceeding from Dewey, Kolb devised a four-stage model of experiential learning based on a continual progression through personal experience, action/experimentation, reflection/analysis, and thinking/synthesis.⁹ For Kolb, education supplies the means for the transformation of experience into higher forms of interpreting the world. Another contribution to the conversation was Dale’s development of a Cone of Experience, which illustrates how different levels of experience equate to the amount of learning involved at each level. Dale segmented the requirements for learning into need, experience, incorporation (or synthesis) of the knowledge acquired, and use of that knowledge.¹⁰

Bruner’s interest in learning was more concerned with cognitive development. He suggested three ways in which children model the world through experience: action, visual/sensory organization, and symbolic language.¹¹ Piaget, also interested in learning as it related to cognitive development, believed intelligence developed “only through an organization of successive actions performed on objects,” or to put it more simply, as an outcome of actions between the individual and environment.¹² This idea was shared by Lewin, who held a gestalt view that a person’s psychological nature comprises their psychological state along with that of their environment.¹³ These concepts collapse into a framework for Dewey’s theory of experience, which has been classified into six propositions.¹⁴ To summarize, the framework emphasizes the process of learning, which involves creation of knowledge as what is known is upended by conflicting information. This process involves the whole person, including the person’s environment.

This modern conception of experiential learning begins to appear regularly in the library literature in the 1970s, coincidentally during activities by two organizations of the time—The

National Society of Experiential Education and The Association for Experiential Education—both of which are still in existence. An early introduction can be found among a 1990 collection of essays that endorsed Dewey's philosophy of experiential learning for library educators.¹⁵ The guidelines suggested for inclusion in the library curricula advocate for use of the scientific method, well-intentioned tasks as the foundation for further learning, and real-world problem-solving as applied to specific problems. Since then, experiential learning has appeared in libraries and library education in various forms and levels of participation from librarians, with numerous references in the literature to its use in LIS education and information literacy instruction. Recent examples include service learning,¹⁶ problem-based learning,¹⁷ project-based learning,¹⁸ game-based learning,¹⁹ and inquiry-based learning.²⁰ For integration with courses in disciplines external to the library, librarians often facilitate experiential learning through provision of library resources such as media labs and primary source materials.²¹ Often the library will be the direct beneficiary of student projects, such as the development of marketing plans for promotion or improvement of services.²² A study done to test the effectiveness of experiential learning principles through application of Kolb's theory reported positive effects on both library teaching and learning.²³

The University of Toledo (UToledo) is a public research university in Ohio currently serving about 17,000 students. Experiential learning in the UToledo Libraries is primarily project-based. Project-based learning has been described as "a systematic teaching method that engages students in learning knowledge and skills through an extended inquiry process structured around complex, authentic questions and carefully designed products and tasks."²⁴ It developed as a result of scientific investigation of learning and cognition that moved beyond traditional educational models to include sociocultural and personal experience within a constructivist framework.²⁵ It was driven by a move away from a classroom education system designed to accommodate an industrial society to one that blends knowledge and skill.²⁶ A key characteristic is an acknowledgement of students' natural propensity for learning. Projects are built around central concepts and principles of a discipline, tackle realistic topics, and require essential tools and skills. Projects are achieved through a process of "investigation, research, or reasoning," and usually involve some form of collaboration. Evaluation is typically done in stages as the project progresses, and assessment is performance based.²⁷

Library Art Projects

In an article describing a twenty-four-hour drawing activity held in a library, Loughran, Carver, & Hassall relate that art students "sometimes feel that the library is not for them."²⁸ For the UToledo Libraries, engaging art students traditionally meant building a relevant collection of monographs; this began to change when David Remaklus, the library director of operations, pursued art students and faculty to display their work, establishing the library as a gallery space. This led to the library hosting lectures by visiting artists in collaboration with the school of art. It took a few years for the relationship to fully develop, with the library taking primary responsibility for reaching out to request artwork and programming. The art program at UToledo does not offer courses in art restoration and mural painting; the library in effect expanded the curriculum for art students by offering the opportunity to build skills in those areas. The first example of project-based learning with an art student involved the restoration of a rare six-foot diameter oceanographic geophysical globe that resides in the library (figure 1). The chair of the art department was contacted to help locate a capable student for the project; the

FIGURE 1
Globe Restoration Project



selected student came into the project with a basic skill set but little restoration experience. She relied on art faculty, literature, facilities personnel, and the director of library operations to put a plan together to safely remove decades of dirt to prepare the surface for painting. Concerns included proper detergents and how to use them, how to protect the surrounding areas, what paints were compatible with the original paint used, and how to safely reach all the surfaces of a globe that stands seven feet in the air. As part of the learning experience, the student helped erect borrowed scaffolding that surrounded the globe. This project was followed by one that required a much more demanding level of student involvement, and that adhered more closely to the definition of project-based learning—the Clock Tower Project. A distinguishing feature of the UT Toledo main campus is the clock tower that sits atop its main building, University Hall. When the library director of operations obtained an original set of UT Toledo tower clock hands, he imagined them as part of a mural in the William S. Carlson Library. The director then reached out to the chair of the art department to help locate an art student capable of undertaking such a project, who would find the learning experience challenging and beneficial, and could also benefit financially. It should be mentioned that while these students were hired to create the mural, this does not preclude receiving class credit for experiential learning projects.

Ultimately, two juniors in the BFA program who specialized in 2D art and had the requisite work ethic were recommended and hired (figure 2). The project spanned the 2018–19 school year; each artist worked 10–15 hours per week, with time off over holidays and when school demands were too great. Expenses for the project included \$2,500.00 to mount the clock hands, \$500.00 for paint and supplies, and a \$10.00 per hour salary (a significant amount in relation

FIGURE 2
Clock Tower Mural



to the state's minimum wage at that time). In total, the project cost approximately \$7,600.00 in salaries. In this case, students were paid from the library's operating budget (other potential funding sources include the art program, office of the provost, or a university level fund that supports experiential learning). Both artists were involved in other library projects during the year. Their skills were utilized for events and the creation of promotional materials. Roughly \$10,000 in salaries was spent in total.

The role of the library was solely to facilitate the project and provide the artists with the necessary tools and supplies to accomplish their work; the artists had the freedom to create the mural they felt met the needs of the library and the university. Some input was offered, and ideas were discussed with the library director, but no more than absolutely necessary. The artists commented that this freedom was very different from what they experienced in the art program, where student work can be much more focused and heavily critiqued. This freedom was very much appreciated, and at the same time made the students anxious, as it required the artists to own the success or failure of the project. Course instruction taught them to critique their own work, which helped them with this minimally supervised project.

While experiential learning students are given a fair amount of autonomy in creating their work, a certain level of supervision is necessary. Those with little employment background will at times need additional supervision, especially in the areas of time and material management. Furthermore, when students are assigned additional duties such as aiding with library exhibits and programming, supervisors must coordinate the work.

FIGURE 3
Clock Tower Mural Rear Wall



It may be difficult to firmly grasp the amount of time necessary to plan for and create a piece of artwork. Such work cannot be estimated the way a contractor might use square footage to estimate labor and material cost. The goal is to educate students--the artwork is secondary. Since students are learning on the job, productivity is based on the progression of the mural and the students' time and effort. Bi-weekly meetings with the students were arranged to discuss progress and concerns. Also, the work taking place in public spaces allowed for easy monitoring of progress; constant contact with the students throughout the week provided the opportunity for impromptu discussion. This was the artists' first experience with a large public commissioned piece. The project needed to be meaningful to the artists on a personal level, satisfy the library as a customer, and be appropriate for the designated space. It was necessary for the artists to have a detailed plan so they could convey their ideas to the client (the library director of operations) before moving forward, as opposed to working spontaneously. Planning ahead also allowed for clear communication of ideas between the two artists, which resulted in a mural that is uniquely UToledo. The finished mural is two sided: the front showcases the clock face and the rear the inner workings of the clock (figures 2–3). The clock hands on the front and the sprockets cut from plywood and painted to look like steel mounted to the back are three dimensional. The concept of a two-sided mural is quite unusual and offered the artists the opportunity to create very different views of the same concept. It

showcases the gothic architecture and areas of study/career tracks (painted in the mortar of the stonework, conceptually the “glue” holding the university together), which make the mural somewhat interactive, as students are regularly seen trying to locate their majors on the wall. At the same time, abstract elements represent the converging paths of incoming students and the shattering of glass to represent graduation and moving forward, or possibly the shattering of future glass ceilings. In sum, the mural represents the students, where they come from and where they are going, and is an homage to the city of Toledo and the university.

This project was beneficial in many ways. The students had the opportunity to be creative, apply and expand on classroom learning, and solve problems. Due to the complexities and scale of the project the students found themselves continually reflecting on their work and making adjustments as necessary. It provided opportunities for them to showcase their work and for the library to utilize the student expertise available on campus. The students had occasion to lead and collaborate on a large project from design to completion, with minimal input, which required compromise and effective communication. They needed to set and meet goals to keep the project moving as planned, and to satisfy the client’s needs as well. They learned to work within a budget by managing time and materials appropriately. Moreover, the students learned new skills, such as laying out a design on a large surface, mixing colors on a large scale, and using a computer numerical control router to cut plywood into shapes.

There were residual benefits as well. Working on the main floor of a very busy library created a performance art setting with constant questions from fellow students watching the work take place. The artists really enjoyed this immediate feedback/interaction from their audience, as students were often forthright with their comments. This is an experience most art students never get. Additionally, the entire process was documented by the library with daily photos of the mural, which were used to create a time lapse video montage accompanied by a recorded interview of the artists discussing their work. The interview presented yet another opportunity to reflect on the work done and what was learned from the experience. This content was given to the students to add to their electronic portfolios at the end of the project. As an additional bonus, the students received media promotion in several campus publications as well as in the city’s newspaper, the *Toledo Blade*. Post project, both artists expressed confidence in their ability to create murals and other larger scale projects, and pride in creating a piece of work that thousands of UToledo students will be able to see.

The success of the clock tower project paved the way for future experiential learning projects. The following year two BFA students designed and created a large-scale cityscape mural that brings iconic buildings in the Toledo area into a unified image (figure 4). The mural depicts the University of Toledo and its relationship to its community; it is located on the library’s second floor, in a high visibility area adjacent to a Starbucks Restaurant. The learning experience for this project was assessed for the purpose of improving the next experience. For example, prior to work beginning on the cityscape mural a formal business proposal to a small group of library representatives was required. This is an experience many art students do not get in the classroom but will be important when working with future clients. Proposals include design options, time frame, material budget, and process.

In addition to large installations, students also gain experience working on smaller projects such as displays and exhibits. One example involved an installation designed to showcase Toledo’s war effort with special attention given to women in industry (figure 5). The project required the student to re-create a vintage advertisement promoting the Willys Jeep (manu-

FIGURE 4
Cityscape Mural



FIGURE 5
Willys Jeep Reading Room



FIGURE 6
Family Space Mural



factured in Toledo) painted above an actual military Jeep grill mounted to a wall. Lastly—also on the second floor—is a crowd favorite, a children’s mural located in a family space created to accommodate students with children (figure 6). For these smaller projects, the students have differing levels of freedom to conceptualize and create. They are opportunities to work as a team with the library staff to create library programming.

Conclusion

Mural painting and globe restoration might not be topics covered in detail in the classroom; however, the basic knowledge necessary to accomplish these projects is. The clock tower mural and other library experiential learning projects allow students to take classroom knowledge and expand on it in a supportive and educational environment. Being faced with new experiences in a work environment helps the students to make connections to what they’ve learned in the classroom as well as aids in the generation of ideas. These valuable experiences offered in the library have enhanced the educational curriculum, allowed students to earn an income while fulfilling a library need, and contributed to future successes such as graduate school admissions and employment opportunities. Furthermore, the library spaces benefited from the resulting public art, and the nature of some of the projects aligned with the institution’s strategic planning goal of engaging the community. This partnership at UToledo continues to provide unique learning opportunities for students, resulting in beautification of the library environment while adding another dimension to the value of the library. Outreach for experiential learning opportunities is not limited to art programs. As one example, the UToledo Libraries participated in a service learning project that involved the creation of na-

tive plant gardens on campus, in which students learned about sustainability, conservation, and biodiversity.

Academic libraries are constantly called upon to demonstrate value to their institutions. At UToledo, emphasis on student retention and academic success compels university administrators to have less interest in traditional measures of library value such as usage statistics and head counts. The focus is increasingly on how the library directly contributes to the curriculum and the educational process. The examples provided here demonstrate a unique approach to experiential learning in academic libraries and provide concrete evidence for the sort of support asked of libraries.

Acknowledgements

Photographs courtesy of The University of Toledo Office of Marketing and Communications.

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Exploring Faculty Perspectives on Text Selection and Textbook Affordability

Rachel Elizabeth Scott, Anne Shelley, Julie Murphy, Rachel Park, and Mallory Jallas

This paper reports the results of a pilot project conducted Spring 2021 in which Milner Library licensed seventy-five assigned texts to fifty-two courses at Illinois State University. The authors used the pilot as a springboard to explore faculty perspectives on textbook selection, textbook affordability, and the role of the academic library in addressing the rising cost of textbooks. The results highlight the strong and often deeply personal beliefs faculty hold about textbook selection and textbook affordability, reveal several obstacles to achieving affordable access to course readings, and demonstrate the willingness of some faculty to partner with librarians and other institutional stakeholders to explore more affordable access to assigned resources.

Introduction

The exponential rise of textbook costs has been documented in the literature, both as an obstacle to student success and as an impetus for exploring models beyond the traditional textbook publishing system in which students purchase individual access to assigned texts. Students now have many options for accessing their assigned texts: they can rent, purchase, license, or illegally access them; or they can share them with classmates informally, via a cost-sharing agreement or a free program such as library reserves. They may access assigned texts via a campus-wide program that provides all assigned texts to students; for example, Inclusive Access or First Day, if their institution offers such a program and they do not opt out.¹ The 2019 novel coronavirus disease (COVID-19) pandemic has contributed to the complexity of text access options and their viability to various campus constituents. Digital access to assigned readings became a priority as many students were unable to return to their campus residences to retrieve their texts and other belongings after the onset of the pandemic and swiftly ensuing remediation actions, such as students returning to permanent residences and face-to-face classes pivoting to online delivery.

Like many other academic librarians, a group of five librarians across departments at Milner Library at Illinois State University (ISU) wanted to support student success and learn-

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ing during this unprecedented and challenging time. After discussing how the library might best measure its impact on student success, the authors developed a pilot program in which the library would license assigned texts so that enrolled students would not have to take on the cost of purchasing them. The group used \$10,000 that had originally been earmarked to support a new Open Educational Resources (OER) creation project but could not be advanced in the 2020–21 academic year. Instead, the money was used to license e-books for higher enrollment courses and incentivize participation in focus groups.

The authors used the survey and focus groups conducted as part of the spring 2021 pilot program as a springboard to discuss the multifaceted problem of textbook affordability and explore one potential solution. The conversations with faculty examined the benefits and challenges of using library-provided e-books in an undergraduate course, the potential impact of the pilot program on student success, faculty members' criteria and considerations in selecting texts for their courses, and opportunities for departments across campus—including the library—to collaborate in mitigating the high costs of textbooks. This study investigates the decisions faculty members make in selecting texts for their courses and the role of the academic library, as well as other campus units, in addressing problems surrounding textbook affordability. The objective of this study is to gather, present, and examine faculty perspectives on various aspects of textbook affordability so that academic librarians can be informed and work collaboratively to support the academic success of students and intellectual freedom of faculty in ways that are sustainable given local budgets and needs.

Literature Review

Textbook affordability and student success are of vital interest to academic librarians, and the literature surrounding both topics is growing rapidly. Textbook affordability includes but is not limited to OER, and numerous studies investigate the impact of OER on student success and behaviors.² Penny Beile, Aimee deNoyelles, and John Raible, for example, found that significant savings could be realized without adversely impacting academic outcomes.³ This finding is supported by Virginia Clinton and Shafiq Khan's meta-analysis of open textbook adoption studies, in which they reported no difference in student learning efficacy between open and commercial textbooks and found lower rates of course withdrawal for open textbooks.⁴ The 2019 novel coronavirus disease (COVID-19) pandemic only intensified concerns around textbook affordability and student success and heightened the degree to which the two can be understood in relation to each other. Julie Murphy and Anne Shelley discussed potential solutions to the textbook affordability crisis before and during COVID-19 and provided several examples of programs and projects in place to remediate the financial strain on students related to rising textbook costs.⁵ Despite various solutions available to faculty during the pandemic, however, a recent report indicated that 87 percent of faculty reported using the same text as in pre-pandemic semesters.⁶ Through the process of conducting this pilot, the authors became aware of academic librarians supporting similar projects, some in response to the COVID-19 pandemic and others with longer standing. Louisiana State University Libraries' e-textbooks initiative provides access to course materials available for free through the libraries.⁷ Florida State University Libraries offers a host of initiatives related to open and affordable textbooks.⁸ Several other studies have investigated the impact of the academic library licensing assigned texts as e-books for students.⁹ Many of these investigate the relative affordability, course integration, and usability of the texts. No identified studies have focused on the interaction of

textbook affordability with other criteria that teaching faculty must weigh in their selection of assigned course readings. The library vendor Ex Libris recently released a report exploring faculty and student perspectives on assigned course materials, but the emphasis is on "Managing, Accessing, and Using Course Materials," not selecting them.¹⁰ The report did yield relevant findings, however, especially that "faculty use other sources, such as web searches or recommendations from peers, more frequently than the academic library to find new course materials. Academic libraries can play a greater role in supporting faculty by ensuring that course resources are accessible, available to students at no or low cost, represent a diverse range of views and authors, and can be adapted to students' needs."¹¹

Several ISU campus constituents have been engaged in investigating the issue of textbook affordability as it relates to student success, and a Milner Library faculty member has held membership on the Textbook Affordability Committee, a mixed external committee of the Academic Senate, since its inception. The Textbook Affordability Committee surveyed students (2019) and faculty (2020) to understand the extent to which textbook costs may be a problem for ISU students. The findings highlight disconnects and tensions between student and faculty perceptions surrounding assigned texts. Students expressed frustration related to access codes and feeling like faculty "did not use" required textbooks; 61 percent indicated they had to purchase an access code at an average estimated cost of \$120 per code and 69 percent reported purchasing required material that they said the professor did not use. Faculty responses related to access codes and "using the book" did not align with student perceptions: nearly two-thirds of faculty say they assigned 75–100 percent of a book, and of faculty who assign an access code (fewer than 25 percent), over half of them estimate the cost to students at \$50–100. With data supporting the assertion that the cost of textbooks is an obstacle for some ISU students, the authors launched a pilot project to work toward a potential solution and used the opportunity to dig deeper into faculty perspectives at the intersection of textbook selection and affordability.

Research Questions

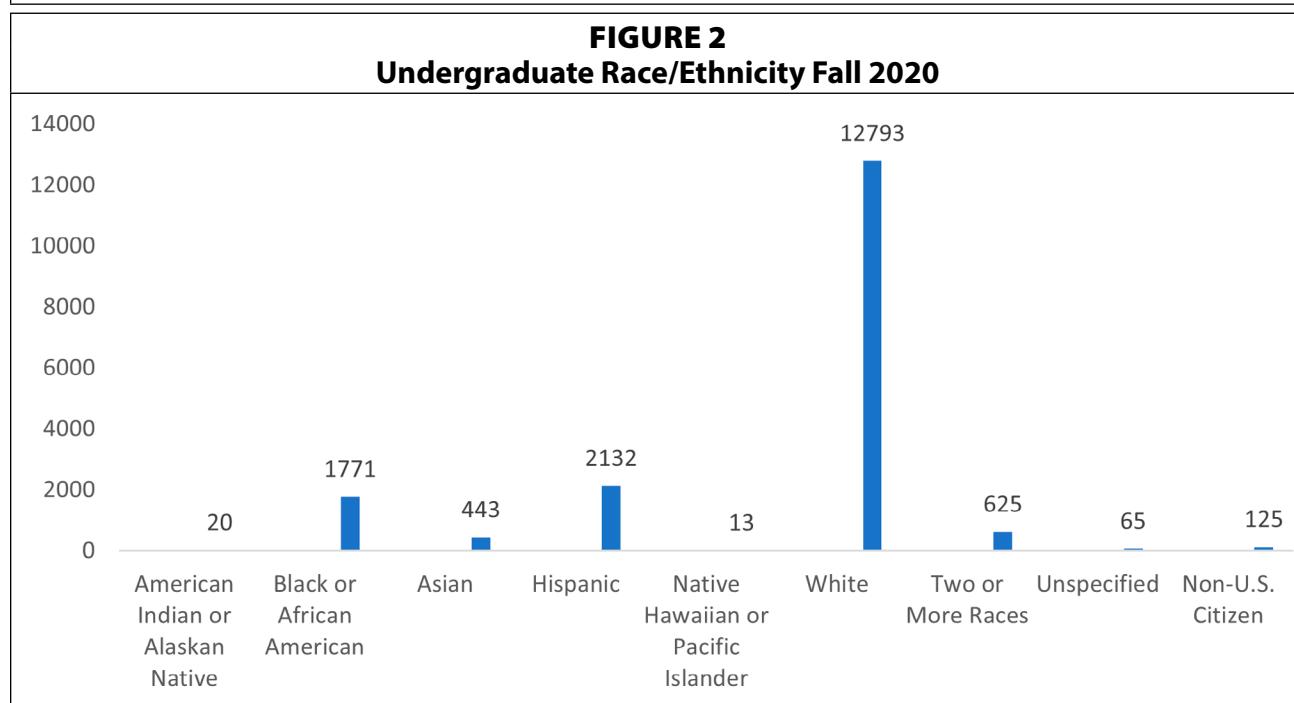
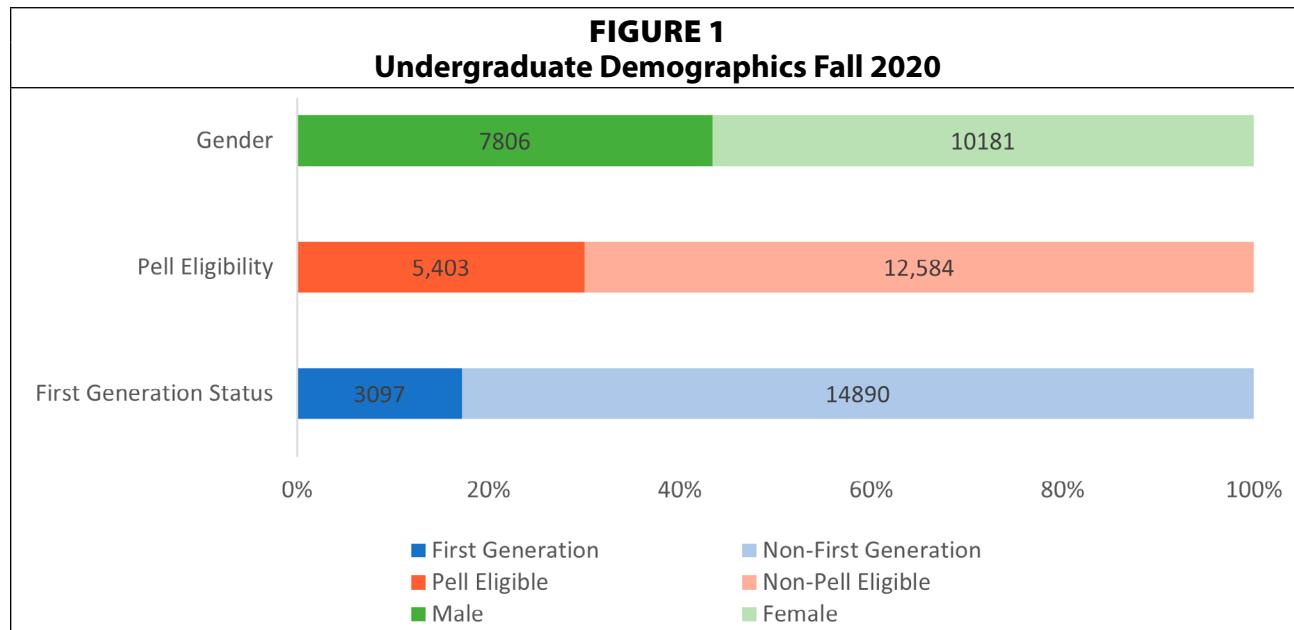
In this study, the authors seek to understand the decisions teaching faculty make surrounding text selection in undergraduate courses and how these decisions intersect with the increasing cost of textbooks and increasing awareness of textbook affordability as an equity issue. The authors articulated the following research questions:

1. How do faculty balance affordability, accessibility, copyright compliance, quality, and other factors when they select and assign texts?
2. What were the benefits and challenges of using library-provided e-book(s) in undergraduate classes?
3. How did having access to these e-books impact students' experience and/or success?
4. Who on campus should be involved in advancing textbook affordability and, specifically, what role might the library play?

Methods

ISU is a public, doctoral-granting institution with a spring 2021 total enrollment of 19,218 and a Carnegie classification of Doctoral Universities: Higher Research Activity. In fall 2020, the beginning of the academic year in which this study was conducted, ISU had a total undergraduate enrollment of 17,987, of which 5,403 were Pell Eligible and 3,097 identified as First

Generation.¹² As shown in figures 1 and 2, a majority of undergraduate students identified as female and indicated a racial/ethnic identification of white, followed by Hispanic, black or African American, two or more races, Asian, non-U.S. citizen, unspecified, American Indian or Alaskan Native, and Native Hawaiian or Pacific Islander.¹³ Of all ISU undergraduate students enrolled during Fall 2019, 4 percent formally registered disabilities with the office of disability services. The study was approved as exempt by the ISU Institutional Review Board. The complete survey and focus group instruments are provided in appendix 1.



Participants and Procedure

As proof of concept, the authors obtained the spring 2020 textbook list and searched for each of approximately 1,400 unique titles on the list in GOBI, Yankee Book Peddler's online order-

ing platform. Titles were flagged with a color that indicated the type of institutional license available in GOBI. The team was primarily interested in e-books with unlimited user licenses. Depending on class size and other factors, however, EBSCO's concurrent access or ProQuest's nonlinear access, which allow simultaneous users but limit the total number of uses, were also considered. Around one third of the assigned textbooks were available for the library to license at an appropriate level of access. Once the spring 2021 textbook list was released, the team repeated this process.

The team discussed various approaches to text selection and agreed to save the maximum amount of money for students. To that end, the authors calculated the amount of money students could potentially save based on predicted class enrollment and the cost of the textbook at the University's bookstore.¹⁴ After calculating that cost/benefit ratio for each eligible class, the classes were ranked accordingly. In this process, the team discovered that Milner already had some of these texts as e-books; for those e-books that did not already have a suitable license for course use, the team upgraded the license directly with the vendor. Faculty in fifty-two out of ninety-two invited course sections chose to participate, but the majority—around 70 percent—of the purchased textbooks had at least one section of the course participating.

Throughout this paper, faculty is used exclusively for those who taught pilot project classes, irrespective of title or status. It was important that faculty be eager participants; faculty would need to notify their students that these free textbooks were available, faculty would be critical in encouraging students to participate in a focus group and complete the survey, and the authors wanted faculty input.¹⁵ Given the short period of time between the release of the textbook list and the end of the semester, however, the team did not have the luxury of waiting for professors to respond to an invitation to participate in the research before purchasing the books. After the ebooks were activated, direct links to them were added to each course section's Sakai page, which is locally branded ReggieNet. In the end, 2,029 students were enrolled in participating sections, giving them the opportunity to save as much as \$143,880.

The survey was open for nine weeks and was completed by twenty three of fifty two faculty members for a participation rate of 40.4 percent. Unfortunately, two faculty members who completed the survey indicated that they were not outside of the European Economic Area, so their responses have been omitted from the quantitative analysis (n=21). Survey respondents represented all ISU colleges with the exception of the College of Business and accordingly offered a diverse array of academic disciplinary perspectives. Eleven faculty members representing all colleges except the Mennonite College of Nursing participated in one of two focus groups held on April 2, 2021, via Zoom. Any instructor of a course in the pilot program was eligible and invited to participate in the focus groups. As represented in figures 3 and 4 below, survey and focus group participants represented diverse social locations and years in teaching, including four tenure-track assistant professors, three tenured associate professors, two instructional assistant professors who are not tenure track, and one tenured full professor. These groups were facilitated by the associate dean for informational assets and lasted around one hour. The sessions were recorded, and the research team members consulted their own notes as well as the recordings and transcripts to conduct their analysis. The frequency, intensity, and tone of the statements were noted, which allowed the researchers to identify common themes across the focus groups.

John W. Creswell and Dana L. Miller discuss multiple frameworks through which to consider validity in qualitative research.¹⁶ The authors employed several of these validity proce-

FIGURE 3
Colleges Represented By Participants

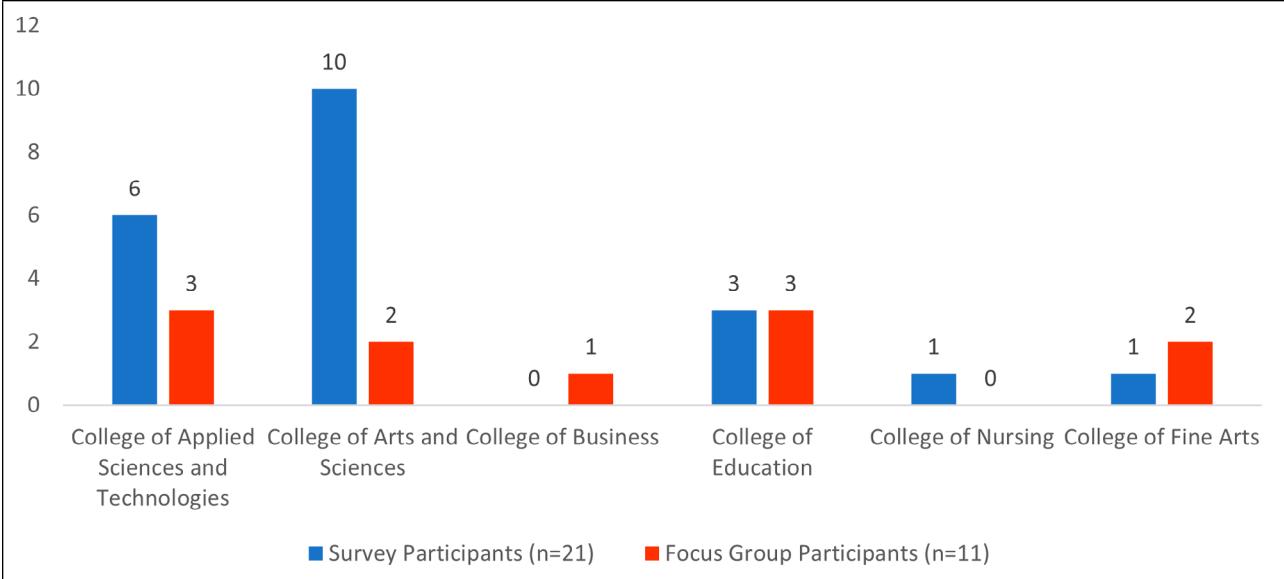
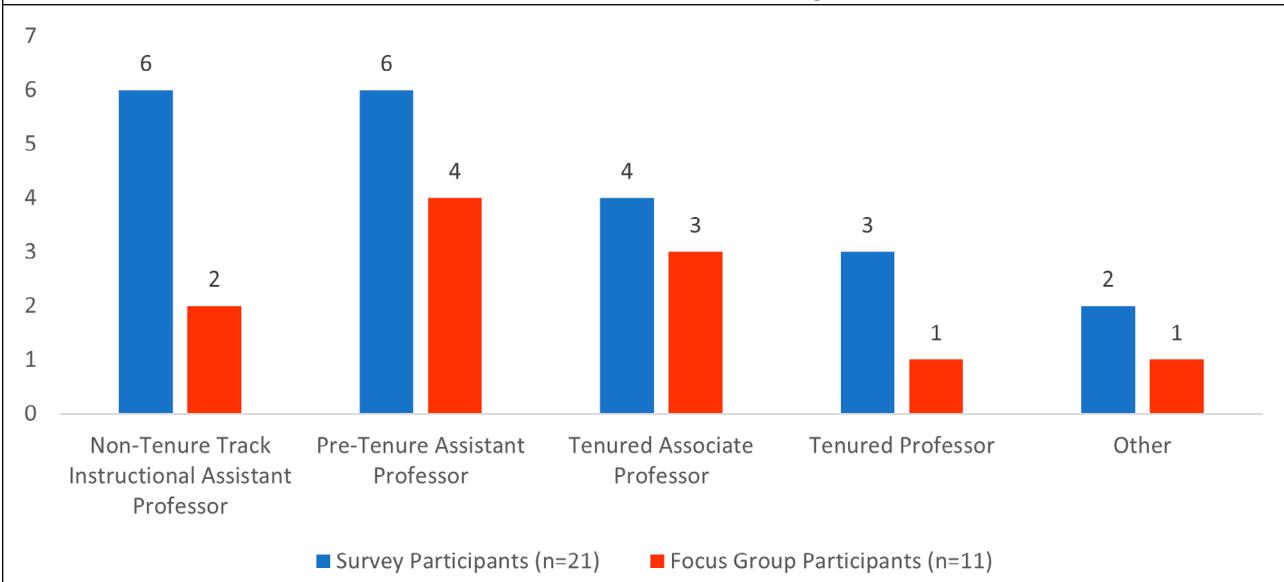


FIGURE 4
Title/Tenure Status Of Participants



dures, including triangulation, “where researchers search for convergence among multiple and different sources of information to form themes or categories in a study”; member checking, “taking data and interpretations back to the participants in the study so that they can confirm the credibility of the information and narrative account”; and thick, rich description, that is, “describe the setting, the participants, and the themes of a qualitative study in rich detail.”¹⁷ The authors quoted focus group participants and survey respondents extensively to amplify their experiences and provide detailed context, invited focus group participants to provide feedback on the accuracy and comprehensiveness of the results, and shared manuscript drafts among library colleagues. The authors then incorporated feedback from multiple channels to enhance the validity and richness of the data.

Results and Discussion

1. *What ideas do you have for balancing affordability, accessibility, copyright compliance, quality, and sustainability of assigned texts? "These are the authentic struggles that I want to share."*

The survey and focus group instruments prompted faculty to reflect on how they decide which texts to assign. Although many respondents referred to cost, all alluded to quality or relevance of content. Many participants indicated that they try to find a balance between the two factors; one indicated that "we assigned this text after ordering a few options from Amazon and determining that this one is a best fit for our content while being at a price point that is good for our students." Other important considerations include the intellectual accessibility of the content to students; one respondent typically asks themselves if the texts "address key content in an accessible way for students for a (at least somewhat) reasonable price?" Some indicated that they do not assign but rather recommend textbooks for students to purchase; one wrote: "Most of my assigned readings are accessed through websites or online articles."

Those emphasizing quality over cost sometimes referred to relying on their professional networks to make assignments. One participant would "determine the best textbook in the respective area based on my teaching experience, the literature, and colleagues," and another shared that "I find high-quality research-based books written by people in the field who I know and trust." Related to the quality of materials, at least in certain fields, is the currency of the texts: "The most up-to-date material, with the most relevance and accessibility." One participant noted that it is not enough for the book to be relevant; they also asked: "What is most needed related to the curriculum and how useful they might be to my students beyond just my class?" Some took the opportunity to highlight the intentional nature of textbook selection and the centrality of these texts to course design: "Textbooks are assigned for a reason. When they're not read, it leaves a significant gap in student learning."

For many participants, cost is a "major part of my decision-making process." Several participants shared strategies for promoting affordability. Many participants indicated they have adopted a previous edition of a textbook if available, similar, and significantly less expensive. Some advocated for sharing textbooks with friends and classmates, a practice that participants had employed personally as students. Several participants indicated that they have put items on reserve in the library or lent personal copies to their students. One indicated that they are format and access model agnostic; they investigate the various ways to purchase, rent, or otherwise access a text and share this information with students. Other personal practices for promoting affordability include the following: "an inferior text ...because of costs"; "I typically only try to require one textbook per course to help keep costs down for students"; "I also rely on practitioner-friendly articles that are written by researchers"; "In the past, I have attempted to provide alternative assignments, photocopied sections of texts, or asked students to share materials"; and "I do use scanned book chapters and articles to supplement textbooks, and sometimes I have opted for a cheaper textbook because I could supplement the material with other book chapters or articles." As one faculty member noted of such practices: "This is not ideal and makes it difficult to assess work that depends on consistent access to assigned materials."

Some participants indicated that they find ways to get additional resources and non-essential readings to students for free. One technique that is aligned with this and also promotes diversity of perspectives is to incorporate readings from a variety of sources: "I try to put together a list that exposes students to diverse or creative perspectives on a period/topic."

Several participants indicated that they do not want all their course readings to come through a single channel and affirmed the importance of promoting culturally diverse authors and perspectives in their syllabi. Unsurprisingly, not all approaches were compliant with copyright. One participant asked why everything should not be considered fair use, and another admitted to emailing content directly to students who had not purchased it. For this participant, having materials provided via the pilot project was a relief; they exclaimed: "I'm not breaking any laws!" Another participant remarked mischievously that they could neither confirm nor deny whether they had ever suggested to a student: "definitely don't search [title].pdf."

Participants shared a variety of concerns and considerations in the text adoption process unrelated to quality and cost. Several acknowledged departmental requirements or pressure regarding textbook assignments, especially in the case of texts authored by departmental colleagues. A few participants also spoke to the aspect of inertia in textbook assignments: once a book is selected, you stick with it. A few participants spoke to the challenges of redoing a course in the wake of a new textbook adoption. One faculty member spoke to the struggle of balancing issues of text quality and affordability with their own labor as a pre-tenure faculty member. Noting that some texts and software programs would truly benefit students, and that these titles may not be affordable, the participant admitted to feeling terribly conflicted: "if it [the textbook] is very different, you know, I'm pre-tenure, I have to do a new [course] prep ... so these are the authentic struggles that I want to share."

Accessibility was not mentioned as a consideration by participants until prompted by the focus group facilitator, after which participants discussed student technology and internet access. One participant thought that ISU had done an excellent job of providing laptops at the outset of the COVID-19 pandemic, which has promoted enhanced accessibility to online resources. Another participant pushed back against the suggestion of limited accessibility of electronic resources via internet access for their students because of the prevalence of smart phones: "If a student can't afford a computer, they can't afford a print textbook." One participant noted that digital resources have some tools that are useful for students with visual impairments, specifically noting audio books.

COVID-19 influenced the decisions some faculty made about text selection and assignment. One participant indicated that the decision is typically driven by the quality of text; however, "during the COVID pandemic, price of textbook became the most important factor. I eliminated texts in courses where I could, and where there were not low-cost text options." Another participant indicated that although their decisions had previously focused on the needs of the course and not digital availability of the text, "That might change if there are more e-book versions of textbooks available."

Participants in both focus groups mentioned that one idea to balance affordability, copyright compliance, quality, and sustainability of assigned texts was the investment in OER. Specifically, one participant in each of the two focus groups mentioned the Kansas State University Open Textbook program and spoke to some of the advantages of leveraging institutional systems and faculty expertise to support a similar OER program.¹⁸ The topic of OER adoption, however, sparked debate within and even after one focus group. One faculty participant stated that the quality of research was their most important consideration, and their touchstone was "do I personally know and trust the author?" This participant conceded that this meant affordability was less of a concern to them personally. Another participant in that group indicated that the assertion that there were only a few experts who could write a

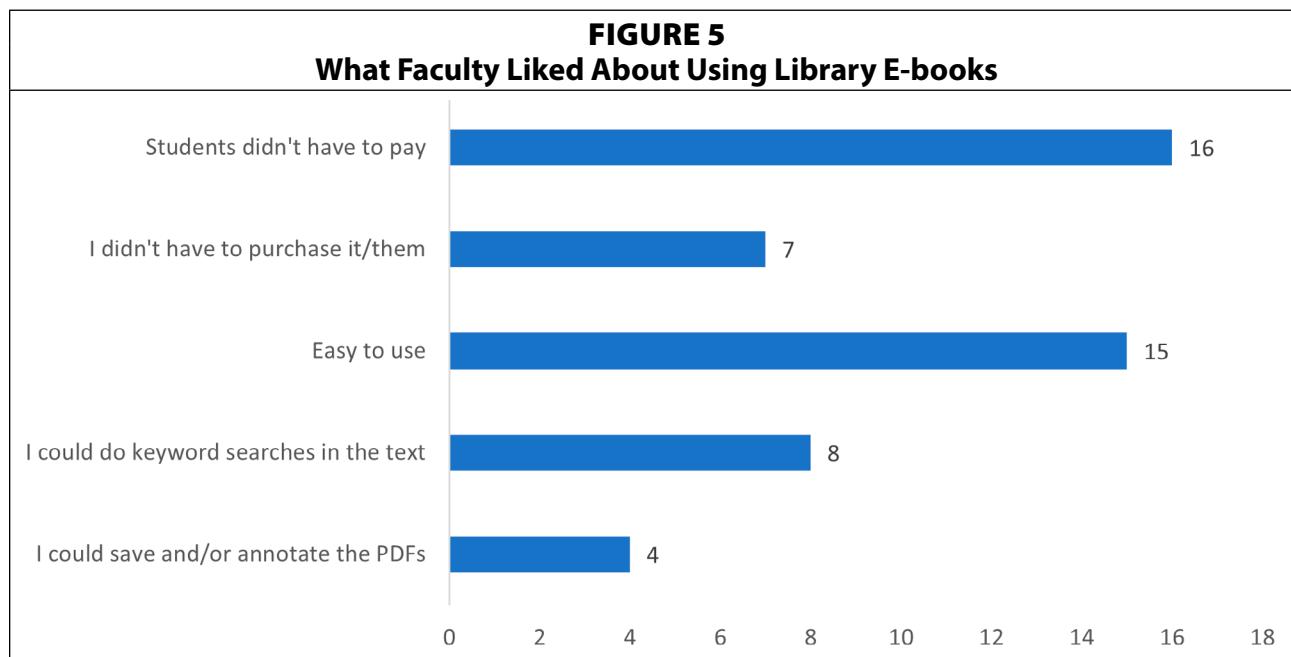
textbook prompt underlying questions about trust and authority in text selection and adoption of OER and/or other affordable resources. Certain disciplines—and arguably higher education itself—are hierarchical in their structures and conduct gatekeeping around authority and expertise. These processes might serve as a barrier to faculty adoption of more open, affordable, and equitable resources.

2. *What were the benefits and challenges of using library-provided e-book(s) in undergraduate classes?*

“[I can] treat every student the same.”

Faculty shared what they liked about using the provided e-books as well as the challenges they encountered in using them. As shown in figure 5, most appreciated that they were free to students and easy to use, and some appreciated the digital features of the e-books.

FIGURE 5
What Faculty Liked About Using Library E-books



Participants identified several benefits of the library's e-book pilot program; most notably, the program allowed participants to “treat every student the same.” Many participants were pleased that they did not have to worry about whether or if their students could afford to purchase the text, and they appreciated that it was one less concern for their students during a time of heightened stress and anxiety. One participant shared that they would typically have to have at least one difficult discussion in which they asked a student, “Do you have the textbook?” Knowing that all students had access to the assigned text supported a more equitable class dynamic.

Most participants appreciated how the project minimized the financial burden on their students. Several participants provided additional information about why and how students decide to delay or not acquire assigned texts. One participant noted that many of their students live paycheck to paycheck, and that they frequently wait for a check to purchase assigned texts. One participant said of the timing of the program: “It was truly a godsend,” and explained that some of their students are Dreamers [DACA] who had become breadwinners for undocumented family members during the COVID-19 pandemic. Several participants emphasized that students

have challenging decisions to make about how to use their limited funds and appreciated that they did not have to spend the money on the texts that they could be spending on rent, groceries, utilities, medical care, or other necessities. One participant whose research and instruction focuses on literacy stated that about half of their students opted to purchase the assigned text in a print format but indicated that the pilot program was a great option for students who could not afford to do so. Many participants expressed relief that their students did not have to worry about this aspect of the student experience in a particularly fraught spring 2021 semester.

Participants highlighted several elements that enhanced their teaching. One participant mentioned the benefit of easily referring to the book during class and knowing that everyone would literally be on same page.¹⁹ Another participant shared that they were able to assign reading quizzes from the outset of the semester and did not have to wait for books to arrive as they typically do. Participants appreciated the convenience of the e-book format, such as the capability of searching for keywords throughout the text and the ease of linking to and providing access to the e-books. Several participants agreed that the capability of linking to or embedding the e-book in their ReggieNet course shell was a great benefit of the program. One stated, "It has made my teaching a lot easier—I am able to access the book from anywhere (if I'd like to brush up on the chapter reading), and I also know that all students have access to the reading." Another shared, "That I can directly link to course readings from my ReggieNet sites makes the organization of courses much easier, especially in online or hybrid settings as we've been in this past year."

Several participants indicated that when the texts are not provided, they frequently hear excuses about why students do not have a required text, and they frequently encounter students who do not have the book in time to complete assignments or participate in discussions. Faculty noted that because the texts were free to their students, they did not feel compelled to offer justifications for their selection of a particular title, its cost, or their use of only a portion of it. A few participants shared that there are some titles that they prefer to use as references, and not assign "cover to cover." When such a text is expensive, however, they have hesitations around doing so. The pilot program reduced obstacles surrounding resource needs and facilitated faculty use of materials in ways that support their academic freedom in building their courses.

Several of the participants mentioned benefits of the program that were related to the COVID-19 pandemic, during which the pilot took place. Most noted that remote access to the book was a huge benefit during this time of unprecedented online learning. Several indicated that the program was particularly helpful because many students did not live on campus or even in the geographic vicinity and accordingly did not have access to print reserves or other campus services; for example: "One of the largest benefits of having an e-book option is that students can access the textbooks from anywhere. This was a huge help when we made the transition from in person to online teaching in spring 2020. Many students left their hard copies of the textbook in their dorm rooms." One participant suggested that the pilot program helped diminish the substantial carbon footprint of packaging and shipping textbooks via Amazon or other providers, which had seen considerable growth during the pandemic. Others similarly appreciated the ways in which this program might support aspects of environmental sustainability by reducing paper waste.

Faculty members articulated a few concerns regarding how the pilot intersected with their selection of texts. Some participants suggested that they select texts with the intention that some should travel with the student into their professional life. Their specific concerns

were that the students would only have access to the texts licensed via the pilot project during their time as ISU students. One faculty member noted that they assigned some texts because they felt their students could use them in graduate school. Multiple participants also emphasized complexities surrounding texts assigned through departmental selection or approval processes.²⁰ If books must be selected or adopted by a departmental committee, it is less likely that some required texts would be available for libraries to license.

Fortunately, faculty reported minimal challenges with the e-books themselves; a few shared that they could not download or annotate the text as desired or indicated that they were otherwise difficult to use or access. One survey respondent relayed a challenge regarding the timing: "Students would buy the physical textbook before they were informed there was an e-book." Only two participants spoke to access problems. One mentioned a potential license limitation, namely that students reported being unable to use a text when others were viewing it; this participant also indicated that it might have been an operator error. Another stated that their students infrequently reported that the URL did not work, but these problems were resolved easily by trying again. One participant shared that they initially had some concerns about teaching from an e-book, but found that although there was a learning curve, it was not insurmountable. Another participant pointed out that some digital texts do not have page numbers to which one can refer, and that they cannot be flipped through like a physical book, indicating, "scrolling is not the same." One participant added that they had extensively annotated the assigned text and previously used a document camera to show these during class sessions; they acknowledged that this practice would have had to have been reconsidered during the pandemic. A few participants agreed that reading and teaching from e-books can present challenges because it is harder to tune out digital distractions.

Most other potential problems were noted by only one participant each. One asked how this might work for courses not in ReggieNet. All of the spring 2021 pilot courses had a ReggieNet course shell, and this is increasingly an expectation, if not a departmental requirement, at ISU. The library's access services department has added proxied URLs to licensed content in courses in ReggieNet for many years, and the infrastructure is well established. Another participant mentioned that only one of the two books assigned in their course was part of the pilot project, which was a source of some confusion for students. One participant reiterated that even providing free texts would not guarantee that students would read them; you can only lead a horse to water, after all. The most troubling concern, only articulated by one participant, was that a student had plagiarized from the provided e-book; the digital format does facilitate copying and pasting into a digital document.²¹

The primary concern articulated by participants related to the digital nature of the assigned e-books. Many bemoaned the additional screen time during the COVID-19 pandemic. A secondary concern, though no less vigorously articulated, related to concerns about the nature of reading from screens and the implications of reading from a screen on reading comprehension. One participant lent their expertise in literacy to discuss how text format, and print versus digital specifically, intersects with various kinds of reading. This participant and another participant in a different focus group shared concerns that although digital platforms may be sufficient for superficial reading—research shows little difference from print to screen in this respect—the literature suggests that students are less successful at reading deeply and for comprehension in online platforms.²² The focus group facilitator asked if participants had evidence that their students printed e-book chapters during the pilot project and participants

confirmed that they did not, though a few suggested that their students print out research articles. Concerns regarding reading comprehension may contribute to the long-term viability of this pilot or other projects that promote adoption of digital texts among individual faculty or even among certain disciplines or teaching units.

3. How did having access to the textbook impact students' experience and/or success? "This is about equity!"

By asking how common it is for students not to have read for class and how frequently students report not having access to assigned readings, the authors investigated the connection between the library-provided e-books and student preparation and success and established a baseline of student preparation and access to assigned materials prior to the pilot project. As indicated in figures 6 and 7, lack of preparation is not uncommon, though students less commonly report lack of access to faculty.

FIGURE 6
Frequency With Which Faculty Report Encountering Students That Have Obviously Not Read Assigned Readings

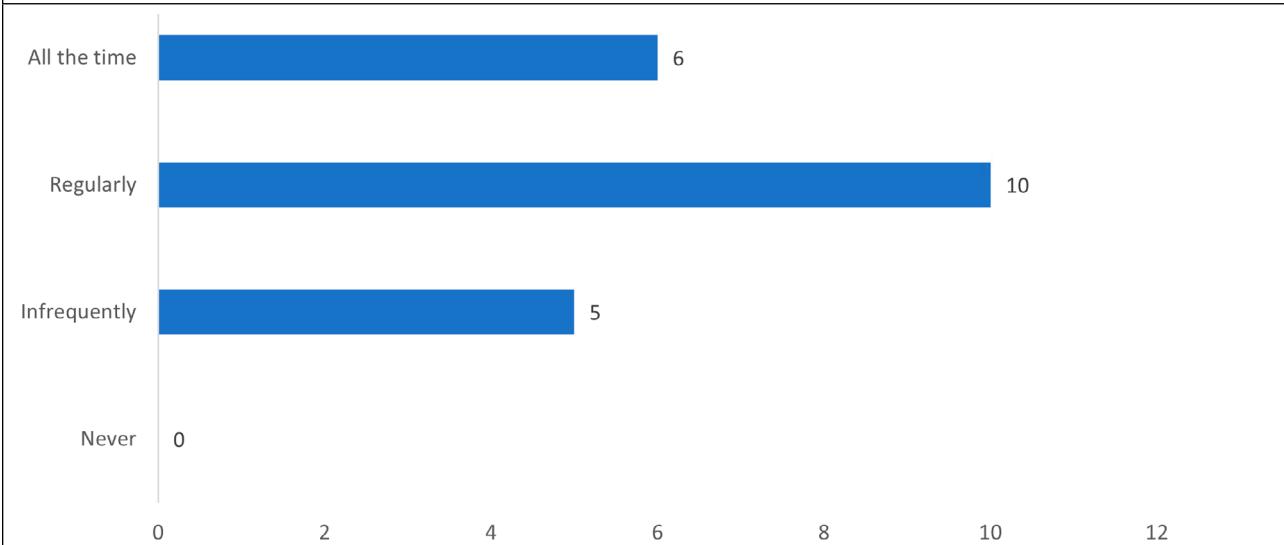
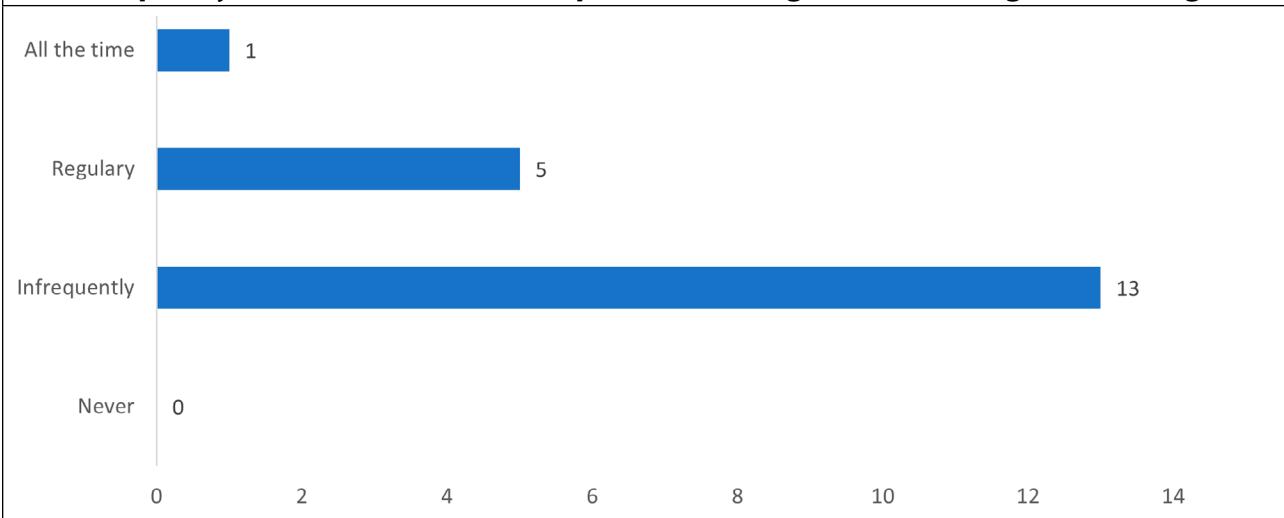


FIGURE 7
Frequency With Which Students Report Not Having Access to Assigned Readings



When asked if students seemed more prepared for assignments using these e-books than other texts, ten selected unknown and eight indicated that students did seem more prepared when using the library-assigned text. Only three selected “no,” answering definitively that students were no more prepared when using the library-provided e-books. Most respondents replied with some variation of “It is hard to tell under these circumstances” to the question “Did access to the provided e-book(s) impact the grades or retention of any students in your course?” Several, however, indicated that the ease of access and use, convenience, personal (and not shared) access, timing, and cost savings likely had a positive impact, even if it was marginal.

Many of these comments evoked COVID-19: “I have found challenges with student learning, but I believe that is more so due to the pandemic circumstances and students being poorer online learners than anything else.” The intersection of stress, new learning modalities, and unprecedented circumstances made the pilot project especially welcome: “Given all of the outside-of-class stressors my students are dealing with regarding their own and their families’ health and financial security, saving them some costs in this way seems wonderful” and “I think this was an especially tough semester financially for many students, and the option of free access was extraordinarily welcome.” Some compared use to other assigned readings: “I think that providing the e-book to students encouraged students to actually view the book. There is another book that I asked students to purchase for my class, and many did not and struggle with questions related to that portion of the class,” Others spoke to the availability of the e-books from the outset: “provides instant access to students. In the past, students had to wait for a few weeks for the books to arrive.”

Several respondents emphasized the connections between free access and assignment completion. One remarked cheekily: “The students were relieved that the books were available with no cost and no effort. I found that students actually read the texts which was a pleasant surprise.” Another suggested that “although students did not necessarily do reading for individual classes more regularly, I think that access to e-books made a significant difference in completing writing assignments. Students reported that the keyword search function got them started on work and helped them to better provide specific citations in their writing. The improvement in citation practice is an immediate and obvious benefit.” A few others noted that some of their students had purchased a physical copy, or that the e-book was a supplementary reading, and the library-provided e-book did not equally impact all students enrolled. One participant highlighted concerns about reading comprehension and digital texts, noting: “I think that students read more deeply and better understand the text when they read print versions. However, I do think that provided e-books are much easier on students’ wallets and in that sense are a bit more equitable.”

Faculty expressed enthusiasm that the portability of the assigned e-books allowed students to engage and participate right off the bat. One participant noted that students “could pull it up on their phone and participate in discussion, even if they hadn’t done the reading in advance.” Other participants emphasized that having the book from the outset of the course was beneficial and may have contributed to students’ confidence. One participant was pleased that this semester their students were able to “get it from the first assignment,” where typically it takes longer for all students to have the materials they need to make sense of the assignments and complex theoretical work. They attributed this to the psychology of having the needed resources from the outset, which removed anxieties for students and faculty alike.

Many participants agreed that the pilot project enhanced the opportunity for student learning by removing one potential obstacle during an exceedingly stressful time. Several participants indicated that it was a relief to them to know all students have access. Their ability to use the e-books in class was a benefit and something that enhanced the learning environment. Participants in both focus groups indicated that the pilot project created a “no excuses” environment in which all students had access to the assigned text; this meant that students did not have to offer excuses and faculty had reassurance that student learning or engagement issues were not driven by a lack of access. Some faculty noted that the portability and accessibility of the e-books allowed the students to work and read on their own schedule and “didn’t have to work within the library’s hours.”

When asked what they wanted librarians to know about textbook affordability and how it has impacted student learning, many respondents expressed concerns about equity for those students who do not have access to assigned readings: “This is about equity!” One noted: “It plays a major role for low income students, and I have had students email me about lower cost options for textbooks and who sometimes get behind in a course because they can’t afford the textbook.” One respondent indicated that in previous semesters the lack of access to texts had had a negative impact on writing assignments: “In the past, I have had students who didn’t purchase books or who attempted to find inconvenient workarounds. This has often most harmed students who are unable to complete writing assignments because they do not have access to the text required to do so.”

There was consensus among participants that it was challenging to compare student performance to previous semesters. In spring 2021, the University was still in the midst of the COVID-19 pandemic and the semester was far from normal. Some participants noted that with no “real” spring break, students and faculty were exhausted and their motivation was lagging. Participants agreed that it would be impossible to attribute any positive or negative outcomes definitively to this pilot project because of all the changes that the pandemic brought to the learning experience. Some faculty expressed concern that using the assigned e-books added to the students’ already extensive screen time, which of course was heightened during COVID-19. Although participants could not offer definitive evidence that the pilot contributed to student success, there was consensus that the pilot benefited their teaching and student learning in several ways, and created a more equitable environment in which students had access to the needed resources from the beginning of the semester.

4. Who on campus should be involved in advancing textbook affordability and, specifically, what role might the library play? “I see centrally accessible textbooks like this as contributing to that process as well—this seems like a wise use of our university funds/tuition dollars.”

Study participants identified a variety of campus committees and units who might be important collaborators. The President’s Diversity and Inclusion Advisory Council was the first mentioned, and participants also mentioned the Multicultural Center, which might help faculty members go beyond the canon and ensure that texts and authors are more diverse and inclusive. Student Access and Accommodation Services, as well as the AVP for Student Success and AVP for Enrollment Services, were also evoked in the recognition that textbook affordability has implications for student retention and success. Participants noted that department-level committees that provide input on text adoption should also play a role, as should administrators and committees involved in promotion and tenure,

as they are most directly involved in valuing textbook affordability as a consideration in those decisions. Participants recognized textbook affordability as an equity issue—one provocatively suggesting “going full Bernie Sanders”—and an issue with implications for student and faculty success, traditional textbook publishing, curriculum design, and library operations.

In order to establish future directions for advancing textbook affordability at ISU, the authors asked survey respondents for their opinions on the general availability of library resources before and after participating in the pilot. Participants reported a positive change in their impressions of the availability of library resources (see figures 8 and 9).

FIGURE 8
Previous Opinion Of The Availability Of Milner Library Resources

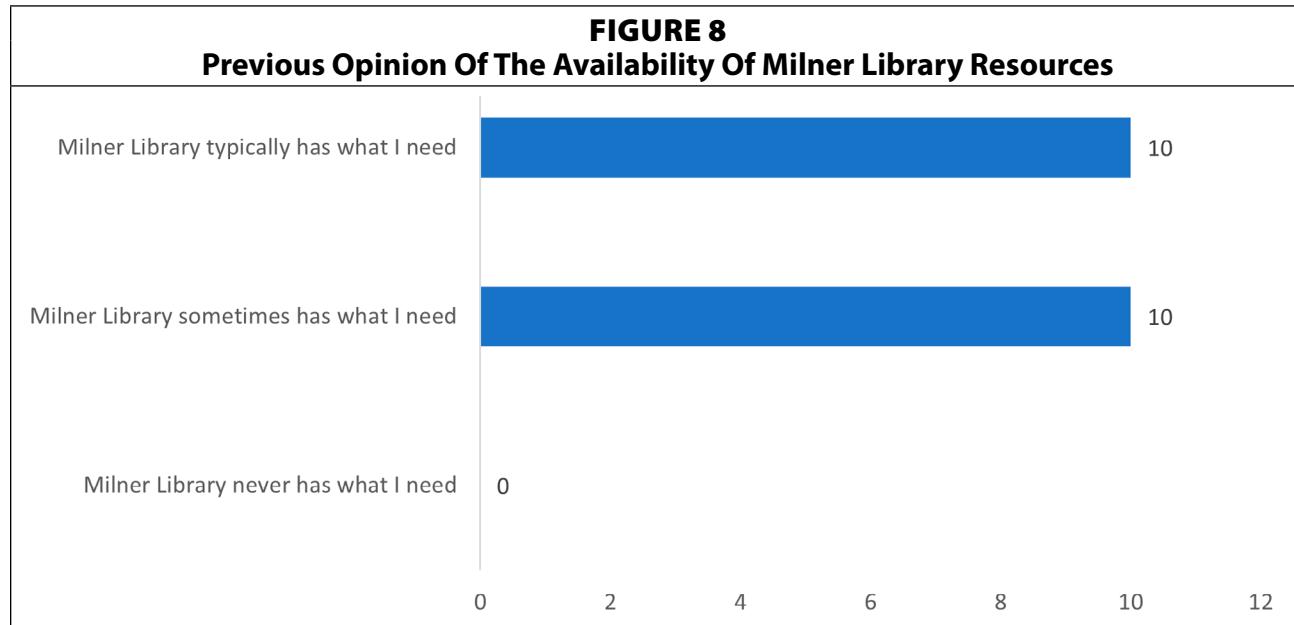
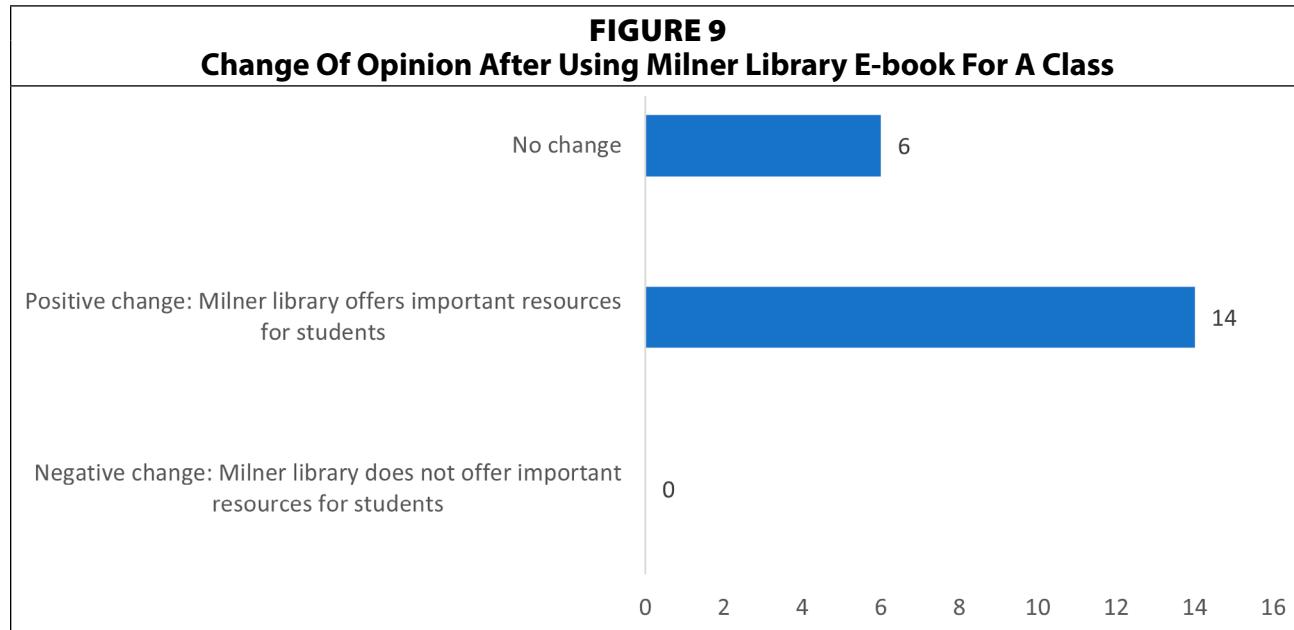
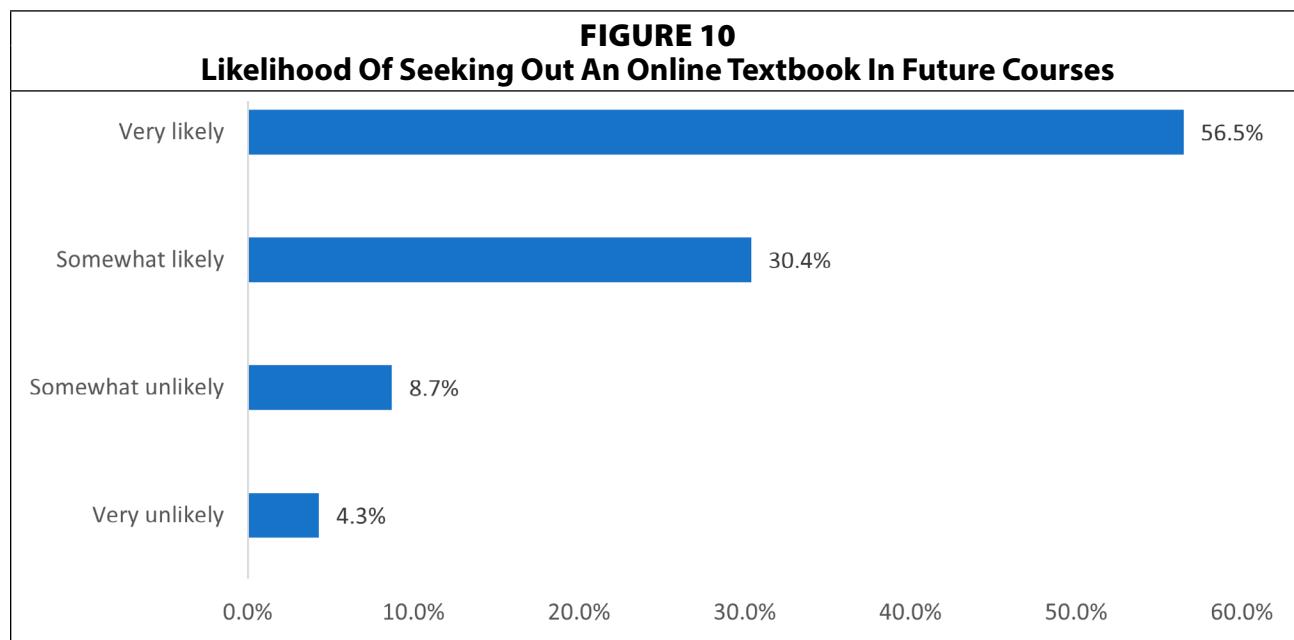


FIGURE 9
Change Of Opinion After Using Milner Library E-book For A Class



Almost 87 percent of respondents indicated that they would be very likely or somewhat likely to seek a library-licensed text for use in their future courses; fewer than 5 percent indicated that they would be very unlikely to do so (see figure 10). A majority of survey participants (thirteen) indicated that they had not previously used an e-book provided by Milner Library, and eight indicated that they had. At the very least, the study introduced some ISU faculty to affordable resources that could be integrated into their instruction.



Faculty descriptions of why they would seek out library-provided e-books provided some additional information on the perceived value of this pilot project. Most responses indicated interest in the library continuing this or a similar project that would provide access to assigned materials. Cost and convenient access were the primary reasons cited, though the pandemic also factored into some responses, for example, "I want to be able to save students money, because texts are excessively expensive. I always try to place a copy of the text on reserve, although that has been a challenge during COVID." Other faculty revealed that the library had not been a consideration when assigning a text: "I was unaware of Milner's e-book offerings for textbooks and that wasn't what I considered when I selected a textbook. I do pay attention to cost when I select a book, but the main factor is the quality of the textbook, if I like a book and I think it fits the course, cost is secondary." One respondent asserted the importance of quality and authorship over format, noting: "I will absolutely not use a textbook simply because it is available via e-book. I care much more about the content and authors of the texts, so that will always be my main priority."

Some respondents highlighted differences in textbook assignments for upper-level versus lower-level courses. One shared that "I much prefer to use resources that my students can freely access or have already paid for. In many of my (especially upper-level courses) this is in the form of peer-reviewed research articles. If I could switch out textbooks for some of my freshman-sophomore level courses (or upper-class courses as well) that would be wonderful" and another added, "Since I only 'recommend' textbooks for my undergraduate classes, I like the idea of e-books that are likely cheaper or free through the library. I hate having students

spend so much money on a textbook that they may not need in the future. At the graduate level, I am more likely to require textbooks that will support their future professional practice.” These responses suggest, perhaps, that faculty see a larger role for the library in providing access to texts for graduate-level classes.

To the question of how Milner Library could support faculty in textbook affordability efforts, the first and most enthusiastic response to this question was: “Keep this program forever! Can we please continue this?” One participant immediately followed up by stating that it would be great to have an option for this or something similar to continue. This participant articulated a plan by which students could pay a discounted rate for their texts and the library would acquire titles and manage their access. Other participants expressed interest in exploring similar models, and one shared that they have used electronic reserves and wondered if that program might be expanded to handle the additional need. Most participants expressed their gratitude for the pilot program and indicated that they were pleased that the library is thinking through issues related to textbook affordability. “Students who can’t access these resources are at a serious disadvantage, and finances seem like one of the top reasons students leave our college [...] I see centrally accessible textbooks like this as contributing to that process as well—this seems like a wise use of our university funds/tuition dollars.”

Several expressed a desire for partnership with the library, be it through providing print or electronic reserves, identifying potential texts, or acquiring texts. One participant said that “it would be nice if I could receive a list of e-books for my discipline or even just information on available publishers or how to browse e-book in my discipline.” Some participants indicated that they would welcome more communication from the library on opportunities to help minimize the costs students pay for assigned texts. One spoke to the importance of library resource integration in the LMS: “I also wonder if there is a way to embed e-chapters into ReggieNet for weekly lessons/modules. This is going to be even more convenient for students to just click a link on the certain page in ReggieNet for that week.” Some also indicated that they would also welcome any data related to textbook affordability: “For a long-term impact purpose, it might be helpful to track and calculate how much e-textbook program can help students save.”

A few expressed an interest in library assistance related to identifying OER content that could be integrated in their course, or in highlighting diverse perspectives to improve their syllabus. One participant suggested that ISU could do more in-house to support textbook affordability than a for-profit publisher “Taking the profit motive out should realize some savings.” Two participants expressed interest in the library supporting OER more directly, as in the Kansas State University example shared (see above), and in helping to normalize OER and open access (OA) on campus. One participant stated that “I’ve been using research articles [in upper-level courses,] because students have already paid for [this content] like five times,” that is, through tax dollars, tuition, faculty salaries, library subscriptions, uncompensated peer-review and editorial work, etc. That participant also expressed the hope that OA publishing would take off both within their discipline and at ISU, and expressed interest in information on OA publishing and OER creation and availability.

The conversation strayed beyond the immediate institutional context to include conversations about textbook publishing more broadly. Several expressed their disappointment with current textbook publishing models and the costs students bear: “Textbooks are too expensive, and they go out-of-date quickly with new editions published every few years. I do not like

requiring students to purchase expensive textbooks unless I know it will support their later clinical practice after graduation." One shared a concern regarding access to digital textbooks after the course: "When students are only paying for limited access to a textbook it is not as useful, that is one of the things I do like about e-book access through Milner, students can go back to the material later." One participant indicated that at a previous institution, they had used an auto-enroll textbook program in which students paid a fee and had discounted access to all required course materials. Several participants noted problems with existing models for textbook acquisition, indicating that rental models did not work out well in practice, and that the bookstore was engaged in "gouging."

One focus group participant suggested that professional organizations were well positioned to facilitate the creation of quality OER textbooks, and another participant suggested that professional organizations were getting out of textbook publishing. Another point/counterpoint was offered when one participant indicated that they had neither the desire nor comprehensive expertise to write their own course textbook and did not know of any institutional colleagues who could satisfactorily write a textbook on a specified topic. A participant in the same focus group countered that not all expertise would need to be local; they pointed out that faculty at other institutions are being funded to write OER that could be locally adopted. Although the authors sought to investigate who on campus should be involved in the complex issue of textbook affordability, faculty input broadened the context from local solutions to broader networks of participation. Faculty suggested several opportunities for the library to play a role in mitigating the burden of rising textbook costs, and many study participants learned that the library has the resources and desire to do this work.

Limitations

The impetus for this research was a pilot project conducted to address the issue of textbook affordability on a specific university campus. The pilot project began after faculty had selected texts and participants were invited only if assigned text for their courses were available for the library to license. Accordingly, the environment was not tightly controlled, and the results are not generalizable. The data do not allow for an investigation of how or if format factors into textbook selection decisions and further research is needed to explore this consideration. Although the survey response rate of 40 percent is strong, there was nonetheless a small number of study participants, and the sample of disciplines was not necessarily representative. The authors also acknowledge the likelihood of selection bias; those professors who chose to participate are likely interested in this issue, or at least willing to consider potential solutions to the perceived problem of textbook affordability. Despite their interest in this issue, however, some faculty participants nonetheless expressed significant concerns about the proposed solution of library-licensed e-books.

Conclusion

The results from this study fill a gap in the library literature about faculty considerations in the text selection process as well as about their awareness of textbook affordability concerns and how those inform their willingness to partner with academic librarians to provide access to affordable texts. This study also provides useful context surrounding the broader experience of textbook selection in higher education and the deeply held and often conflicting beliefs that surface when discussing the intersection of textbook affordability and

intellectual freedom. By providing faculty space to discuss their practices and experiences related to textbook selection and assignment, the authors gained insight into their expectations and needs.

Results highlight the complexity of textbook affordability and the current landscape of textbook access options. This study confirms previously cited findings concerning the obstacles to student success posed by the increasing cost of textbook access; these challenges can serve to increase awareness of disparities in access, wealth, and achievement. Of particular note to librarians, the findings indicate that some faculty are willing to collaborate with academic librarians to address textbook affordability, and welcome opportunities to learn more about resources available to them locally. Librarians can contribute to textbook affordability programs by strategically marketing relevant resources and services not only to faculty, but to stakeholders across campus. Librarians will vary in the support that they can offer throughout the text selection and provision processes; the financial resources, staffing, administrative considerations, and faculty and student needs and expectations will demand that textbook affordability initiatives must be specific to the institution. In sharing this research, the authors aim to encourage academic librarians to collaborate strategically and broadly to support textbook affordability.

Acknowledgments

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Appendix 1. Faculty Survey and Focus Group Instruments

Faculty Survey Questions

1. I am willing to participate in this study (y/n)
2. I am 18 or older (y/n)
3. I am currently physically located outside of the European Economic Area (y/n)
4. Have you previously used Milner Library e-books? (y/n)
5. What did you like about using library e-books? (choose all that apply) Students didn't have to pay
 - I didn't have to purchase them
 - Easy to use
 - I found related materials in the library databases
 - I could do keyword searches in the text
 - I could save and/or annotate the PDFs
 - Other, please explain:
6. What challenges did you encounter in using the e-book(s)? (choose all that apply)
 - Difficult to use (timeout problems, navigation problems, etc.)
 - Difficult to access (login problems, didn't work with screen reader, etc.)
 - I couldn't download or annotate the text as desired
 - Other, please explain:
7. How do you decide which texts to assign?
8. How frequently do you encounter students that have obviously not read assigned readings?
 - All the time
 - Regularly
 - Infrequently
 - Never
9. How frequently do students report not having access to assigned readings?
 - All the time
 - Regularly
 - Infrequently
 - Never
10. Comparing assigned readings from the library provided e-book(s) to other assignments: Were the students more prepared for assignments from the e-books than other texts?
 - Yes
 - No
 - Unknown
11. Do you think that access to the provided e-book(s) impacted the grades or retention of any students in your course? Please explain:
12. If you had previously used Milner Library resources, what was your general opinion of their availability?
 - Milner Library typically has what I need
 - Milner Library sometimes has what I need
 - Milner Library never has what I need

13. Now that you've used a Milner Library e-book for your class, how has this opinion changed?
 No change
 Positive change: Milner Library offers important resources for students
 Negative change: Milner Library does not offer important resources for students
14. How likely are you to seek out an online textbook like the one used in this course for future courses? Why?
 Very likely
 Somewhat likely
 Somewhat unlikely
 Very unlikely
15. What information would you like to share with librarians about textbook affordability and how it has impacted your teaching?
16. What information would you like to share with librarians about textbook affordability and how it has impacted your students' learning?
17. What is your title (if multiple, list both)?
18. What is your department?
19. What is your college?
20. Please enter the course number(s) for the class(es) in which you have a library-provided e-book (for example, AGR 203, BUS 100, COM 101)
21. Approximately how much did the other textbook(s) for this/these course[s] cost?

Faculty Focus Group Questions

1. What were the benefits of having the library provide access to your assigned text(s)?
2. What frustrations did you and your students encounter in using the e-book(s)?
3. In what way(s) did having access to the textbook affect students' experience and/or performance in your course?
4. What ideas do you have for balancing affordability, accessibility, copyright compliance, quality, and sustainability of assigned texts?
5. What ideas do you have for advancing textbook affordability at ISU? Who on campus should be involved?
6. How would you like Milner Library to support you in textbook affordability efforts?

Notes

1. First Day®/Inclusive Access is a Barnes and Noble program by which "the cost of course materials is added as a charge for the course, by your school, and students receive benefits including deeply discounted, lowest price materials; the guaranteed right materials; access on or before the first day of class." Accessed July 2, 2021, <https://customercare.bncollege.com/hc/en-us/articles/360001654487-What-is-First-Day-Inclusive-Accessed>.

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Exploring Faculty Perspectives on Text Selection and Textbook Affordability 201

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More than a Decade Later: Library Web Usability Practices at ARL Academic Libraries in 2007 and 2020

Yu-Hui Chen, Carol Anne Germain, and Abebe Rorissa

This study compares library web usability practices in 2007 and 2020 at academic libraries that are institutional members of the Association of Research Libraries. The authors performed chi-square and *t*-tests to determine whether there were differences in establishing policies/standards/guidelines (PSGs), conducting usability tests, and providing resources between samples of libraries from both years. There was no statistically significant difference between the number of libraries with and without PSGs in both samples. In 2020, the level of perceived importance of usability testing significantly decreased, and the resources needed for web usability initiatives doubled. The authors suggest that academic and research libraries foster a culture of web usability to actualize and optimize usability endeavors.

Introduction

In this digital age, the World Wide Web is the dominant medium for accessing information. As such, it is essential for web developers to make web-based information systems usable in various platforms. Usability scholars such as Nielsen, Norman, and Shneiderman, provided principles for best usability practices.¹ Additionally, the International Organization for Standardization (ISO) and the U.S. Department of Health and Human Services (HHS) published standards and guidelines for web developers to create information systems with superior usability.²

Researchers in information system success modelling indicate that the quality of information, systems, and services is positively associated with intention to use and user satisfaction, which leads to the continued use of a system.³ Continuous use of such a quality information system can then lead to higher rates of return on investments.

Academic libraries have put tremendous effort and funding into providing electronic resources and services via their library web portals. Hong et al.⁴ revealed that perceived ease of use and usefulness can influence users' acceptance and use of digital libraries. If libraries do not take these usability characteristics into account, they risk underutilization of their resources.⁵

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As electronic resources grow exponentially, academic libraries must develop web portals with quality usability to prompt continued use of these resources, thus making libraries' investment cost-effective. To accomplish this goal, a sound infrastructure is indispensable, which includes employing web usability experts, establishing and implementing institutional usability policies/standards/guidelines (PSGs), and providing necessary resources. In 2007, Chen, Germain, and Yang explored the ways that academic members of the Association of Research Libraries (ARL) met these infrastructure objectives.⁶ In this study, the authors have attempted to identify whether web usability infrastructure and efforts devoted to web usability testing have increased at these libraries over the last decade.

Problem Statement

In the library and information science literature, research on web usability usually addresses a specific aspect, such as case studies of usability testing,⁷ discussions on web accessibility policies,⁸ or web team development.⁹ Instead of focusing on a particular area, Popp in 2001 examined several aspects of web usability practices at members of ARL libraries, such as testing, obtaining web assessment training, and supporting professional development.¹⁰

As there was a void in the literature investigating holistic web usability, in 2007 Chen et al. expanded the scope of Popp's study by incorporating PSGs and resources into their research.¹¹ They observed that of the eighty-four participating libraries, only twenty-five had web usability PSGs, even though the perceived importance of usability testing was high. Additionally, 85 percent of the libraries had tested their websites. Nevertheless, due to a lack of infrastructure and buy-in, there was minimal iterative testing of the various components of the library web portal. Furthermore, there were just twenty libraries with dedicated, full-time usability staff. Based on these research outcomes, Chen et al. advocated education and organizational support for usability initiatives.¹²

It has been over a decade since Chen et al.'s initial study.¹³ There are still few systematic studies of organizational web usability infrastructure. Therefore, the authors conducted a comparative study to determine whether ARL academic libraries have demonstrated a stronger commitment in their usability initiatives since then. Through this research, we aim to

- determine if there are more web usability PSGs in ARL academic libraries in 2020 than in 2007;
- compare the perceived importance of web usability in 2020 and 2007;
- assess if more usability testing, including iterative testing, has been conducted since 2007; and
- evaluate if there are more resources (e.g., committees, staffing, and training) devoted to usability initiatives in 2020 than in 2007.

The issues and degrees of progress identified in these results will help advance web usability enterprises in the information science and higher education communities.

Literature Review

In 1988, Norman advocated for the importance of usability by promoting simple design focused on the successful interaction between an object and its user.¹⁴ Based on system engineering principles, Nielsen proposed five measurable usability attributes: easy to learn, efficient to use, easy to remember, low error rate, and overall user satisfaction.¹⁵ ISO defined usability as the "[e]xtent to which a product can be employed by specified users to achieve specified goals

with effectiveness, efficiency and satisfaction in a specified context of use.”¹⁶ Palmer extended ISO’s goal-oriented perspective by highlighting a system’s information architecture.¹⁷

As web technologies emerged, Brophy and Craven regarded web usability as “the experience the user has when reading and interacting with a website.”¹⁸ The authors of this study took a holistic approach to the subject by introducing a working, multifaceted definition that addressed the gaps in the ISO definition concerning content, cognitive capacity, affect, and interactivity.¹⁹ In 2018, ISO took a more inclusive stance in redefining usability and expanded its scope to include products and services.²⁰

Nielsen, Rosenfeld and Morville, and Shneiderman indicated that websites built for optimal usability during the development cycle enable users to interact more easily with and yield greater satisfaction from the systems.²¹ Several studies revealed that websites with high levels of usability will engender user satisfaction, and that users will hence revisit these sites.²² Likewise, in e-learning, a quality interface and useful content facilitate coherent teaching and learning, which increase acceptance and satisfaction.²³ Because academic libraries rely heavily on web technology to provide access to resources and services, it is thus essential that the design of their online system reflects users’ mental models and usability best practices.

Library professionals have adopted usability principles when developing their online portals. For example, they have conducted usability tests across platforms, including the library’s main pages,²⁴ lower-level pages,²⁵ OPACs,²⁶ and discovery systems²⁷ to ensure quality control. With the widespread use of mobile devices, libraries have also conducted usability testing on their mobile library websites.²⁸

Academic libraries apply various web usability testing methods. Card-sorting is an option for the preliminary stage of the development, since it takes the user’s mental models into account when designing intuitive information architectures.²⁹ Think-aloud protocol allows users to articulate their thought processes while navigating web resources.³⁰ Paper or online prototyping is a cost-effective method for constructing initial layout of a website, as it is easy to make design modifications in the early stages.³¹

Sometimes, usability testing is conducted by experts in this area. Cognitive walkthrough, a process whereby experts emulate a novice navigating a system, yields information on its learnability and the ease of identifying its most straightforward path to accomplish a specific task.³² Similarly, heuristic evaluation involves expert inspection of a system based on a set of established standards or guidelines.³³ Task analysis examines whether a system’s design aligns with the sequence activities necessary to complete a specific task.³⁴

As usability testing technology advances, some usability practitioners augment traditional methods with additional tools; for example, log analysis³⁵ and eye tracking.³⁶ Researchers also conduct focus groups or surveys to solicit feedback from users.³⁷

Usability testing is an on-going, indispensable process throughout the system development life cycle.³⁸ Iterative testing enables web designers to detect flaws and make improvements.³⁹ These usability initiatives require considerable personnel, time, technical expertise, funding, and other resources throughout the various phases of the process.⁴⁰ Teams can provide valuable support, but members with limited expertise in these areas may hinder a team from working at its full potential.⁴¹ However, Nichols et al. noted that while some team members may not have a high level of usability training, they still bring important knowledge about users to the process.⁴² Lacking staff expertise, some organizations opt to hire outside consultants to conduct usability testing.⁴³ Cervone’s model posited that whether usability training is

knowledge-based or skill-based, it should be an organization-wide endeavor.⁴⁴ These diverse views “move usability towards an institutional value.”⁴⁵

Usability PSGs provide uniformity for quality information system design. After exploring web policies available on selected academic libraries’ websites, Lingle and Delozier provided a list of elements for library website policies. These elements include mission statement, target audience, scope and content, selection criteria, web administration, training, URL creation, types of platforms used, security levels, backup plan, and design. Their list mainly focuses on the collection, technical, and procedural aspects of policies, not usability per se.⁴⁶ ISO issued sets of usability guidelines and specifications for facilitating user-centered design.⁴⁷ The HHS publication *Research-Based Web Design & Usability Guidelines* provides institutions with a blueprint for establishing local policies for usability best practices.⁴⁸ Additionally, Nielsen’s seminal ten heuristics serve as general principles for creating intuitive web user interfaces.⁴⁹ Finally, for a system to be usable it must first be accessible. The Web Accessibility Initiative at the World Wide Web Consortium emphasizes prioritizing web accessibility for persons with disabilities.⁵⁰ Common elements for web usability PSGs derived from these authoritative usability guidelines include identifying goals, understanding user requirements, meeting user’s expectations, considering user interface issues, providing useful content, structuring content for easy navigation, using plain language, allowing user control and flexibility, preventing errors, avoiding information overload, addressing accessibility, and measuring outcomes of use (e.g., effectiveness, efficiency, satisfaction, user experience, etc.).

Although library professionals have applied these guidelines and standards toward general evaluation of their websites, there is little discussion in the library and information science literature specifically related to web usability policies.⁵¹

The rapid evolution of web technologies has made it more common to offer online learning and information services (including seeking and disseminating information) since Chen et al. explored web usability practices in ARL academic libraries in 2007.⁵² The transition from in-person to virtual environments further highlights the importance of web usability. Quality library web usability facilitates seamless interaction for teaching, learning, and research, thus providing better user experience for patrons of academic libraries. Achieving ultimate web usability requires a sound infrastructure and continuous efforts. A comparative study on these usability aspects will shed light on the progress made and the challenges encountered by the ARL academic libraries. The results can help library professionals, including library administrators, reflect on their library web usability practices. Additionally, the insights derived from this research can serve as informed strategies for advancing web usability enterprises in the information science and higher education communities to enhance user satisfaction.

Methods

In 2007, Chen et al. selected the ARL academic libraries for exploring web usability practices because they were regarded the top research libraries in North America.⁵³ As the authors of this study intended to determine if ARL academic libraries have demonstrated a stronger commitment in Web usability initiatives in the past decade, surveying the current state of Web usability practices in these institutions must take place first. To achieve this goal, the authors adapted Chen et al.’s⁵⁴ survey questionnaire. They added the “Library student worker” option to the question on testing population, and the “Eye tracking” option to the question on usability testing methods, as well as including new questions on testing a mobile version of

library websites, availability and utilization of usability labs, and how existing usability PSGs and practices have influenced user experience. Furthermore, the authors added the phrase “in the past ten years” to the question on usability testing efforts to replicate the timeframe of the former study, which transpired approximately ten years after initial web usability testing initiatives occurred at academic libraries. These additions and modifications to the original survey questionnaire were meant to account for new methods and emerging web technologies, such as increased use of eye-tracking systems and mobile devices. In a forthcoming article, the authors provided a comprehensive report on the current state of web usability practices in the ARL academic libraries.⁵⁵ For the comparative analyses, only responses to common questions used for both the 2007 and 2020 surveys were considered (see appendix). Thus, the authors did not anticipate that the changes made to the survey would impact the comparability of the results between the current and former study.

The rationale behind adapting Chen et al.’s⁵⁶ survey instrument included that the target population was the same; to make the comparison meaningful, the scope of the investigation and survey instrument should remain the same; their questionnaire consisted of quantitative and qualitative elements providing a more complete view of the issues under examination; and the survey questions had been tested through two pilot studies to ensure validity and reliability.

The quantitative questions included multiple choice and Likert scale items focusing on usability PSGs, usability testing, and resources. The open-ended questions, pertaining to challenges encountered in the implementation of usability PSGs, web usability practices, and future plans for usability initiatives, allowed the authors to collect qualitative data which could not be captured via quantitative-oriented queries.

The authors followed the same approach identifying appropriate survey recipients. We visited the ARL academic libraries’ website directories in September 2019 and identified position titles or departments with responsibility for usability initiatives. The authors then contacted potential individuals to determine whether they were the appropriate survey recipients; if they were not, we requested a referral.

Upon receiving the IRB approval at the University, we sent the survey questionnaire via SurveyMonkey to the 105 ARL academic libraries at the end of October 2019. We followed up with emails and phone calls to increase the response rate. Due to the COVID-19 pandemic, there were delays in response submissions. As the survey solicited information on usability practices in the past ten years, the responses would not be affected by the interruption caused by the pandemic. In Chen et al.’s 2007 study, eighty-four institutions participated in the survey.⁵⁷ In the 2020 study, by the close of the survey in mid May 2020, ninety-one institutions responded, yielding an 87 percent response rate, which is a strong representation of ARL academic libraries.⁵⁸

The authors exported the data from SurveyMonkey to Excel for quantitative analyses. We performed chi-square tests of independence and *t*-tests to determine whether there were differences in terms of PSG establishment, usability testing, and resource availability between the 2007 and 2020 samples. Additionally, we downloaded responses to the open-ended questions and coded them using the themes that had emerged in the 2007 study, which applied grounded theory method. Discrepancies in coding were resolved through discussions.

Findings

Development and Implementation of Website PSGs and Web Usability PSGs

The authors mainly used the chi-square (χ^2) test of independence and independent samples

t-test to conduct analyses and comparison of the data from 2007 and 2020. Table 1 shows that the numbers of libraries with or without library website PSGs remained similar ($\chi^2 = 0.074$, $df=1$, $p > 0.1$). However, there was a significant difference (33 percent in 2020 vs. 30 percent in 2007) in the numbers of libraries with web usability PSGs ($\chi^2 = 8.219$, $df=1$, $p < 0.05$). Likewise, there was a notable increase (41 percent in 2020 vs. 36 percent in 2007) in the number of universities with web usability PSGs ($\chi^2 = 34.181$, $df=1$, $p < 0.001$).

TABLE 1
Libraries/Universities with/without PSGs

	Library Website PSGs		Library Web Usability PSGs*		University Web Usability PSGs**	
	2020	2007	2020	2007	2020	2007
	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)
With	35 (38)	34 (40)	30 (33)	25 (30)	37 (41)	30 (36)
Without	56 (62)	50 (60)	51 (56)	58 (69)	41 (45)	31 (37)
Not sure	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	22 (26)
No answer	0 (0)	0 (0)	10 (11)	1 (1)	13 (14)	1 (1)
Total	91 (100)	84 (100)	91 (100)	84 (100)	91 (100)	84 (100)

* $p < 0.05$; ** $p < 0.001$

Table 2 reveals that in terms of implementing all three types of PSGs, there were no obvious differences regarding the various levels of difficulty between both samples. This result was confirmed by non-significant chi-square (χ^2) tests. Comparable numbers of libraries in 2020 and 2007 indicated the level of difficulty was moderate or higher in implementing library web PSGs ($\chi^2 = 6.26$, $df=4$, $p > 0.1$), library web usability PSGs ($\chi^2 = 3.71$, $df=4$, $p > 0.1$), and university web usability PSGs ($\chi^2 = 7.0$, $df=4$, $p > 0.1$). Independent samples *t*-tests revealed no statistically significant differences in the mean levels of difficulty in implementing library web PSGs ($t(62) = 1.356$, $p > 0.05$) and library web usability PSGs ($t(52) = 0.298$, $p > 0.1$) in both 2020 and 2007. Yet, the mean level of difficulty for implementing university web usability PSGs was higher in 2020 ($M=2.3$) than 2007 ($M=1.65$) ($t(54) = 2.744$, $p < 0.005$).

TABLE 2
Levels of Difficulty in Implementing in-library/University Web Usability PSGs

	Library Web PSGs		Library Web Usability PSGs		University Web Usability PSGs	
	2020	2007	2020	2007	2020	2007
	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)
Not Difficult	4 (11)	5 (15)	3 (10)	4 (16)	7 (23)	12 (46)
Slightly Difficult	6 (17)	8 (23)	8 (27)	2 (8)	9 (30)	8 (31)
Moderately Difficult	11 (31)	16 (47)	13 (43)	15 (60)	12 (40)	5 (19)
Very Difficult	5 (14)	3 (9)	2 (7)	2 (8)	2 (7)	0 (0)
Extremely Difficult	0 (0)	0 (0)	2 (7)	0 (0)	0 (0)	0 (0)
No Answer	9 (26)	2 (6)	2 (7)	2 (8)	0 (0)	1 (4)
Total	35 (99*)	34 (100)	30 (101*)	25	30 (100)	26 (100)

* Percentage did not add up to 100 due to rounding.

In 2020, 22 (62.9%), 25 (82%), and 23 (76.7%) of the libraries experienced at least slight difficulty in implementing their library web PSGs, library web usability PSGs, and university web usability PSGs respectively, as compared to 27(79.4%), 19(76%), and 13(50%) in 2007. The most frequent rating for difficulty in implementing the three types of PSGs was "Moderately Difficult" in both 2020 and 2007.

In both 2020 and 2007, the most frequently cited obstacles to implementing the library specific PSGs were: "Enforcement/agreement" (18 in 2020 vs. 20 in 2007), "Resources" (13 in 2020 vs. 7 in 2007), and "Lack of skills/training" (8 in 2020 vs. 10 in 2007). "Technical issues" was rated as the most challenging aspect in implementing the university web usability PSGs. The least cited reasons included "Resistance to change," "One size doesn't fit all/complexity," "Unclear PSGs," "Difficulty with OPAC," and "Difficulty with lower-level pages" (table 3).

TABLE 3
Number of Libraries That Cite Various Reasons for Their Difficulty in Implementing PSGs

	Library Website PSGs		Library Web Usability PSGs		University Web Usability PSGs	
	2020	2007	2020	2007	2020	2007
Enforcement/Agreement	8	13	10	7	1	2
Lack of skills/training	3	7	5	3	3	1
Resources	6	4	7	3	4	1
Getting informed	1	3	3	1	2	2
Resistance to change	3	2	4	2	0	0
One size doesn't fit all/complexity	2	2	0	1	0	1
Technical issues	1	1	1	2	5	4
Difficulty with lower-level pages	2	0	1	2	0	0
Difficulty with OPAC	1	0	0	1	0	0
Unclear PSGs	0	0	0	0	0	2

Usability Resources: Committees/Task Forces

As shown in table 4, the authors observed that in 2020 there were decreases in the numbers of the following committees compared to 2007: usability committees (9 percent vs. 18 percent), web advisory committees (34 percent vs. 62 percent), and website usability subcommittees (2 percent vs. 14 percent). A chi-square test of independence confirmed that the two samples

TABLE 4
Committees Formed by Responding Libraries

	Usability Committee		Web Advisory Committee		Website Usability Subcommittee	
	2020	2007	2020	2007	2020	2007
	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)
Yes	8 (9)	15 (18)	31 (34)	52 (62)	2 (2)	12 (14)
No	62 (68)	42 (50)	39 (43)	14 (16)	68 (75)	34 (40)
Not Sure	0 (0)	1 (1)	0 (0)	3 (4)	0 (0)	3 (4)
No Answer	21 (23)	26 (31)	21 (23)	15 (18)	21 (23)	35 (42)
Total	91 (100)	84 (100)	91 (100)	84 (100)	91 (100)	84 (100)

were significantly different ($\chi^2 = 55.04$, df=4, $p < 0.001$). More libraries had a web advisory committee than the other two types in both 2020 and 2007. Additionally, there were substantially fewer libraries that had at least one type of committee in 2020 (37 percent) than in 2007 (71 percent), and there were notably fewer libraries with two or more types of committees in 2020 (6 percent) than in 2007 (20 percent).

Usability Resources: Web Usability Personnel

Data from table 5 reveal that there was a statistically significant difference in the number of libraries employing dedicated web usability staff in 2020 and 2007 ($\chi^2 = 10.55$, df=2, $p < 0.01$).

TABLE 5 Libraries Employing Dedicated Web Usability Staff		
	2020*	2007
	N (%)	N (%)
With	32 (35)	24 (29)
Without	44 (48)	57 (68)
No answer	15 (16)	3 (4)
Total	91 (99**)	84 (101**)

* $p < 0.01$
**Percentage did not add up to 100 due to rounding.

Additionally, the average number of dedicated staff hours devoted to usability testing differed significantly, as confirmed by an independent samples *t*-test result ($t (29) = 1.824$, $p < .05$) with $M=20.678$ in 2020 and $M=14.214$ in 2007. However, the mean number of regular staff hours devoted to usability testing had no significant difference ($t (42) = 0.997$, $p > .1$) between 2020 ($M=7.687$) and 2007 ($M=5.567$).

In 2020, thirty-two libraries responded to the question on web usability training; in 2007, that number was twenty-four (table 6). The numbers for all types of training increased in 2020, compared to the 2007 sample. More dedicated staff had training in "Web usability" than in "Human-Computer Interaction (HCI)" or those receiving a "Degree or certificate in information science." The most noticeable differences were in staff receiving HCI (66 percent vs. 25

TABLE 6 Types of Web Usability Training for Dedicated Staff		
	2020 (n=32)	2007 (n=24)
	N (%)	N (%)
Human-Computer Interaction (HCI)	21 (66)	6 (25)
Web usability	31 (97)	14 (58)
Degree or certificate in information science	19 (59)	14 (58)
No specific training	1 (3)	5 (21)
Total	72*	39*

Note: n refers to the number of libraries that answered this question.
N refers to the number of dedicated staff.
*As multiple responses were allowed for this question, the total for 2020 and 2007 adds up to more than 32 and 24 respectively.

percent) and web usability (97 percent vs. 58 percent) training. In 2007, fewer dedicated staff had training in HCI compared with the other two forms of education. This was evidenced by the significant chi-square (χ^2) test of independence ($\chi^2 = 7.23$, df=2, $p < 0.05$). The two library samples also differed in the number of the various types of training ($\chi^2 = 8.72$, df=2, $p < 0.05$).

As shown in table 7, based on thirty-seven and fifty-one responses in 2020 and 2007 respectively, the chi-square result did not show differences statistically in the numbers and types of training obtained by regular staff with web usability responsibility ($\chi^2 = 0.38$, df=2, $p > 0.1$). Web usability was the dominant training type for both years, followed by degree or certificate in information science, and then HCI.

TABLE 7 Types of Training for Regular Staff with Web Usability Responsibility		
	2020 (n=37)	2007 (n=51)
	N (%)	N (%)
Human-Computer Interaction (HCI)	17 (46)	16 (31)
Web usability	30 (81)	36 (71)
Degree or certificate in information science	19 (51)	21 (41)
No specific training	6 (16)	10 (20)
Total	72*	83*

Note: n refers to the number of libraries that answered this question.
N refers to the number of regular staff with Web usability responsibility.
*As multiple responses were allowed for this question, the total for 2020 and 2007 adds up to more than 37 and 51 respectively.

The authors aggregated all categories of available resources—committees, training formats, outside assistance, and staff—to further examine if there was any difference between the two samples. An independent samples *t*-test revealed a statistically non-significant difference in the mean level of aggregated resources ($t (172) = 0.968$, $p > .1$), with $M=3.758$ in 2020 and $M=4.190$ in 2007.

Usability Testing: Perceived Importance of Usability Testing

A non-significant chi-square (χ^2) test of independence showed that both samples in 2020 and 2007 rated high importance for usability testing ($\chi^2 = 10.66$, df=5, $p > 0.05$). As shown in table 8,

TABLE 8 Responding Libraries' Rating on the Importance of Usability Testing		
	2020	2007
	N (%)	N (%)
Not important	3 (3.2)	2 (2.3)
Somewhat important	25 (27.5)	15 (17.9)
Important	25 (27.5)	21 (25)
Very important	18 (19.7)	34 (40.5)
Extremely important	8 (8.9)	7 (8.3)
No answer	12 (13.2)	5 (6.0)
Total	91 (100)	84 (100)

the majority of participants regarded usability testing as at least "Somewhat important," with 83.6 percent in 2020 and 91.7 percent in 2007. Additionally, 56.1 percent in 2020 and 73.8 percent in 2007 rated it "Important" or higher. However, a closer look at the data showed that the mean level of importance of usability testing in 2020 ($M=2.037$) was lower than that in 2007 ($M=2.367$) ($t(155) = 2.034$, $p < 0.05$).

The authors coded and categorized responses to an open-ended question soliciting additional comments on the importance the library places on usability testing. The results reveal that "Staff/Resources" and "Iterative testing" were the most frequently mentioned in 2020. In 2007, "Iterative testing" was the most commonly referenced, followed by "Buy-in" and "Staff/Resources" (table 9). Additional themes mentioned in the 2020 sample were "Culture of usability," "Support from library administration," and "Enforcement/Agreement."

TABLE 9
Additional Comments by Respondents on the Importance Their Libraries Placed on
Usability Testing

Theme	2020	2007
	N	N
Iterative testing	18	19
Buy-in	6	13
Staff/Resources	25	12
On-campus usability partnership	1	6
Committee	7	6
Accessibility	3	3
Web usability PSGs	6	2
Training	3	2

Usability Testing: Platforms and Activities

In line with participants' rating on the importance of usability testing, an overwhelming majority of libraries in both 2020 (85.7 percent) and 2007 (84.5 percent) conducted usability testing, with a slight increase in 2020. A chi-square (χ^2) test of independence confirmed this difference ($\chi^2 = 15.55$, $df=2$, $p < 0.001$).

The authors examined usability testing activities conducted at the pre-, during, and post-design stages of the library websites (table 10a), OPACs (table 10b), and lower-level pages (table 10c) in both 2020 and 2007. Chi-square (χ^2) tests of independence confirmed no differences:

- Websites (Pre: $\chi^2 = 5.57$, $df=5$, $p > 0.1$; During: $\chi^2 = 3.47$, $df=5$, $p > 0.1$; Post-design: $\chi^2 = 8.85$, $df=5$, $p > 0.1$),
- OPACs (Pre: $\chi^2 = 10.69$, $df=5$, $p > 0.05$; During: $\chi^2 = 7.29$, $df=5$, $p > 0.1$; Post-design: $\chi^2 = 8.06$, $df=5$, $p > 0.1$),
- Lower-level Pages (Pre: $\chi^2 = 4.09$, $df=5$, $p > 0.1$; During: $\chi^2 = 4.72$, $df=5$, $p > 0.1$; Post-design: $\chi^2 = 4.24$, $df=5$, $p > 0.1$).

In addition, an independent samples t -test confirmed that there was no statistically significant difference in the mean total amount of testing performed on the three platforms ($t(136) = 0.745431347$, $p > 0.1$) in 2020 ($M=6.82$) and 2007 ($M=6.23$).

TABLE 10A
Number of Libraries Testing on Their Websites: Pre, During, and Post-design Phases

Testing Frequency	Pre		During		Post	
	2020	2007	2020	2007	2020	2007
1	18	15	14	12	21	16
2	10	13	15	16	2	11
3	6	9	5	11	9	9
4	4	1	3	2	1	2
5 or more	16	10	20	15	21	15

TABLE 10B
Number of Libraries Testing on Their OPACs: Pre, During, and Post-design Phases

Testing Frequency	Pre		During		Post	
	2020	2007	2020	2007	2020	2007
1	14	8	14	9	10	11
2	3	6	9	6	8	10
3	5	2	3	4	6	4
4	0	1	2	1	2	2
5 or more	10	2	9	2	13	3

TABLE 10C
Number of Libraries Testing on Their Lower-Level Pages: Pre, During, and Post-design Phases

Testing Frequency	Pre		During		Post	
	2020	2007	2020	2007	2020	2007
1	10	11	12	11	16	12
2	12	9	12	18	8	11
3	3	7	3	7	4	10
4	3	1	2	3	4	4
5 or more	9	5	12	7	10	7

Table 11 shows that while the number of libraries conducting usability tests on their websites ($\chi^2 = 0.63$, df=2, $p > 0.1$) and lower-level pages ($\chi^2 = 0.7$, df=2, $p > 0.1$) at the various stages were similar, there were differences in testing OPACs. Compared with 2007, more

TABLE 11
Number of Responding Libraries Testing on the Three Web Platforms During the Development Life Cycle

	Websites		OPAC		Lower-level Pages	
	2020	2007	2020	2007	2020	2007
	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)
All three stages	42 (64)	37 (57)	23 (48)	8 (19)	26 (49)	26 (49)
Any two of the three stages	15 (23)	18 (28)	14 (29)	12 (28)	15 (28)	18 (34)
Any one of the three stages	9 (13)	10 (15)	11 (23)	23 (53)	12 (23)	9 (17)
Total	66 (100)	65 (100)	48 (100)	43 (100)	53 (100)	53 (100)

libraries in 2020 tested their OPACs at “All three stages,” but fewer tested at “Any one of the three stages” ($\chi^2 = 11.4$, $df=2$, $p < 0.01$).

Usability Testing: Populations

For both samples, “Undergraduates,” “Graduates,” “Faculty,” and “Staff” were the top four populations recruited for usability testing (table 12). The participating libraries recruited “Undergraduate students” ($\chi^2 = 0.5$, $df=2$, $p > 0.1$), “Graduate students” ($\chi^2 = 2.17$, $df=2$, $p > 0.1$), “Faculty” ($\chi^2 = 1.48$, $df=2$, $p > 0.1$), “Staff” ($\chi^2 = 5.7$, $df=2$, $p > 0.05$), “Alumni” ($\chi^2 = 4.51$, $df=2$, $p > 0.1$), and “Public users” ($\chi^2 = 5.62$, $df=2$, $p > 0.05$) in both years at indistinguishable rates. Yet, the authors observed different levels for the other testing populations: “Administrators” ($\chi^2 = 7.67$, $df=2$, $p < 0.05$), “Non-library users” ($\chi^2 = 9.67$, $df=2$, $p < 0.05$), “IT Professionals” ($\chi^2 = 12.22$, $df=2$, $p < 0.005$), “Persons with disabilities” ($\chi^2 = 6.82$, $df=2$, $p < 0.05$), and “Researchers” ($\chi^2 = 8.57$, $df=2$, $p < 0.05$).

TABLE 12
Testing Population Used by Participating Libraries Conducting Usability Tests

Testing Population	2020				2007			
	Yes	No	No answer	Total	Yes	No	No answer	Total
Administrators	13	61	4	78	20	41	10	71
Alumni	12	62	4	78	11	49	11	71
Faculty	61	13	4	78	60	7	4	71
Graduates	70	4	4	78	68	1	2	71
Undergraduates	73	1	4	78	68	1	2	71
Public users	23	51	4	78	16	43	12	71
Non-library users	14	60	4	78	15	41	15	71
IT Professionals	13	61	4	78	21	37	13	71
Persons with disabilities	22	52	4	78	29	33	9	71
Researchers	30	44	4	78	35	25	11	71
Staff	55	19	4	78	58	7	6	71

Usability Testing: Methods

According to table 13, participating libraries in both 2020 and 2007 applied the same top three methods to conduct usability tests: “In-person observation,” “Think-aloud,” and “Card sorting.” “Keystroke path collection,” “Cognitive walk-through,” and “Filmed observation” were the three least often applied methods for 2020. “Keystroke path collection,” “Filmed observation,” and “Heuristic evaluation” were the least used measures in 2007. Overall, most of the methods used remained the same, which was confirmed by a chi-square (χ^2) test of independence ($\chi^2 = 1.63$, $df=2$, $p > 0.1$). An independent samples *t*-test confirmed that there was no statistically significant difference ($t (139) = 0.779$, $p > 0.1$) in the mean number of testing methods between 2020 ($M=4.808$) and 2007 ($M=5.058$).

TABLE 13
Usability Testing Methods Applied by Libraries for Conducting Usability Tests

Usability Testing Method	2020				2007			
	Yes	No	No answer	Total	Yes	No	No answer	Total
Card sorting	51	22	5	78	40	27	4	71
Cognitive walk-through	25	48	5	78	39	24	8	71
Filmed observation	26	47	5	78	23	38	10	71
Heuristic evaluation	28	45	5	78	32	28	11	71
In-person observation	65	8	5	78	61	6	4	71
Keystroke path collection	8	65	5	78	17	41	13	71
Paper prototyping	34	39	5	78	36	28	7	71
Task analysis	41	32	5	78	39	27	5	71
Think-aloud	63	10	5	78	57	9	5	71

In 2020, the top three methods used to solicit feedback were “Surveys,” “Interviews,” and “Focus groups,” while in 2007 those were still the most commonly used methods, although the order was “Focus groups,” “Surveys,” and “Interviews” (table 14). The three least used approaches were identical for both samples: “Listserv postings,” “Pop-up windows via the library Web site,” and “Web site call for input.” A chi-square test indicated that the two library samples utilized significantly different methods to solicit feedback ($\chi^2 = 8.59$, df=2, $p < 0.05$).

TABLE 14
Methods Used to Solicit Feedback

Method	2020				2007			
	Yes	No	No answer	Total	Yes	No	No answer	Total
Focus groups	43	27	8	78	55	11	5	71
Interviews	45	25	8	78	49	15	7	71
Listserv postings	11	59	8	78	13	45	13	71
Pop-up windows via the library Website	28	42	8	78	13	43	15	71
Surveys	53	17	8	78	51	13	7	71
Website “call for input”	32	38	8	78	45	19	7	71

Usability Testing: Future Plans

In 2020 and 2007, all participating libraries had future plans for their web usability, with conducting usability testing as the top priority, followed by acquiring resources in 2020 and redesigning the library website in 2007 (table 15). The chi-square (χ^2) test of independence result ($\chi^2 = 5.52$, df=2, $p > 0.05$) showed a non-significant difference, indicating that the two sets of libraries had somewhat consistent plans in place.

TABLE 15
Future Plans Identified by Responding Libraries

Future Plan	2020	2007
	N	N
Conduct usability testing	22	26
Redesign library website	11	14
Use alternative methods (focus groups, interviews, surveys, click paths)	6	9
Acquire resources (outside assistance, funding)	5	8
Conduct iterative testing	4	7
Add usability committee, personnel, task force	12	6
Test OPAC	1	6
Implement CMS	0	4
Establish policies	2	3
Test lower level pages	0	1
Total	63	84

Discussion

Development and Implementation of Website PSGs and Web Usability PSGs

The authors expected that there would be significant increases across the three types of PSGs in 2020 compared to 2007. However, the results indicated the increases for categories of library web usability and university web usability PSGs were only 3 percent and 5 percent, respectively. Chen et al. found a 31 percent increase from 1977 to 2003, and an additional 22 percent increase between 2003 and 2008 when examining the collection development policies at ARL libraries.⁵⁹ By contrast, the growth rate of library web usability PSGs is only 3 percent over thirteen years. Data analysis of this study suggest that possible causes for this limited increase were lack of priority, resources (e.g., usability-focused committee), and buy-in.

Web usability PSGs provide an accountability mechanism for quality design. As the web is the dominant medium for information seeking and online learning, the accountability issue cannot be ignored. This is especially true during the COVID-19 pandemic, when most tasks or services are conducted virtually. We encourage libraries to use well-established standards, heuristics, and guidelines to create in-house web usability PSGs for best practices. Administrators need to be educated to be in sync with library stakeholders. Their understanding and knowledge can facilitate a shared vision and shared governance for web usability and make them priorities.

Comparable numbers of libraries indicated various levels of difficulty in implementing the three types of PSGs in 2007 and 2020. Both samples encountered the same top three challenges when implementing library-specific PSGs: Enforcement/agreement, Lack of skills/training, and Resources. This implies that participating libraries did not make any higher degree of a commitment or investment to web usability to reduce the level of difficulty.

Compared with 2007, fewer libraries in 2020 had difficulty in implementing library website PSGs. This might be because these PSGs mainly deal with procedural logistics. Their development is usually centralized among a limited number of IT staff members. Thus, decision making and implementation of library website PSGs on such matters as URL creation, platform selection, security settings, backup plans, and user rights can be most efficiently handled by a small number of IT professionals.

On the contrary, more libraries in 2020 had difficulty implementing library web usability PSGs addressing more complicated issues, such as information organization, which can impact users' information seeking processes. Since the design of a library web portal involves various web authors who may have competing perspectives, the distributed model presents challenges in achieving consensus. Also, these web authors may lack understanding of the usability principles and users' mental models embedded in usability PSGs. Additionally, the lack of a systematic scheme of holding web authors accountable makes enforcement of usability PSGs difficult. Another contributing factor is that vendor products offer limited control for libraries over their design processes, including usability.

Libraries need to be proactive and involve stakeholders when establishing PSGs to engender buy-in. With consensus from web authors, enforcement/agreement becomes less of an issue. In addition, it is indispensable to raise web authors' awareness and understanding of PSGs through regular education and communication strategies.

Likewise, in 2020 the number of libraries lacking skills/training for implementing general library website PSGs was lower than in 2007, although that number was higher in 2020 for library web usability PSGs. General library website PSGs focus on web management matters and usually fall under the charge of staff with web technology expertise. Once PSGs are established, they are easier to implement. In contrast, not all web authors have credentials or knowledge in web usability, HCI, or user experience (UX), thus making it more challenging to implement library web usability PSGs. To resolve this issue, administrators should employ qualified personnel and provide appropriate training in web usability.

Data analysis showed that the need for supporting resources more than doubled in 2020. This might explain why the level of difficulty for implementing usability PSGs did not decrease. More resources would reduce complications associated with a lack of usability experts, training, committees, or infrastructure. Investing in usability resources will enable library staff to take on initiatives more readily or be more responsive to challenges.

Technical issues were the main obstacle in implementing university web usability PSGs in both years, and the level of difficulty increased in 2020. This might be due to university web usability PSGs' failing to take into consideration the complexity of information architecture in library web portals. A marketing design approach supports the main function of university websites, which are for browsing and finding university specific information. In contrast, library web portals are research oriented, which requires usability PSGs to guide a seamless human-computer interaction and address extensive cognitive processes. Lacking programming and scripting skills may be another factor. Based on this discovery, the authors suggest that academic libraries collaborate with their campus IT departments to create a set of comprehensive and robust PSGs to account for the unique needs of the library web portals.

Usability Resources: Committees/Task Forces

Committees provide a mechanism to lead the usability effort in a coherent manner. In 2020, the number of libraries with committees (i.e., web advisory, usability, and usability subcommittees) decreased significantly. This might be due to semantics; for example, the variation of committee names used by some libraries include Website Steering Group, Web Content Group, Library Assessment Steering Committee, UX Team, etc. Other libraries applied an ad hoc approach for point-of-need projects. An approach to addressing these issues is for

libraries to establish and maintain usability-focused committees to carry out all aspects of web usability endeavors.

Usability Resources: Web Usability Personnel

The number of web usability dedicated staff and the average number of hours they devoted to web usability increased in 2020. Since training for web usability is manageable and readily available in various formats (e.g., webinar, conference, workshop, etc.), more dedicated staff in both samples received training in this area than in HCI. Compared with 2007, the numbers of dedicated staff receiving training in both HCI and web usability increased by about 40 percent in 2020. This is encouraging as it indicates that libraries invested in usability expertise. By contrast, there were no differences in the mean number of hours and training types for regular staff with web usability responsibility. This finding further implies that libraries acknowledged the necessity of employing dedicated staff to address web usability initiatives.

The increase in dedicated web usability personnel in 2020 showed progress in usability efforts, but this trend did not occur in resources as a whole. We encourage libraries to support all resources necessary to adequately conduct usability testing for designing and implementing a quality web presence.

Usability Testing: Perceived Importance of Usability Testing

The degree of importance that the participating libraries placed on usability testing significantly declined in 2020, with a 17.7 percent decrease for rating “important” or higher. This signals that libraries did not perceive usability testing to be as important as they did in 2007. This negative change might also explain the reduction in the number of usability-focused committees, the downward trend in buy-in, and the substantially increased demand for resources.

Usability Testing: Platforms and Activities

The number of participating libraries conducting usability testing in 2020 (85.7 percent) was a little more than one percentage point higher than in 2007 (84.5 percent). While the majority of the libraries have tested their web portals, the authors had expected that all ARL academic libraries would have conducted usability testing. The results also indicated that usability testing on library websites and lower-level pages throughout the development cycle remained stagnant in 2020.

As libraries’ main pages are the gateways for accessing library’s resources and services, it is imperative that these sites provide seamless interactions between their users and needed materials. With the increased use of vendor products (e.g., LibGuides) to create lower-level pages, libraries should proactively collaborate with vendors to perform usability testing on those applications. It is disconcerting that over the last decade there has not been more testing on both the libraries’ main and lower-level pages.

However, the authors noted an increase in the number of libraries conducting OPAC testing. This is not surprising, since OPACs have gone through a dramatic transformation into discovery systems mimicking the Google search engine. Discovery systems connect users with a variety of electronic resources, which creates a high level of complexity. Thus, conducting usability testing is crucial to ensure their information retrieval function aligns with users’ mental models.

Usability Testing: Populations

As undergraduates, graduates, faculty, and staff are the major stakeholders on campus, it is natural that libraries in both samples used these populations most frequently for usability testing. The decrease in recruiting administrators to participate in testing raised some concerns, since testing this target audience can help decision makers gain insights into web usability. Administrators that lack this kind of exposure might underappreciate users' experiences with their web portals. This also might be a contributing factor to the insufficient buy-in and allocation of resources.

Unlike administrators, who have decision-making power, researchers are also key library stakeholders at research institutions. The authors encourage libraries to increase the involvement of this population so that web portals can more effectively facilitate their research.

Another important target cohort is persons with disabilities. With the fast evolution of web technologies, it is critical to address both accessibility and usability issues on behalf of this unique population. Though some libraries have applied software to monitor accessibility of their web portals, there is more to usability than just access, so libraries should not lose sight of the usability aspect. To meet the special needs of these users, libraries can collaborate with campus disability centers to recruit participants for usability testing.

Compared with the 2007 sample, the 2020 participating libraries reduced the recruitment of IT professionals for testing. Perhaps libraries tried to avoid bias since this user group is usually better versed in web development. Also, since these IT professionals are website developers or designers, subjectivity issues may arise if they test on their own products.

Usability Testing: Methods

The average number of usability testing methods were consistent between 2007 and 2020. The top three approaches remained the same: In-person observation, Think-aloud, and Card sorting. As libraries strove to create user-centered web portals, it is understandable that they applied known user-focused techniques to gain insights into users' information behaviors and mental models.

Surveys, interviews, and focus groups were the three most commonly used methods for soliciting feedback in both samples. However, participating libraries in 2020 opted for quantitative approaches more frequently, as evidenced in the increase in using surveys and the decrease in both the focus groups and interview methods. Quantitative techniques are advantageous in collecting large datasets without involving much staff time. Additionally, the authors observed other differences in 2020, including the nearly 50 percent increase in the use of pop-up windows and the over 20 percent drop in the website "Call for input" method. Although surveys are convenient and time efficient, they are inadequate for garnering the kind of user feedback in real time provided by qualitative methods, such as focus groups and interviews.

Usability Testing: Future Plans

In reviewing the themes mentioned in responding libraries' future plans, we saw consistency across the years. Usability testing, website redesign, and resources continued to be the top priorities. The authors suggest academic libraries strive to foster a culture of usability, garner support from library administration, and devise a system for enforcement/agreement to build and maintain a sound infrastructure for web usability initiatives.

Conclusion

In this study, the authors compared web usability practices at ARL academic libraries in 2007 and 2020. We found a significant decrease in the mean level of perceived importance of usability testing in 2020, which was reflected in an overall stagnation in library-specific PSGs, usability testing, and resource availability. However, usability testing on OPACs and dedicated web usability personnel have increased.

Rapid web technology evolution continues to impact the development and design of library web portals. The web also serves as a common platform for current initiatives such as Open Access (OA), Open Educational Resources (OER), and Digital Scholarship. However, the emphasis on web usability practices in ARL libraries has decreased at a time when it should arguably be a higher priority. While library professional associations, such as ACRL and ARL, are advocating OA, OER, Digital Scholarship, and the information literacy framework, the authors suggest that these organizations also take a lead in promoting web usability. This includes making recommendations for establishing PSGs, providing educational resources for carrying out web usability initiatives, and fostering leadership in library web usability endeavors.

The advocacy of library professional associations can facilitate academic and research libraries' efforts to cultivate a culture of web usability that is conducive to actualizing web usability efforts. This is especially important with the expansion of web technologies for accessing library resources and services remotely, as well as transitioning in-person teaching and learning to virtual environments. The COVID-19 pandemic further accelerated these movements. Achieving a seamless virtual environment with quality web usability for positive user experience requires concerted efforts from stakeholders with a shared vision and values.

Appendix. Survey Questions Used for the Comparative Study

1. Does your library have a web site policy, guidelines, or standards that address usability issues?
 Yes
 No
2. If your web policy, guidelines or standards are available electronically, please provide the URL below or send it via e-mail to ychen@albany.edu.
3. Please rate the level of difficulty of implementing the policy, guidelines or standards.
 Not Difficult
 Slightly Difficult
 Moderately Difficult
 Very Difficult
 Extremely Difficult
4. If you have had difficulties implementing your policy, guidelines, or standards, please describe them below:
5. Regardless of your response to Question 1 about a general web site policy, does your library have specific policies, guidelines, or standards regarding web usability?
 Yes
 No
6. If your web usability policy, guidelines, or standards are available electronically, please provide the URL below or send it via e-mail to ychen@albany.edu.
7. Please rate the level of difficulty of implementing the web usability policy, guidelines, or standards.
 Not Difficult
 Slightly Difficult
 Moderately Difficult
 Very Difficult
 Extremely Difficult
8. If you have had difficulties implementing your web usability policy, guidelines, or standards, please describe them below:
9. Does your college or university provide an institutional web usability policy, guidelines, or standards?
 Yes
 No
10. If your institution's web usability policy, guidelines, or standards are available electronically, please provide the URL below or send it via e-mail to ychen@albany.edu.
11. Does your library follow this institutional policy, guidelines, or standards? If your answer is no, please tell us why your library does not follow this institutional policy, guidelines, or standards.
 Yes
 No
12. Please rate the level of difficulty of implementing the policy, guidelines, or standards.
 Not Difficult

- Slightly Difficult
- Moderately Difficult
- Very Difficult
- Extremely Difficult

13. If you have had difficulties implementing your university's web site policy, guidelines, or standards, please describe them below:

14. What kinds of committees or task forces does your library have to oversee web usability? (Please check all that apply.)

- Usability Committee
- Web Advisory Committee
- Website Usability Subcommittee
- Other (please specify)

15. How important is usability testing in your library?

- Not Important
- Somewhat Important
- Important
- Very Important
- Extremely Important

16. Please use the space below if you have any more specific comments about the importance your library places on usability testing.

17. In the past 10 years, has your library conducted any usability testing of its web sites?

- Yes
- No

If your library has not conducted Web usability testing, what are the reasons for that?

18-20: Please indicate the number of times you have conducted usability testing in each category.

18. Main library website:

<input type="checkbox"/> Pre-website development	None 1 2 3 4 5 or more
<input type="checkbox"/> During website development	None 1 2 3 4 5 or more
<input type="checkbox"/> Post-website development	None 1 2 3 4 5 or more

19. OPAC:

<input type="checkbox"/> Pre-website development	None 1 2 3 4 5 or more
<input type="checkbox"/> During website development	None 1 2 3 4 5 or more
<input type="checkbox"/> Post-website development	None 1 2 3 4 5 or more

20. Lower-level library Web pages:

<input type="checkbox"/> Pre-website development	None 1 2 3 4 5 or more
<input type="checkbox"/> During website development	None 1 2 3 4 5 or more
<input type="checkbox"/> Post-website development	None 1 2 3 4 5 or more

21. If you perform Web usability testing, which populations are included? Please check all that apply.

- Administrators
- Alumni
- Faculty
- Graduate students
- Undergraduate students

- Library student workers
- Public users
- Non-library users
- Information technology (IT) professionals
- Persons with disabilities
- Researchers
- Staff
- Other (please specify)

22. Which usability testing methods have you used? Please check all that apply.

- Card Sorting
- Cognitive Walk-Through
- Eye Tracking
- Filmed Observation
- Heuristic Evaluation
- In-Person Observation
- Keystroke Path Collection
- Paper Prototyping/Storyboarding
- Task Analysis
- Thinking Aloud
- Other (Please Specify)

23. Did you use any of the methods listed below to receive additional input on library web usability? Please check all that apply.

- Focus groups
- Interviews
- Listserv postings
- Pop-up windows via the library website
- Surveys
- Website "Call for Input"
- Other (please specify)

24. Does your library have a regular staff member who is primarily dedicated to issues of web usability? (i.e., web usability is the main focus of his or her job.)

- Yes
- No

25. Since your library has a regular staff member who is primarily dedicated to issues of web usability:

- Is that staffer full-time or part-time?
- Roughly how many hours of that person's typical workweek are dedicated to web usability?
- In which unit or department of the library is this person employed?
- What is this person's title?

26. What types of training has this staff member had regarding web usability? (Please check all that apply.)

- Training in human-computer interaction
- Training in Web usability
- Degree or certificate in Information Science

- No specific training
- Other (please specify)

27. Regardless of your response to the previous question, does your library have any (additional) regular staff member whose regular duties include issues of web usability?

- Yes
- No

28. If your library has an additional regular staff member whose regular duties include issues of web usability:

- Is that staffer full-time or part-time?
- Roughly how many hours of that person's typical workweek are dedicated to web usability?
- In which unit or department of the library is this person employed?
- What is this person's title?

29. What types of training has this staff member had regarding web usability? (Please check all that apply.)

- Training in human-computer interaction
- Training in web usability
- Degree or certificate in Information Science
- No specific training
- Other (please specify)

30. Regardless of your responses to the previous questions, do you receive assistance from another unit of your university (e.g., Information Technology), or do you hire an outside consultant for Web usability projects?

- Yes, another unit of the university
- Yes, an outside consultant
- No

31. If your library receives assistance from another unit of your university or hires an outside consultant:

- What is the title of your library staff member who coordinates or oversees the activities of these entities?
- In which unit or department is the coordinator employed?

32. Please use the space below if you would like to elaborate on your Library's staff alignment with regard to issues of Web usability.

33. Please provide details on future web usability plans your library may have.

34. Please feel free to provide any additional comments you may have about library website usability.

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DH Eh? A Survey of Digital Humanities Courses in Canadian LIS Education

Marcela Y. Isuster and Donna Langille

Library and librarian involvement in digital humanities (DH) has grown over the past few years. However, it is unclear whether current library and information studies (LIS) programs are properly preparing students for this type of work. This study analyzed course offerings at Canadian ALA-accredited LIS programs. While Canadian ALA-accredited LIS programs offer DH-relevant courses, the number of courses offered and their range/scope vary greatly among institutions. Although many are teaching the technical skills required by the field of DH librarianship, collaboration and project management training remain elusive in most programs.

Introduction

The popularity of digital scholarship in the humanities, or DH, has undeniably made its way into the academic library, with many scholars reporting on the benefits of doing DH research in collaboration with librarians. DH can be defined as “a field of study, research, teaching, and invention concerned with the intersection of computing and the disciplines of the humanities.”¹ The academic library is often a hub for DH research, as it is a unique space on campus that can easily foster interdisciplinary research; this position within the university creates effective conditions for a discipline that depends on collaboration for success. Libraries also usually host the materials (primary sources in both digital and print format) and technologies (computers and software) that make DH work possible.²

Academic libraries have responded to the need for DH support by creating DH librarianship roles to better serve their communities and meet their users’ needs. For this reason, job postings for positions such as Digital Scholarship Librarian and Digital Humanities Librarian are becoming more frequent.³ A recent study analyzing the content of library DH job postings found a drastic increase in job postings between 2015 and 2017.⁴ These roles may differ from data or digital librarians in that they are not just concerned with the curation, preservation, and management of digital objects (although that may be part of their responsibilities). The DH librarian might also facilitate the research process for DH projects through consultation and project management support, provide support to academics and researchers by understanding the theory of DH, and be knowledgeable about the tools and methodologies that are available to DH scholars. Most importantly, faculty should perceive DH librarians as potential collaborators

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and research partners. While the literature on DH and academic librarianship has identified the skills that are most needed for DH librarianship, very little has been written about how to best prepare library and information studies (LIS) students for these jobs. While there have been studies about DH education in general, less is known about DH in LIS programs. A recent study by Sula and Berger focused strictly on DH courses taught in LIS schools, but it did not focus on the content of the courses.⁵ Meanwhile a study by Walsh et al. did analyze course content through course descriptions and syllabi in iSchools but focused only on courses where the title included the words “digital humanities,”⁶ an approach that, in addition to excluding non-iSchool programs, could potentially exclude courses working with specific methodologies or tools. To better understand the status of librarian education and DH within the Canadian context, the authors conducted a survey and analysis of all eight American Library Association (ALA) accredited study LIS programs in Canada and their course curricula to determine whether the course offerings in these programs prepare students for a career in the digital humanities.

Literature Review

DH librarian responsibilities are difficult to define given that DH is a growing and rapidly evolving discipline. The combination of emerging technologies and methodologies and varying levels of staffing and financial resources across academic libraries means that the skills and requirements laid out in job advertisements for DH librarians may look different at every institution.⁷

According to Tanya E. Clement and Daniel Carter, specialists are usually trained academics who support research using digital methods or tools.⁸ Some institutions have large centers or laboratories dedicated to DH, while other libraries designate the workload to individual librarians. DH librarians may be expected to have experience or education that will enable them to both support, and work with, faculty and students on DH projects. In institutions where DH work is decentralized, subject or liaison librarians may find themselves engaging in DH work as well.⁹ DH support work is also increasingly being done by non-librarian staff. Many DH graduates seek work in DH centers, laboratories, and libraries. Increasingly more humanities instructors are incorporating DH methods and tools in their undergraduate and graduate courses as a way to increase their students’ job prospects.¹⁰ The same enthusiasm to train future DHers is not prevalent in the LIS literature.

Collaborator versus Service Provider

DH librarianship offers a unique path for LIS students who aspire to grow and continue their research skills throughout their career. Many scholars argue that DH should challenge us to reimagine the role of the librarian in the research process. Nowviskie discussed this issue in her talk-turned-blog post, “A Skunk in the Library,” in which she states that librarians have an opportunity to become more than service providers: libraries should see their “obligation to the digital humanities community as being less about the provision of smooth and reliable services and more about modeling the digital humanities being done right for traditional faculty and grad students.”¹¹ Muñoz also argues that DH in the library can be more than a service that is provided; it can be an opportunity to share ideas.¹²

If a librarian is expected to be an equal partner in the DH research process, then they should have some experience conducting DH research. Posner argues that DH expertise is “best learned through participation in actual DH projects.”¹³ Cunningham argues that DH

projects have the potential to change “traditional research culture,” and that librarians should seize the opportunity to use DH as a way to foster better relationships with faculty.¹⁴ Librarians who have both expertise and experience with DH research, including its theories, tools, and methodologies, may be more prepared to contribute to a DH project in its entirety, thus challenging the misconception that they are just service providers.

In light of this, LIS students may benefit from courses that explore the different shapes the role of librarian could take, as well interdisciplinary collaboration.

Digital Humanities Skills and LIS Education

DH projects involve many different types of tools and methodologies but may be divided into two categories: first-order projects and second-order projects.¹⁵ First-order content refers to the digital re-creation of an existing object without analyzing it. For example, a first-order project could be digitizing a print text. Second-order content refers to the application of digital tools or methodology to critique or analyze. For example, a second-order project could entail encoding the digitized text using a markup language such as Text Encoding Initiative (TEI) or performing a textual analysis on the text. There is also the distinction within second-order content between projects that are built using an existing software or ones that have been custom-built.¹⁶ For example, a project using Voyant, a web-based text analysis tool, requires minimal experience with programming, whereas a Jupyter Notebook project that uses Python language to create a script for text analysis would require familiarity and experience with coding. Librarians may be expected to help researchers with both of these types of DH projects, which demand varying skill sets.¹⁷

Given the many different skills that may be required for a successful DH project, it is unlikely that one librarian on a campus will be responsible for supporting every aspect of DH work. For example, there may be other units or people on campus that support DH projects including archivists, information technology analysts, developers, and students. However, DH librarians should have a foundational understanding of DH tools, methodologies, and project development in order to be able to consult with DH practitioners. Bonds argues that familiarity with tools and their use cases is important for consultation work.¹⁸ As King states, training in DH tools and methodologies “can enable [DH librarians] to frame the questions and lead the projects in the field of digital humanities, rather than solely supplying researchers with the resources needed to do their isolated work.”¹⁹ These tools and methodologies include, but are not limited to, textual analytics and text mining, data mining, information visualization, TEI and markup languages, digital exhibit software and platforms, and knowledge of programming languages.²⁰ Coincidentally, Poremski’s study found that “technologically advanced skills (digital mapping, text encoding, and computer programming) are most often lacking in the current digital librarians’ skill set.”²¹ The challenge for new LIS graduates is that most of these skills are specialized, yet they are often expected of DH librarians.

In addition to knowing how to apply digital tools and methodologies, DH librarianship work might also include outreach, capacity building, and instruction.²² Poremski’s study on DH librarians found that outreach, project management, and teaching were the top three areas of duties for them.²³ Many DH librarians also offer workshops and lectures on DH tools and methodologies, prepare LibGuides, and support instructors who want to incorporate DH into their courses.²⁴ Russell and Hensley argue that DH instruction involves not only showing someone how to use a tool but also encouraging students to think critically about their

research question and the data they select for their project.²⁵ LIS students would therefore benefit from learning how to use a tool and also how to teach it.

LIS education has been slow to address the need for these skills in the academic librarianship job market. In a 2017 survey, Poremski identified important gaps in the training and professional development of DH librarians.²⁶ The survey asked librarians where they had acquired the skills relevant to their DH library jobs. Ninety percent of participants indicated they had learned them on the job, and only 29 percent mentioned their LIS program. Furthermore, studies by Zhang et al., as well as by Sula and Berger, revealed the paucity of DH courses or training in most LIS programs.²⁷ While the rise in DH librarian positions and the high demand for DH-relevant skills is fairly recent, the LIS field has been aware of the impending need for training in this area for a while. In 2011, Geoffrey Little asked if the iSchool caucus would demonstrate leadership in this area and adapt student programs to meet this growing need for DH training for librarians;²⁸ the authors of this study sought to find out whether or not the Canadian LIS programs have met this challenge.

Methodology

For this study, the authors examined the curricula information available on the websites of all eight American Library Association–accredited LIS graduate programs in Canada (Dalhousie University, McGill University, Université de Montréal, University of Alberta, University of British Columbia, University of Ottawa, University of Toronto, University of Western Ontario).²⁹ The study focuses on individual course offerings in Masters in Library and Information Studies/Sciences, including joint programs like the Master of Digital Humanities and Master of Library and Information Studies at University of Alberta.

The information was originally collected in 2019 and was revised and updated in the fall of 2020. Courses were analyzed to determine if they were relevant to DH. In order to be considered relevant to the digital humanities, course titles or descriptions had to include related tools, theory, or methodologies. For those selected the following information was collected:

- number and title;
- course description;
- whether it was a required course;
- whether it was offered by the LIS program or another unit at the institution.

The authors had originally collected information on whether the course was delivered in person or remotely, but the COVID-19 pandemic shifted all courses to remote delivery. While some institutions allow students to take courses outside of their departments, these were only included if they were listed on the programs' course webpages. No PhD courses, practicum courses, or independent/directed studies courses were included.

Once data collection was completed, each author used the course title, description, and syllabus (if available) to assign each course to one or more of the following categories: DH Theory, DH Tools and Methodologies, and Data Management. DH Theory is defined as any course that explicitly addresses the theory of digital humanities or related theories, such as distant reading or computational thinking. Courses marked in the DH Tools and/or Methodologies category may implicitly or explicitly address DH contexts and are focused on teaching the application of DH Tools such as text mining or text analytics, GIS data, data visualization, exhibits and content management, text encoding and markup languages, or web design. The Data Management category is the broadest and consists of courses that

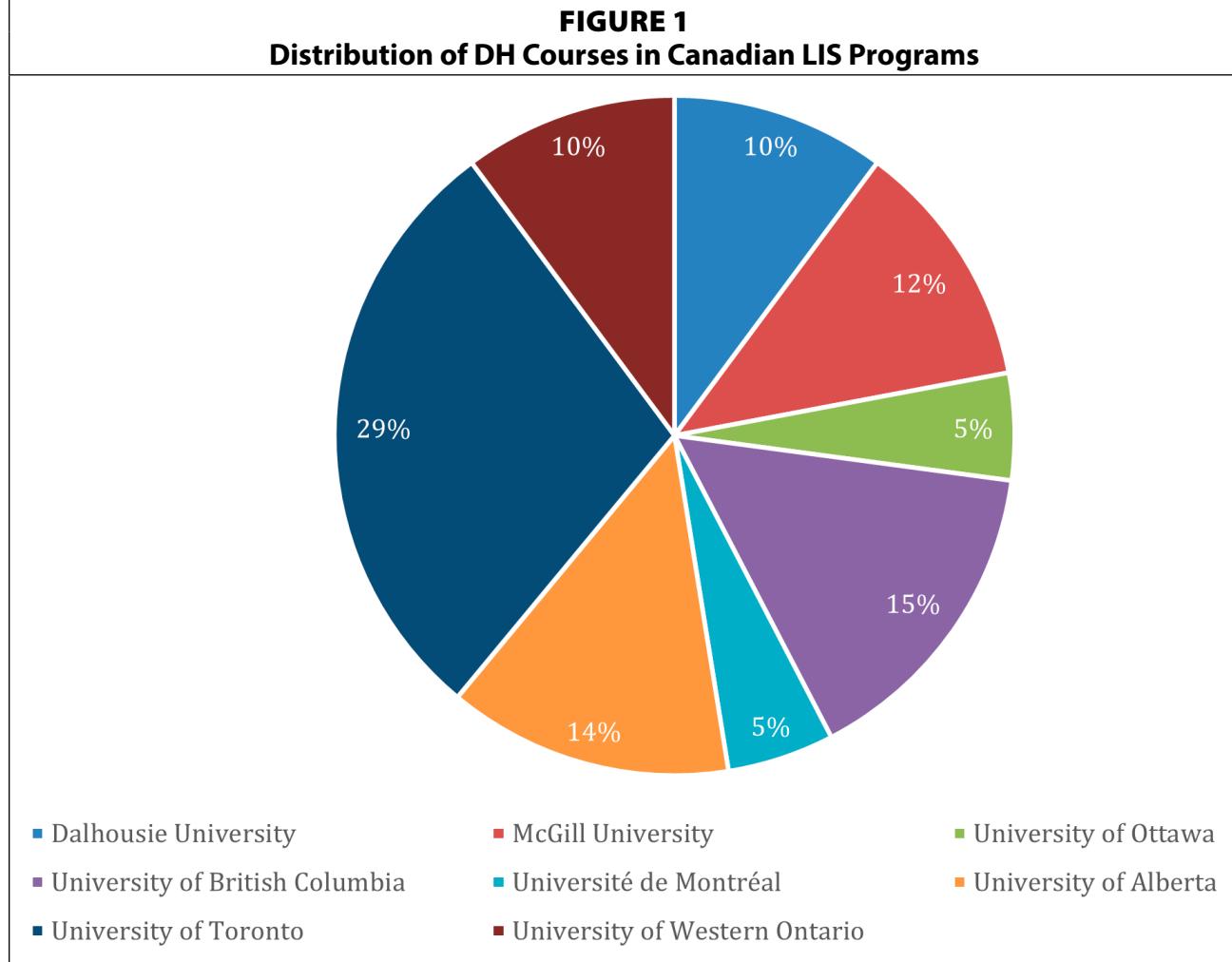
provide skills that would be considered useful in a DH context, specifically pertaining to organizing, classifying, and managing data. These course descriptions do not directly address DH. This category consists of courses that focus on metadata, digital libraries, data mining, data science, digital curation, and database design. In the case of courses on topics that could also be considered part of regular librarianship such as database design, metadata, and web design, the authors chose to only include those that showed a direct connection to DH tools, theory, or methodologies.

After independently assigning categories to each course, the authors shared their lists and discussed any differences in their assessments. Course descriptions were also used to identify recurrent themes and technologies.

Results

There was a total of fifty-nine DH courses across the eight institutions analyzed. While all institutions had at least one course on the subject, courses were not evenly distributed among all the institutions. University of Toronto's iSchool was responsible for 28.8 percent of the courses with seventeen offerings. Furthermore, there were another nine courses, and while they did not meet the criteria to be considered for this study, they were complementary to the DH courses offered at the institution. The rest of the programs analyzed were responsible for 5–15 percent of the courses each as shown in the graph below (figure 1).

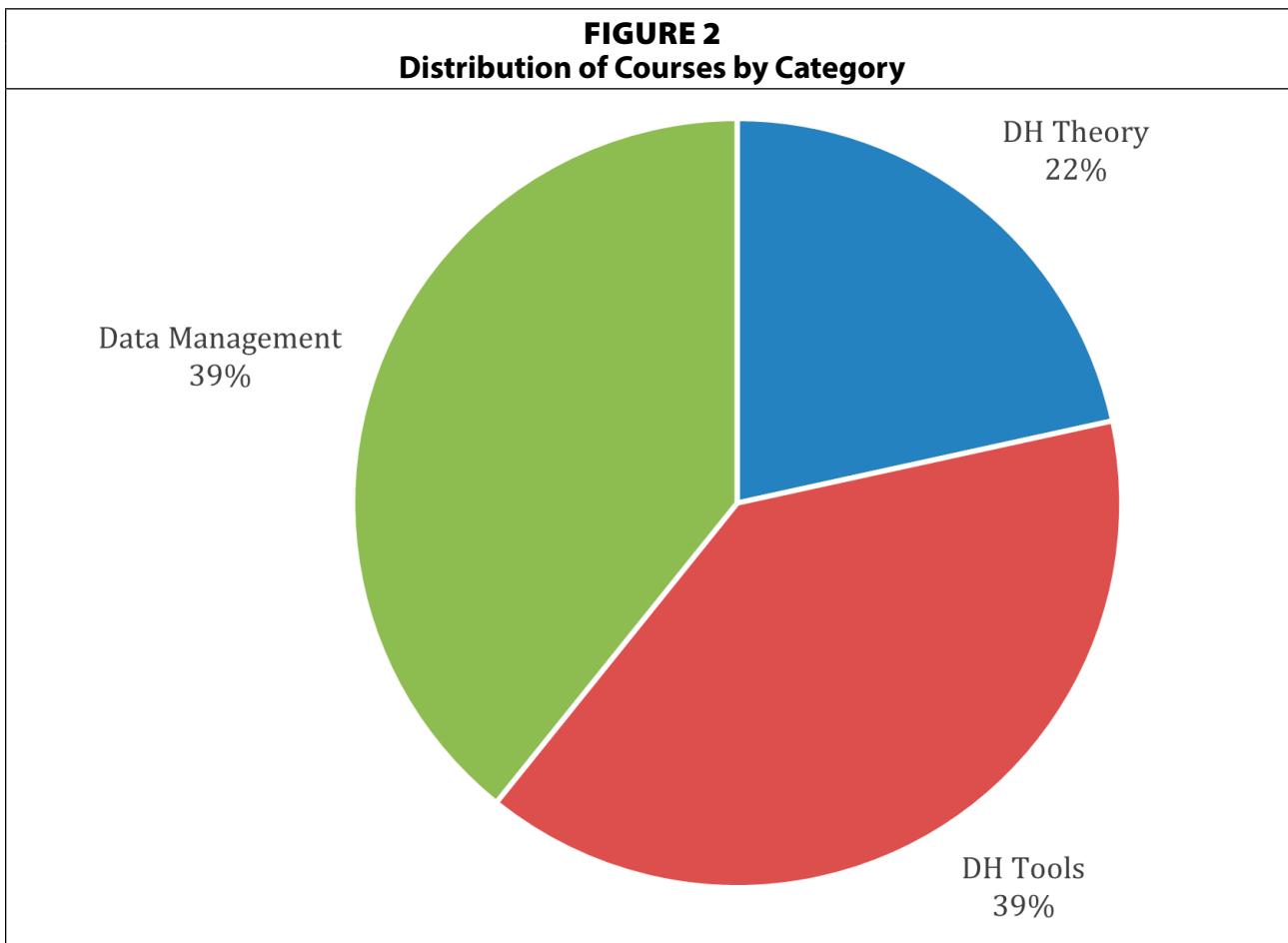
FIGURE 1
Distribution of DH Courses in Canadian LIS Programs



None of the courses analyzed were required courses, and most were taught by the LIS department/school. The one exception was the University of Alberta, which has a joint MA/MLIS program in DH. In this case some of the courses are offered by the English or Humanities Computing departments.

The majority of the courses that qualified for this study fell under the “Data Management” category, with 47.5 percent (twenty-eight) of the courses being related to courses that focus on metadata, digital libraries, data mining, data science, digital curation, and database design. This was also the only category of courses that was present in all eight institutions. The second most popular category was “DH Tools,” with seven institutions having courses featuring tools for text mining or text analytics, GIS data, data visualization, exhibits and content management, text encoding and markup languages, or web design. These courses make up 33.9 percent (twenty) of the total courses. Finally, the category “DH Theory” only made up 18.6 percent (eleven) of all courses and was only present at five institutions, as seen in figure 2.

FIGURE 2
Distribution of Courses by Category



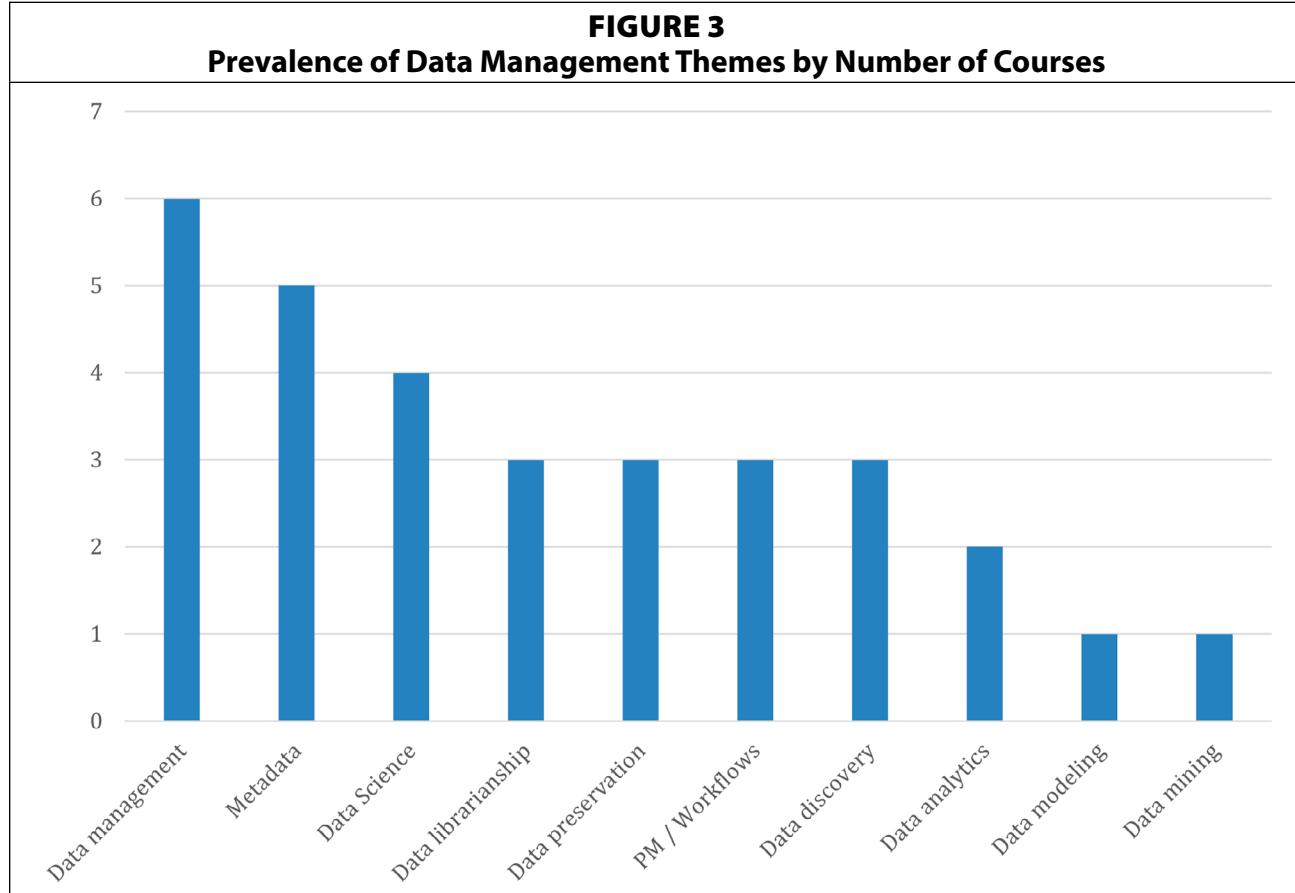
In the DH Tools category, data visualization tools were the most popular theme being present in seven of the twenty courses. Tools mentioned included Tableau, Matplotlib and Plotly. Programming or markup languages were present in five courses, focusing mainly on Python but also including R and XML. Other themes present were tools and methodologies for text analysis, digitization and preservation, GIS, content management, and digital storytelling.

Among the DH Theory courses the most prevalent themes were theoretical approaches to humanities computing/DH, computational thinking, and digital media. Other topics present were more advanced, such as Social Media Intelligence and blockchain.

As the most popular category, Data Management also contained the highest number of themes. As seen in figure 3, courses on the overall management of data were the most popular, followed by those dealing with metadata. The following themes were also present in several courses across the different institutions:

- data science,
- data librarianship,
- data preservation,
- data discovery,
- and data-related project management or workflows.

FIGURE 3
Prevalence of Data Management Themes by Number of Courses



Conspicuously missing from almost the entire dataset with the exception of three courses were mentions of collaboration or project management skills.

Limitations

Most university websites offer a general list of their course offerings and do not specify which courses are being regularly taught. They may also not be updated regularly, which means that courses no longer being taught might also be listed. The length and depth of course descriptions may also limit this study, as they vary in brevity and scope. For example, most of the LIS schools offer foundational courses that give a broad introduction to topics such

as information organization or information behavior. Furthermore, courses labeled “Special Topics” often do not include information about the special topic itself but rather about the structure of the course.

Discussion

Students who attend Canadian LIS programs may expect to gain skills in their Master’s program that will successfully prepare them for future jobs as Digital Humanities Librarians. According to the findings of this study, their ability to accomplish this will be highly dependent on the institution they attend, as the amount, range, and scope of DH-relevant courses varies highly by institution. While all institutions offer at least a few elective courses on data management topics such as metadata, digital libraries, data mining, data science, digital curation, and database design, DH-specific courses are less prevalent both in terms of how many institutions offer them and the number of courses they offer. This may cause a problem for certain graduates as they may find themselves less prepared than some of their counterparts at other institutions. However, the authors did see an increase in the number of DH-specific courses taught in Canadian LIS programs throughout the data collection period. Furthermore, 87.5 percent of Canadian ALA-accredited LIS programs offer at least one strictly DH course. Meanwhile the number for all ALA-accredited LIS programs regardless of location is 32.3 percent.³⁰

A recent content analysis of DH-related library job postings identified data visualization, text mining, image analysis, augmented reality, programming/markup languages, GIS, and DH-related standards as desired skills.³¹ With the exception of image analysis and augmented reality, the authors found that Canadian LIS programs as a whole did cover these skills. However, there is a lack of courses that contextualize librarianship within the context of DH or DH-related roles. While the teaching of tools is important, institutions should keep in mind that technology changes fast and addressing the role of the librarian in DH may aid future professionals in adapting to these changes. Much the way LIS programs have developed courses on data, law, or children’s librarianship, DH-inclined students could benefit from having a course dedicated to this specific type of librarianship, particularly as it pertains to collaboration. As Posner explains, the majority of the courses currently offered do not necessarily prepare students to be collaborators on DH projects,³² which may leave new graduates unsure of their place within the DH ecosystem. If capacity were an issue for LIS programs, a potential solution to this problem would be to engage in partnerships and collaborations with DH centers, programs, and organizations. However, institutions should not rely solely on internships and practicums because the quality and quantity of instruction may be uneven across cohorts.

Project management is another area that is often ignored by Canadian LIS programs. Project management has been identified as the most in-demand skill for DH-related positions.³³ While the authors identified three courses related to project management or workflows, they were mostly related to data management. Therefore, the need for project management skills in DH may require more extensive and specialized education on the subject.

Through their analysis, the authors identified certain institutions where students have the option of taking DH courses, among others, outside of their LIS program. While this may provide students with the technical skills needed for future DH positions, they may not address DH issues from a library perspective. These courses also require that students be aware

of DH as a rising field within librarianship, which may not be the case if the field is not present or visible in the program's curricula. Furthermore, administrative constraints such as caps on interdepartmental students or requiring departmental permission to take those courses may hinder LIS students' ability and willingness to take courses outside of their LIS programs. Therefore, if institutions are planning to rely on external courses for their DH instructions, they should ensure that registration for these courses is not cumbersome to students, and that these offerings are widely advertised to them.

Conclusion

This study conducts a detailed analysis of DH courses offered through ALA-accredited Canadian LIS programs to better understand what kind of DH training incoming librarians are receiving during their LIS education. The methodology described in this article can be used by librarians in different disciplines to better understand the status of LIS education, regardless of the subject area or topic.

The study found that all eight Canadian ALA-accredited LIS programs offer DH-relevant courses, but the number of courses offered as well as their range and scope vary from institution to institution. While many of the institutions are teaching some of the technical skills required by the field of DH librarianship, collaboration and project management training remain elusive in most programs. Future research could focus on analyzing course syllabi for a more accurate view of the DH concepts, skills, and tools taught in Canadian ALA-accredited LIS programs.

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Digital Shred: Case Study of a Remote Privacy Literacy Collaboration

Sarah Hartman-Caverly, Alexandria Chisholm, and Alexandria Glenn

This qualitative, evaluative case study details the conceptual framing, development, delivery, and assessment of a privacy literacy workshop called Digital Shred. The workshop is a multi-institutional effort offered initially in-person in fall 2019 and adapted to virtual delivery in fall 2020. The conceptual framework underlying the workshop includes reputation management, behavioral surplus, data doubles, data governance, and information security damage assessments. Learning outcomes and activities were inspired by inclusive, responsive, active learning pedagogy. Anonymous formative assessment feedback suggests that participants are motivated by the personalized learning activities and value this theory-informed approach to privacy literacy.

Introduction

Privacy literacy, understood as “a suite of knowledge, behaviors, and critical dispositions regarding the information constructs of selfhood, expressive activities, and relationships,” is a growing opportunity for information literacy instruction in academic libraries.¹ Privacy literacy instruction presents the positive case for privacy in the human experience, and seeks to enhance technosolutionist privacy training that focuses on front-end privacy settings and technologies by cultivating students’ capacities for situational awareness, critical thinking, self-reflection, and judgment. Informed by student-centered learning design, privacy literacy instruction can also resist a prescriptive or proscriptive approach to privacy and technology use in order to respect students’ autonomy, values, and lived experiences.

Americans are increasingly attuned to the risks and disparate harms of personal data tracking, surveillance, profiling, and behavioral nudging, and awareness of these phenomena has inspired renewed interest in privacy and privacy-protecting strategies.² Privacy toolkits are available from organizations dedicated to civil liberties and press freedoms, including the ACLU, Electronic Frontier Foundation, Electronic Privacy Information Center, and Freedom of the Press Foundation.³ In the library space, Library Freedom offers privacy-related professional development and resources, and San Jose Public Library’s self-paced Virtual Privacy Lab is an exemplary public library-based initiative.⁴ The American Library Association recently amended

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the Library Bill of Rights with the addition of article VII, which calls on libraries to “advocate for, educate about, and protect people’s privacy.”⁵ In academic librarianship, awareness of privacy and the commodification of personal data feature in the Information has Value frame of the ACRL Framework for Information Literacy for Higher Education, and privacy literacy is identified as an emerging literacy in the ACRL 2021 Environmental Scan.⁶

This qualitative, evaluative case study details the conceptual framing, development, delivery, and assessment of a co-curricular privacy literacy workshop, the Digital Shred Workshop. The Digital Shred Workshop was collaboratively developed and delivered by librarians at two R1 research universities. Reputation management, behavioral surplus, data doubles, data governance, and information security damage assessments are introduced as the conceptual framework for the workshop. After discussing the conceptual framework for the workshop, the article will present additional details on institutional context, a detailed description of the learning experience, and results of a formative evaluation. The case study concludes with resources, lessons learned, and future directions for developing library-led privacy literacy programming.

Literature Review

Prevailing approaches to privacy literacy in academic libraries focus on privacy in the digital or online context, highlighting behaviors, settings, and tools that patrons can adopt to better protect their privacy. Rotman proposes a privacy literacy framework as a complementary literacy to digital literacy.⁷ Rotman’s privacy literacy framework for online interactions includes five elements: *understanding* the characteristics of information, *recognizing* online social interactions as potential privacy threats, *realizing* the possible outcomes of online information disclosure, *evaluating* privacy threats in a given online interaction, and *deciding* on how and when to disclose information online.⁸ Wissinger demonstrates alignment between Rotman’s privacy literacy framework and critical thinking definitions to further inform privacy literacy instruction.⁹ Lowe argues that privacy and online security should be included in information literacy instruction, and Tewell advocates the inclusion of privacy in critical information literacy learning experiences.¹⁰ Wharton notes that privacy literacy can be delivered in conjunction with digital literacy and digital citizenship programming, and provides examples of digital privacy educational offerings from academic libraries.¹¹ Wittek suggests specific privacy literacy instruction topics, including demonstrating alternative search engines, browser extensions, and temporary email accounts, as well as advising patrons to consider the privacy implications of apps and cloud storage used for research.¹² Hartman-Caverly and Chisholm find that data profiling and consumer privacy topics are most commonly featured in privacy literacy instruction, which pays less attention to surveillance and intellectual freedom concerns.¹³ Project Information Literacy reports that many students make deliberate decisions with respect to online disclosure and privacy protections, and recommends that students learn about the privacy-related concept of algorithmic justice.¹⁴

Hagendorff offers four critiques of common approaches to privacy literacy.¹⁵ First, Hagendorff observes that unequal access to privacy literacy learning experiences perpetuates the disparate impact of surveillance and profiling on members of vulnerable and marginalized groups. He notes that differences in privacy knowledge are observed along lines of educational attainment, income, age, race and ethnicity, and gender identity.¹⁶ Second, Hagendorff questions the presumption that users are purely rational actors with respect to privacy and

disclosure, noting that there is often no meaningful choice between practicing one's privacy values and gaining access to basic necessities of life. Project Information Literacy finds that students experience both resignation and indignation in the face of what Barassi terms "*systemic coercion of digital participation*."¹⁷ Third, Hagendorff finds fault with the front-end focus of privacy literacy approaches that impart on users a false sense of control over their consciously given data by failing to address backend processes underpinning automatically monitored and modeled data.¹⁸ Finally, Hagendorff criticizes what he terms responsibilization, or the shift of responsibility for privacy onto end users and away from major corporate and state entities.¹⁹

Informed by these critiques, Hartman-Caverly and Chisholm propose privacy literacy instruction informed by a conceptual model centered on the positive role of privacy in the human experience, rather than on data flows or digital technologies.²⁰ Their privacy literacy efforts highlight the role of privacy in *identity, intellect, bodily and contextual integrity, intimacy, social interaction, and voluntary isolation*, noting that privacy is about respect for persons—not just protection of data.²¹ Responding to Hartman-Caverly and Chisholm's call for increased scholarly communication about privacy literacy efforts in academic libraries, this qualitative, evaluative case study examines an original privacy literacy workshop designed with these principles in mind.

Research Questions and Methods

This article reports on a qualitative, evaluative case study examining a novel approach to privacy literacy instruction.²² It delivers an in-depth exploration of the theory, goals, design, implementation, and results of an original privacy literacy workshop, developed collaboratively and delivered at two academic institutions. Authors implemented Simons's qualitative case study methodology as depicted in table 1, which involves conceptualizing the topic, defining the case and identifying the unit of analysis, framing research questions and issues, and gathering and analyzing data.²³ Authors conceptualize the topic as privacy literacy instruction in academic libraries, and define the case as a new, original privacy literacy workshop developed and delivered by librarians at Penn State Berks (PSU Berks) and University of Florida (UF) in fall 2019 and adapted for virtual delivery in fall 2020. The research questions explored are:

- How did librarians respond to Hagendorff's four problems with privacy literacy in workshop design?
- How did librarians integrate privacy theory into workshop learning activities?
- How successful was the workshop in engaging participants to achieve learning outcomes?
- What lessons learned are generalizable to other privacy literacy efforts in academic libraries?

Data gathering strategies include document analysis, observation, and anonymous assessment data collected on an opt-in basis. Document analysis was performed by each author separately on notes from planning meetings, related email threads, and iterative drafts of lesson plans and learning activities. Observations from three workshop sessions were gathered through peer teaching observation and instructor self-reflections. Anonymous formative assessment data was collected from participants in culminating reflection questions and analyzed for common trends and idiosyncratic responses. Analysis is evidenced by an accounting of the workshop's development, peer teaching observation, qualitative thematic analysis of anonymous participant feedback (including from students, faculty, and staff), and reflections of the workshop developers and facilitators.

Table 1 demonstrates how authors implemented Simons's evaluative qualitative case study methodology to answer research questions about their original privacy literacy workshop.

TABLE 1 Simons's Case Study Methodology	
Conceptualize the topic	Privacy literacy instruction in academic libraries.
Define the case; specify the unit of analysis	A new, original privacy literacy workshop, Digital Shred, developed and delivered by librarians at PSU Berks and UF in fall 2019 and adapted for virtual delivery in fall 2020.
Frame questions and issues	<ul style="list-style-type: none"> • How did librarians respond to Hagendorff's four problems with privacy literacy in workshop design? • How did librarians integrate privacy theory into workshop learning activities? • How successful was the workshop in engaging participants to achieve learning outcomes? • What lessons learned are generalizable to other privacy literacy efforts in academic libraries?
Gather data	<p>Document analysis was performed independently on notes from planning meetings, email threads, and iterations of lesson plans and learning activities.</p> <p>Observations from three workshop sessions, one in-person in fall 2019 and two virtual in fall 2020, were gathered in the form of peer teaching observation and instructor self-reflections.</p> <p>Anonymous formative assessment data was collected from participants in culminating reflection questions and analyzed for common trends and idiosyncratic responses.</p>

Institutional Context and Collaboration

The Digital Shred privacy literacy workshop is the product of a multi-institutional collaboration between two instructional librarians at Penn State Berks Thun Library and a student success librarian at University of Florida Smathers Libraries. As context for the workshop case study, this section provides background on the participating institutions, origin and facilitation of the collaboration, and pedagogical philosophy and lesson planning activities.

Thun Library is an information commons, free-standing collection of more than 50,000 volumes, and an instructional unit within Penn State University Libraries system serving the Penn State Berks campus. Penn State Berks is a public, partially residential, regional liberal arts college and Commonwealth Campus of the Pennsylvania State University, offering more than twenty degree programs to approximately 2,500 students in the greater Reading City and Berks County region of the state.²⁴

Thun Library is also home to established co-curricular privacy literacy programming, the Penn State Berks Privacy Workshop Series.²⁵ These one-hour privacy literacy learning experiences focus on privacy issues for students in the past, present, and future. At the time of the development of the Digital Shred Workshop, the series comprised an introductory Privacy Workshop, spotlighting personal and societal privacy practices in the current environment; and a Digital Leadership workshop, exploring future implications of individuals' digital behaviors. Digital Shred, the subject of this case study, provides tools to evaluate and mitigate

the damage of past digital behaviors. After the addition of Digital Shred, PSU Berks librarians developed a fourth workshop, Digital Wellness, to focus on privacy across the lifespan, bringing together the past, present, and future by finding a balance of technology and wellness while aligning habits and goals. The Privacy Workshop is integrated into first-year seminar programming, while the Digital Leadership, Digital Shred, and Digital Wellness workshops are offered as free-standing, co-curricular learning experiences in partnership with the Campus Life Office as well as Career Services, College-wide Reading, and Counseling Services. These cross-campus partnerships contribute a great deal to the success and participation rate of the workshops through collaborative outreach and promotion.

Smathers Libraries, with a total collection of more than six million print volumes, serve the University of Florida, a public, primarily residential, national R1 research university offering 100 undergraduate majors and 200 graduate programs to approximately 50,000 students located near Gainesville in northern Florida.²⁶

This multi-institution privacy literacy collaboration resulted serendipitously from networking at professional development events. During a preliminary conference call, the three librarians established a shared interest in developing a workshop focusing on rationales and techniques for personal data governance. The workshop was scheduled to pilot at PSU Berks in fall 2019 as part of an existing Privacy Workshop Series, then comprising the foundational Privacy and Digital Leadership workshops. The collaborators agreed to apply the principles of consensus-building and backward design to their work.²⁷ The PSU Berks librarians shared their existing workshop materials and some highlights from their recent literature review on privacy literacy to support the new collaborator in building foundational knowledge.

Working backward from the workshop pilot date, collaborators scheduled a series of Zoom meetings, each with its own purpose and deliverables. To preserve the integrity of individual insights and creative ideas, collaborators committed to develop content independently, and then share and synthesize materials during conference calls. After crafting learning outcomes for the workshop, each contributor proposed and independently developed learning activities, and the team reached consensus on a definition for “digital shred” as “the act of managing privacy by curating digital records for purposes of data governance, risk management, and storage efficiency.”²⁸ A final meeting was scheduled to review and finalize workshop materials, populate the workshop guide, and discuss the flow of the workshop from one learning activity to the next. These learning activities, their implementation, and participant responses are explored in more detail in subsequent sections.

Conceptual Framework

The Digital Shred Workshop is informed by the concepts of reputation management, behavioral surplus, data doubles, data governance, and information security. Reputation management developed as a concept in business and strategic communication; more recently, it is used to describe how digital citizens construct their online presence and perform varied personal identities intended for different audiences across a range of social contexts.²⁹ Reputation management is a common focus of privacy literacy instruction in academic libraries, in which librarians discuss the negative personal and professional consequences of social media misuse. Related learning outcomes for these privacy literacy learning experiences include strategies for students to adopt privacy-friendly technologies, maintain protective privacy settings, and exercise judgment in their social media use.³⁰

While important, privacy literacy instruction focused exclusively on reputation management behaviors may obscure the hidden harms of platform surveillance and overstate the ability of users to control their personal data flows, contributing to the control paradox.³¹ Information on behavioral reputation management can be complemented with a discussion of behavioral surplus, the automatically monitored metadata that users generate when they interact with networked technologies, including things like “websites visited, psychographics, browsing activity, and information about previous advertisements that the user has been shown, selected, and/or made purchases after viewing.”³² Sometimes referred to with seemingly innocuous terms like data trails or digital exhaust, behavioral surplus is personal data that users do not consciously provide and over which users can exert very little control. Behavioral surplus is routinely combined with consciously given data and processed with machine learning to generate profiles of modeled data about individual users. These data doubles are employed to assess and predict attributes about individuals, from attractiveness to trustworthiness.³³ Data doubles not only shape individuals’ online experiences, such as by informing the display of personalized advertisements, the relevancy ranking of search results, or the output of recommender systems, but also increasingly impact their real-world experiences, including suggested matches in dating apps, access to financial credit, hiring decisions, and sentencing in the criminal justice system.³⁴

The authors seek to empower students with actionable information in privacy literacy instruction while honestly acknowledging individual users’ limited ability to influence the collection of behavioral surplus or escape the shadows of their data doubles. To achieve this, the concept of data governance is adapted from its information science context to refer to data management strategies that preserve data accuracy, utility, and security.³⁵ Data governance takes a holistic view of managing the data lifecycle, including recognizing when data is no longer useful or may even become a liability, and securely destroying such data. One technique for identifying and managing high-risk data assets is to undertake an information security damage assessment, which evaluates the actual or potential harm resulting from unauthorized access to or use of sensitive information.³⁶

The conceptual framework for Digital Shred applies the strategies of risk management, storage efficiency, and data governance to privacy literacy, as summarized in figure 1. Risk management is addressed in the context of reputation management, including a damage assessment of participants’ data doubles. Their data doubles comprise modeled data generated by machine learning processes applied to their behavioral surplus (or automatically monitored data) combined with their consciously given data. Storage efficiency is achieved through the secure deletion of participants’ consciously given data on a targeted basis, informed by their damage assessment results. Participants are further made aware that behavioral surplus is generally beyond the user’s control, and often cannot be actively managed or deleted except by making requests of data brokers, profilers, or platforms. Data governance is informed by routinizing privacy audits through a personal data integrity plan.

Figure 1 summarizes the authors’ conceptual framework for their original Digital Shred privacy literacy workshop.

The Digital Shred Workshop introduces participants to the concepts of behavioral surplus and data doubles, and how they can impact not only reputation but also access to information and opportunities. The workshop also imparts strategies for reputation management based on data governance and damage assessment techniques, using secure file shredding as a metaphor for the proactive management of one’s digital dossier. Participants are provided with

FIGURE 1
Conceptual Framework for Digital Shred

Digital Shred Conceptual Framework

CONCEPT	STRATEGY	DATA LEVEL	LEARNING ACTIVITY
RISK MANAGEMENT	Reputation management	Data double (modeled data) derived from consciously given & behavioral surplus	Damage Assessment
DATA GOVERNANCE	Routine privacy audits	Consciously given & behavioral surplus	Personal Data Integrity Plan
STORAGE EFFICIENCY	Secure deletion tips & tools	Consciously given	Digital Shred Privacy Literacy Toolkit

decision-making frameworks and tools for determining their own online persona priorities, articulating areas of risk, identifying compromised and defunct digital accounts, and shredding some of their digital baggage.

Digital Shred Learning Experience

As a new offering in an established privacy workshop series, the Digital Shred Workshop was designed to scaffold into a more extensive learning experience. Within the larger series, the Digital Shred Workshop serves as the most traditional privacy literacy learning experience—one which addresses tactics and practical tools to protect individuals' privacy and security. However, the authors' commitment to theory-informed teaching means countering approaches that overpromise user control in the face of information asymmetries and the control paradox, and that embrace students' autonomy and agency by avoiding prescribed solutions.³⁷ This teaching philosophy is nearly antithetical to the traditional technosolutionist privacy workshop model, which promises participants access to foolproof methods to protect their privacy with front-end features such as customizing privacy settings, installing browser plug-ins, or setting a strong password, and thus requires a creative approach.

In order to embrace the authors' understanding of privacy literacy while still offering participants practical options to safeguard their privacy, emphasis was placed on encouraging decision-making frameworks. Employing backwards design, learning outcomes were collaboratively established early in the process to guide development of workshop activities and micro-lecture content:

Participants will be able to:

- reflect on and describe their digital privacy priorities in order to articulate the benefits and risks of their digital dossier.

- apply a growth mindset to critically examine their current data double and recognize when change is needed.
- develop a Personal Data Integrity Plan that makes routine the process of auditing and updating their digital dossier in alignment with their privacy values.
- describe “digital shred” and its importance.

At PSU Berks, this co-curricular workshop is a part of the larger Privacy Workshop Series and as such must operate as both a freestanding and integrated workshop. Much like other workshops in the series, a variety of active learning activities are implemented with a mix of opportunities for individual metacognitive reflection and large group discussion for contextualization. No prior knowledge is required, but efforts to scaffold content to a first-time attendee, or to deliver Digital Shred as a standalone workshop, are necessary. The workshop begins with a gamified prior knowledge check to scaffold the Digital Shred Workshop for any participants who did not attend the foundational privacy workshop. The authors’ developed a Kahoot quiz using “fact or fiction” statements, as seen in appendix A. As instructors move through the quiz, they provide brief explanations and context as to why each statement is fact or fiction. In total, this assessment takes about five minutes to implement.

Next, instructors present a short five-to-ten minute microlecture covering vital concepts. Instructors briefly define “digital shred” as it relates to the concepts of data governance, data minimization for risk management, and storage efficiency. The microlecture concludes with a brief overview of “data doubles,”³⁸ bridging content from the Privacy Workshop with the Digital Shred Workshop. Students encounter their data doubles, modeled data which results from the aggregation and analysis of consciously given data and behavioral surplus using big data techniques, like algorithms and artificial intelligence. Facilitators explain that modeled data is used to calculate things like quantified attractiveness in dating apps, or trustworthiness for employability purposes, and can affect real-life opportunities and experiences.³⁹ To transition from the microlecture into workshop activities, facilitators suggest that adopting digital shred practices aids users in managing their “data double” or modeled data.

The first activity uses character development conventions and reputation management concepts to create a “perfect persona,” which allows students to determine what behaviors they deem most impactful for maintaining their digital privacy. Students often have their own understanding of how intrusive big tech can be,⁴⁰ but asking them to articulate their privacy values helps them to define their personal privacy priorities. Creating a perfect persona lets students determine what behaviors they deem the most beneficial for maintaining both digital presence and digital privacy. Instructors introduce the Ideal Portfolio worksheet, in which participants develop a “burner account,” as seen in appendix B. The worksheet begins with a general prompt:

If you were creating a perfect account (or a fake burner account to do private research on a crush), what would you choose to make it a perfect account? From username to posted content, what would you consider ideal?

Students then create this idealized portfolio by responding to guiding questions, such as crafting an ideal username and bio; determining what email address or phone number to use to register the account in light of doxing risks; strategizing online interactions such as liking, sharing, posting, and following; and planning the timing and frequency of their postings,

including whether to share locational data. Instructors then facilitate a large group debrief regarding the qualities of an ideal digital portfolio and the audiences students have in mind for their digital portfolios, unpacking rationales for their choices. Of all the activities, this worksheet involves the least sensitive information and, in the authors' experience, garners the most open discussion amongst participants.

After the debrief, the Damage Assessment activity is introduced. The Damage Assessment worksheet, adapted from the protocol used by US intelligence agencies to assess the impact of a sensitive information breach,⁴¹ provides a structure for participants to evaluate actual or potential damage resulting from infiltration or exfiltration of their online accounts, identify systemic vulnerabilities, and develop a corrective action plan, as seen in appendix C. Like the ideal portfolio activity, the Damage Assessment opens with a prompt:

Imagine your personal accounts were infiltrated by a hostile intelligence asset (or maybe just your kid sister) who exfiltrated sensitive information about you! Use this framework, adapted from Intelligence Community Directive 732: Damage Assessments, to identify your risks and plan corrective actions.

Worksheet questions prompt participants to consider their risky digital behaviors, from storing passwords in a browser to sensitive web browsing; to identify the types of high-risk personal data generated by their online activities; to estimate the damage caused by a worst-case scenario personal data breach; to assess the risk or likelihood of a personal data breach occurring; and to plan corrective actions to minimize risk.

After allowing participants time to work independently on their personal damage assessments, instructors once again facilitate a large group discussion, inviting students to share their thoughts, reflections, and findings from the activity. This damage assessment activity is primarily intended to support individual students' metacognition and critical reflection, and to benefit them personally at their privacy point of need. Due to the sensitive nature of these topics, students are invited to share general observations but are by no means cajoled or coerced into sharing any of their personal reflections. It can be helpful to have generic or instructor-specific examples ready to share in lieu of student participation. The combined Ideal Portfolio and Damage Assessment activities and large-group discussions take approximately fifteen minutes.

The workshop culminates in the Personal Data Integrity Plan, a data governance tool inspired by privacy audit practices,⁴² as seen in appendix D. To set the stage for the activity, students explore a series of interactive links, including general breach-monitoring tools like Have I Been Pwned?,⁴³ to review their own digital footprints in real time. The list also contains links to Blacklight, a tool which scans websites for user-tracking technologies, and instructions on how to create a personal Google search alert for reputation management purposes.⁴⁴ Students particularly enjoy investigating Have I Been Pwned? where they often search not only for their own accounts but also their loved ones' emails, namely their parents.

After students review these tools, instructors introduce the worksheet and accompanying resources. The Personal Data Integrity Plan worksheet identifies common areas of privacy risk and technology use, such as Smartphone, Web Browser, Social, Productivity and Organization, Health and Wearables, and Smart Home. Within each category, specific products, platforms, or operating systems are listed so that students can select the ones they actively

use, with space to write in custom responses. Participants then assess their personal risk level for each product as high, neutral, or low, based on their reflections from the Ideal Portfolio and Damage Assessment activities. Finally, informed by this risk assessment, participants determine the frequency with which they want to audit these accounts for privacy risks, or can opt to mark them for deletion altogether. Resources are linked from the worksheet to support participants in the digital shred of their “zombie” accounts, sensitive personal data, and other high-risk online content.

To alleviate the burden of creating and regularly updating how-to documents, the PSU Berks librarians created an online toolkit to support learning activities through curated, existing online content.⁴⁵ Instructors leverage the Digital Shred Privacy Literacy Toolkit to link out to “How-to” resources that provide steps on mitigating and reducing privacy and data security harms. This allows the students to independently use several resources to critically evaluate their own digital footprint in real time. Categorization of the “How-Tos” content of the Digital Shred Privacy Literacy Toolkit complements the sections of the Personal Data Integrity Plan (i.e., Smartphone, Web Browser, Social, Productivity and Organization, Health and Wearables, and Smart Home). For example, the Smartphone category includes how-to guides on enabling password locks and two-factor authentication, installing a VPN, deleting sensitive data from cell phone photos, minimizing locational data tracking, using DuckDuckGo for navigation, removing zombie apps, and updating privacy settings for Android, Google, and iOS devices. This approach enables greater flexibility and opportunity for personalization, since technology is constantly evolving, and the authors’ goal is to allow students’ own privacy concerns to direct this learning activity. On a practical note, it is useful to provide a curated list of highly relevant, direct links in a workshop guide, with additional longer lists of categorized resources (linked from the creators’ toolkit) available through the worksheet. This approach respects students’ agency and autonomy by creating an atmosphere in which the activity is driven by the priorities and values they articulate, while still receiving guidance and direction.

Students work independently on the Personal Data Integrity Plan for about fifteen minutes, and instructors then take time to conduct a brief large group discussion, allowing participants to ask questions or share observations. The ultimate goal of the workshop is for each student to leave with at least one behavioral change or corrective action that will help limit their digital footprint, and, hopefully, a fresh perspective on privacy.

The Digital Shred session concludes with “snowball confessions,”⁴⁶ a gamified method of formative self-assessment, culminating in a discussion of what participants have learned. Instructors provide each participant with a scrap paper. Participants are asked to respond to at least one query among three optional prompts, then crumple up their paper and throw it into the center of the classroom for another attendee or an instructor to share aloud. This kinesthetic assessment method enables personal reflection and large group discussion while ensuring participants’ anonymity. Optional prompts included:

- What is one change and/or step you plan to take after this workshop?
- What is one bad digital habit you want to break?
- List something you learned today OR something you wish you had learned.

As an anonymous, gamified, formative self-assessment, snowball confessions offer a final opportunity for metacognition and large group discussion while also respecting participants’ privacy and privacy values.⁴⁷ Snowball confessions further give workshop instructors val-

able insight into the student learning experience. The workshop assessment does not seek to measure participants' behavioral change against a predetermined benchmark, since the instructors' teaching philosophy purposely avoids prescribing or proscribing specific behaviors with respect to privacy and technology use in the interest of respecting students' autonomy and intellectual freedom. Additionally, because facilitators view the cultivation of privacy literacy as both highly personal and a continuous work-in-progress, formative self-assessment is better aligned with understanding how students experience the workshop learning activities in relation to their own privacy values, rather than administering a summative assessment to test their recall of specific workshop concepts.

Participant Response

The Digital Shred Workshop was piloted at PSU Berks in November 2019, and then adapted for virtual delivery at both PSU Berks and UF in the 2020–21 academic year, reaching a total of fifty participants at the time of writing. Six students attended the pilot Digital Shred Workshop in-person at PSU Berks in November 2019. Despite the small audience, a wide range of self-reported student demographics were represented; these included three non-traditional students and three traditional college age students, consisting of three first-year students, three upper-level students, one international student, and one student veteran. The authors formatively assessed the workshop by asking participants to write snowball confessions as outlined above.

All six pilot participants responded to all three prompts, giving instructors eighteen individual free-text comments. Although the sample size was small, trends emerged within the responses. Four comments expressed concern surrounding location services on apps and smart devices, along with a desire to assess these permissions more critically in the future. Three comments addressed the practice of storing passwords in browsers and the conviction to discontinue the habit of prioritizing convenience moving forward. Others generally expressed a commitment to being more vigilant in their auditing of online accounts, social media posts, and digital activity in the future. One comment that particularly stood out to the authors based on their philosophical approach to privacy literacy was "Privacy is very important to maintain your identity." Feedback that will help in future iterations of the workshop includes participants' curiosity about government surveillance. This can either be intentionally integrated into the Digital Shred Workshop content or be the basis of additional workshops in the PSU Berks Privacy Workshop Series.

In adapting to virtual delivery in fall 2020, worksheets were converted to fillable PDFs, and informal assessment was modified from the kinesthetic snowball confessions to an anonymous webform. Eighteen students attended the virtual Digital Shred Workshop at PSU Berks, ten of whom responded to all three of the optional prompts, providing thirty free-text comments. Similar to the in-person pilot workshop, the responses focused mainly on concerns relating to digital footprints, deletion of zombie accounts, and password security. Other general trends in the feedback were related to data breaches, comprehension of terms and conditions, technology addiction, and digital wellness concerns, as well as expressed commitments to make digital shred techniques a habit. One student expressed an interest in learning more about VPNs, specifically the instructors' recommendations relating to their use and effectiveness; this is certainly valuable feedback for future iterations of the workshop. Anecdotally, awareness of and discussions surrounding VPNs have increased in prevalence throughout the last

year during the Privacy Workshop at PSU Berks, which suggests that highlighting this topic would be of interest.

The Digital Shred Workshop was first implemented at UF in fall 2020 with nineteen in attendance, and a second offering in spring 2021 saw seven in attendance. Participants in these workshops were a mix of students, faculty, and staff, differentiating them from the solely student audience of PSU Berks. Similar themes emerged from the formative assessment at UF. The majority of comments were related to zombie accounts and password security; additional feedback related to smart home devices, social media accounts, and browser privacy settings. Most responses expressed commitments to altering behaviors or practices to reflect espoused privacy values.

Overall, the comments suggested that participants departed feeling that the workshop had delivered on its promised learning outcomes. Participants not only left with a framework to assess their current online practices and tools to shred their digital activities, but with a new understanding of the value of privacy to individual identity.

Findings

This qualitative, evaluative case study of the Digital Shred Workshop examines academic librarians' response to Hagendorff's four problems with privacy literacy, including the integration of theory into learning activities, as well as participant engagement with learning activities and generalizable lessons learned to inform privacy literacy efforts in academic libraries. Workshop developers aim to reduce barriers to access and use their privacy literacy learning experiences by licensing the learning activities, lesson plan, and privacy literacy toolkit as open educational resources (OER), promoting greater access to privacy literacy learning opportunities across demographic differences. By considering privacy in the past, workshop facilitators acknowledge that participants' privacy interests and concerns may shift over time, and that even the limited scope of rational privacy decisions that users are able to make can be the source of future privacy regrets. Digital shred tools and techniques are demonstrated to enable participants to remediate potential damage from the consciously given data of their past. Furthermore, introducing the concepts of behavioral surplus and data doubles reveals how numerous privacy challenges are beyond the direct, rational control of the user. Discussion of relevant privacy theories expands the focus of the workshop from the limited power of front-end privacy features. The original conceptual framework for Digital Shred, as depicted in figure 1, integrates concepts and techniques from a range of disciplines, including business, data science, and intelligence tradecraft, to develop a theory-informed privacy literacy learning experience. Applying concepts from risk management, storage efficiency, and data governance, including behavioral surplus and data doubles, allows workshop facilitators to place front-end privacy literacy tools and behaviors in a broader theoretical context. Furthermore, introducing the concepts of behavioral surplus and data doubles challenges responsibilization by revealing the range of data collection and data brokerage practices that are beyond the control of the user, and which may only be redressed by voluntary private sector action or state regulation.

Workshop facilitators evaluated participant engagement in learning activities through peer observation, instructor self-reflection, and analysis of participant responses to formative assessment questions. Peer observation and instructor self-reflection confirm that participants are actively engaged in the fact or fiction prior knowledge assessment, learning activity work-

sheets, large group discussion of the ideal portfolio activity, and the large group data integrity activity Have I Been Pwned? Analysis of participant responses to formative assessment questions reveal that participants value information about a wide range of privacy topics, including account security, wellness and technology, mobile and smart home devices, VPN services, location services and settings, and strategies for generally reducing their digital footprints. Numerous participants expressed an explicit commitment to actively manage their digital dossier. These findings suggest that workshop facilitators successfully engaged participants in activities to achieve workshop learning outcomes.

Through this qualitative evaluation of a novel privacy literacy learning experience, the authors identified conditions for success and other lessons learned that may benefit other academic librarians undertaking similar efforts. These generalizable findings include learning design considerations, leveraging OERs, and forming collaborative efforts, and are discussed in more detail below.

Limitations

The qualitative case study method presents limitations. First, case studies examine a “sample of one”⁴⁸—in this case, a single privacy literacy workshop—and the qualitative methods of document analysis, observation, and free-response feedback are not readily scalable. The specific findings from a single evaluative case study might not be generalizable to other cases, although some general principles of privacy literacy learning design are transferrable to other teaching contexts. Second, the total number of workshop participants opting-in to provide feedback was small, at forty two (sixteen at PSU Berks and twenty-six at UF). While clear trends emerged in this qualitative feedback data, it cannot be assumed to represent the interests and experiences of all participants. Third, the personal involvement of the authors in developing, delivering, and evaluating the workshop under analysis introduces subjectivity and personal bias in the case study. In first-person qualitative studies, such subjectivity can be a source of analytical insight when bias is regulated by methodological rigor, including using multiple modes of analysis (such as document analysis, observation, and participant feedback grounded in a theoretical framework).⁴⁹

Future Directions

This qualitative, evaluative case study considers implications for privacy literacy programming, provides insights for success, and suggests future directions for privacy literacy efforts in academic libraries. Prior research reveals that academic librarians are interested in undertaking privacy literacy work but lack the time necessary to cultivate professional self-efficacy, develop privacy literacy learning activities, and deliver them in course-embedded instruction.⁵⁰ The Digital Shred Workshop collaboration experience is evidence that one can leverage the process of developing learning activities as an opportunity to simultaneously develop subject matter knowledge and teaching confidence. Furthermore, by developing hands-on learning activities that are exploratory and open-ended by design, the workshop facilitator can step out of the “sage on a stage” role and act as a “guide on the side,” modeling intellectual humility, curiosity, and learning alongside students as they progress through the workshop activities.

This is not to deny the need for privacy literacy learning design tools and OER. PSU Berks coauthors’ Digital Shred Privacy Literacy Toolkit quickly expanded beyond How-tos to become a resource to assist and strengthen development of privacy literacy initiatives and

professional development outreach. The toolkit now offers a freely accessible, curated repository of privacy literacy-focused teaching materials, toolkits, case studies, current awareness resources, professional guidance documents, and research, and can be used to inform and inspire privacy literacy program development. In addition to incorporating existing resources, the use of real-world artifacts, such as privacy auditing frameworks or the US intelligence community's damage assessment protocol, also provide readily adaptable learning materials. The Digital Shred Privacy Literacy Toolkit is designed to save the time of librarians who are delivering privacy literacy programs, so that they can focus on the pedagogical aspects of articulating learning outcomes, crafting engaging learning experiences, designing accessible and inclusive learning activities, and establishing curricular and co-curricular partnerships. Curating existing resources is also an intentional strategy to develop privacy literacy instruction resources that are sustainable over the long term.

Librarians who develop successful privacy literacy instructional materials are further encouraged to deposit them in an OER repository, such as the ACRL Sandbox or Loyola Marymount University Library's Project CORA,⁵¹ and to share them through professional and scholarly communication. Sharing successful privacy literacy programming materials is another tactic to overcome the obstacles of lack of time and resources to develop content; and, as demonstrated in this case study, participating in privacy literacy scholarly communication and professional development will help expand the network of subject matter experts and practitioners.

A factor that contributed significantly to the success of the Digital Shred Workshop, and which is readily replicable, is that it developed through collaboration. Collaborative learning design introduces new perspectives and insights into workshop content, while many hands make light work of the task of developing learning materials, and collaborators are an invaluable source of peer feedback on instruction. Adaptive, technology-mediated teaching and learning modalities, which normalized in response to the pandemic, have made intra- and inter-institutional collaboration increasingly possible. Librarians are encouraged to seek privacy literacy programming partners, which can include co-curricular opportunities, within their institutions and professional networks.

It is crucial to acknowledge that discussion of ubiquitous privacy intrusions, surveillance, disparate harms, and what often amounts to unregulated social engineering can lead to a sense of helplessness, despair, or nihilism in students and librarians alike. Library instructors should coach students both to identify, and acknowledge the limitations of, their locus of control with respect to privacy issues, with due consideration for information asymmetries and the control paradox.⁵² As an emerging area of instruction, privacy literacy lends itself to creative instructional approaches and hands-on learning activities. Gamification (such as the trivia-based prior knowledge check and character development Ideal Portfolio exercise), tongue-in-cheek humor (such as the activity prompts for the Ideal Portfolio and Damage Assessment exercises), speculative storytelling, and satire offer avenues to explore privacy issues while sustaining creativity, resilience, and well-being.⁵³

Conclusion

This qualitative, evaluative case study presents the conceptual framing, institutional context, workshop learning experience, and participant response to the Digital Shred Workshop, with considerations for the future direction of privacy literacy programming in academic libraries.

It considers conditions for success, including collaboration, resources for developing knowledge and self-efficacy, backward design and student-centered learning design, adaptation of real-world artifacts, gamification, and theory-informed practice. Privacy literacy instruction and programming is an emerging area of academic library practice that applies core library values and expertise to a burgeoning social problem that people increasingly care about. Librarians are encouraged to explore the varied possibilities of privacy literacy programming in their disciplinary and institutional contexts.

Appendix A

Gamified Prior Knowledge Check (Kahoot Quiz)

Includes the following 'Fact or Fiction' statements:

1. Using incognito mode in my web browser makes me invisible online.
 - a. Answer: fiction
2. If I am not logged into any social media accounts, I am anonymous online.
 - a. Answer: fiction
3. Websites are tracking my location, what I do, how long I am browsing, when I return, & much more.
 - a. Answer: fact
4. Facebook tracks your online behaviors across the entire web, not just on their site.
 - a. Answer: fact
5. Google search results are personalized based on your browsing history & online behaviors.
 - a. Answer: fact
6. My online search history / activity is private.
 - a. Answer: fiction
7. My social media activity will not impact my education or career because I have my accounts set to private.
 - a. Answer: fiction
8. Websites / social media sites only use my data for targeted advertising.
 - a. Answer: fiction

***Tip: As you move through the quiz it is helpful to give a brief explanation / context as to why each statement is fact or fiction.*

Appendix B

Ideal Portfolio

If you were creating a perfect account (or a fake burner account to do private research on a crush) what would you choose to make it a perfect account? From username to posted content what would you consider ideal?

User Name? Bio?

Is your user name something you will smile at or cringe in 2 years? How much are you sharing of yourself in your bio and is it appropriate?

Phone #/Email for the account?

If someone were to dox you would they have your private information? Do you have it set so that you are notified or contacted if someone logged in for you?

Types of Interactions?

What things do you share, like, and say? Who are you following and who's following you?

Time and Place of Interactions?

When do you post/how often do you post? Do you share location data when you post? Where are you posting?

Appendix C

Digital Shred Damage Assessment

Imagine your personal accounts are infiltrated by a hostile intelligence asset (or maybe just your kid sister) who exfiltrated sensitive information about you! Use this framework, adapted from Intelligence Community Directive 732: Damage Assessments, to identify your risks and plan corrective actions.

Identify Vulnerabilities

What risky digital behaviors do you engage in?
(ex: store passwords in browser, phone not password protected, public social media posts, sensitive browsing, etc.)

Evaluate Impact of Disclosure

What sensitive data do you generate?
(ex: social media posts, browsing history, shopping history, etc.)

Estimate Damage

What are some *worst-case scenario* consequences of your data breach?
(ex: get fired, lose scholarship, hurt others' feelings, break-up relationships, etc.)

Assess Risks

What is the *likelihood* of a data breach occurring?
Consider ranking your accounts or activities from most to least vulnerable.
(ex: Twitter - high risk because password stored in browser; PSU email - low risk because 2FA enabled.)

Plan Corrective Action

What could you do differently to manage risky digital behaviors or repair damage?
(ex: set social media to private, delete old content, deactivate zombie accounts, be a kinder human 😊 etc.)

Appendix D

Personal Data Integrity Plan

Plan ahead and make a routine process of auditing & updating your digital dossier / online presence.
<https://guides.libraries.psu.edu/Berks/DigitalShred>

	Account / Product / App	Priority / risk level Reflect on your <i>Damage Assessment & Ideal Portfolio</i> & consider: Who could be viewing or monitoring this account/content? What are your near term & future goals?	Audit Frequency Based on your determined risk level, set a schedule for periodic audits (i.e. bi-annually, monthly, weekly, DELETE, etc.). Set reminders to hold yourself accountable.	Next Step Resources Find the tools & learn the steps to take control of your data!	Notes
Smartphone Consider location services, individual app settings, bluetooth, etc.	Circle one: iPhone Android Other:	High Neutral Low		https://sites.psu.edu/digitalshred/category/toolkits/smartphone/	
Web Browser Reflect on how you store passwords, financial info, etc.	Circle one: Firefox Chrome IE	High Neutral Low		https://sites.psu.edu/digitalshred/category/toolkits/web-browsers/	
Social Think about how you communicate & connect with people, including dating apps.	Facebook	High Neutral Low		https://sites.psu.edu/digitalshred/category/toolkits/social/	
	Instagram	High Neutral Low			
	Twitter	High Neutral Low			
	Snapchat	High Neutral Low			
	Other:	High Neutral Low			
	Other:	High Neutral Low			
	Other:	High Neutral Low			

Productivity & Organization Think about how you take notes, manage your time, set reminders, & get info like the news, podcasts, etc.	Google (Gmail, Drive, etc.)	High Neutral Low		https://sites.psu.edu/digitalshred/category/toolkits/productivity-organization/	
	Amazon	High Neutral Low			
	Dropbox / Box	High Neutral Low			
	Other:	High Neutral Low			
	Other:	High Neutral Low			
	Other:	High Neutral Low			
	Other:	High Neutral Low			
Health & Wearables Reflect on apps & tech used to track or assist in managing healthy behaviors - ex. mental health, meditation, exercise, dieting, health insurance, etc.	Fitbit	High Neutral Low		https://sites.psu.edu/digitalshred/category/toolkits/health-wearables/	
	Smart Watch	High Neutral Low			
	Other:	High Neutral Low			
	Other:	High Neutral Low			
	Other:	High Neutral Low			
Smart Home Think about the ways your home is making life "easier" - consider thermostats, lightbulbs, & anything automated.	Smart Speakers (Amazon Echo, Google Home, Siri, etc.)	High Neutral Low		https://sites.psu.edu/digitalshred/category/toolkits/smart-home/	
	Smart TVs	High Neutral Low			
	Other:	High Neutral Low			
	Other:	High Neutral Low			

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Breaking Barriers: How Libraries Can Better Support Female Architecture Students for Professional Success

Cathryn Copper and Sara Jamal Eddin

This study investigates the role academic libraries can play in narrowing the retention gap between the number of women graduating with a degree in architecture and the number of women currently in the architecture profession. Recommendations to libraries are made based on the existing literature and survey data. The findings of this study aim to propose solutions in the form of services and resources that libraries may provide to best support female architecture students. The findings shed light on four areas: 1. The importance of increasing students' access to role models and mentors; 2. The need to bring more awareness to available academic tools; 3. The urge to diversify the material taught in the curriculum; 4. The value of sponsoring and hosting diversity-related events and programs. The proposed efforts will further empower women in architecture schools and can also benefit the broader community of minority groups by serving as a resource of recommendations for supporting the underrepresented communities in a profession.

Introduction

The number of women enrolled in architecture schools has been steadily increasing over the last decade. According to the National Architectural Accrediting Board (NAAB) 2018 Annual Report, female students represented 46 percent of the students enrolled in NAAB accredited programs.¹ However, there is an uneven balance between the number of women who study architecture and those who practice it. The latest report of the American Institute of Architects (AIA) indicated that 25 percent of practicing architects are women, which is only a 2 percent increase since 2000.² This imbalance is caused by many factors including the presence of gender discrimination, salary gaps, lack of support and access to role models, and fewer advancement opportunities for women in the profession.

In architectural education, studies indicate that the teaching profession is often male-dominated and male-centered. The curriculum does not always reflect and shed light on the role of women in architecture.³ Although the number of women enrolling in architecture schools is increasing, such circumstances may prevent women from seeing themselves represented in

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the profession, which may prevent them from reaching their full potential as architects and impede their contributions to the profession.

Libraries can play a major role in supporting female architecture students for professional success. Academic libraries have the power to build fulfilling connections between the educational institutions and their female students by providing beneficial resources and services that meet the institution's goals and match the students' needs at the same time. Architecture libraries should make more efforts to address gender inequities that exist in the profession with the student body.

This paper highlights the role of academic libraries in helping female architecture students succeed in the profession and focuses on finding the most effective ways to achieve this goal. Importantly, the suggestions made in this article to increase support for female students translates to support for historically marginalized groups in general. The article also outlines some insights and recommendations for future work on this topic. The authors conducted a survey that was distributed to female architecture students. The survey's questions aim to give a voice to these students to better understand how library initiatives could support them and prepare them for professional success. This paper uses findings from the existing literature and a survey that was conducted to propose solutions and potential services that libraries can provide to empower women in architecture and to address the issue of underrepresentation of women in the profession.

Literature Review

Women have historically been underrepresented and undersupported in the field of architecture. The literature in architecture over the last four decades shows that during the 1980s and '90s the challenges women and minorities faced in architecture were a prominent part of the discourse,⁴ but minimal progress has been made in terms of leadership, empowerment, and retention since then.⁵ Like architecture, women make up roughly 50 percent of science, technology, engineering, and math (STEM) majors at universities, but are increasingly lost at each career transition.⁶ The STEM literature is much richer in discussion surrounding this concern and can inform how people in the architecture discipline could approach the topic.

For instance, one article discusses the individual and institutional barriers for women when entering male-dominated majors.⁷ It argues that, regardless of how prepared women are when they matriculate, their experience in the major and at university is what prepares them for success. Published in the same year, a report by the National Academies Committee on Science, Engineering, and Medicine confirmed that the underrepresentation of women in STEM professions is not caused by a lack of talent, but rather unintentional biases and archaic institutional structures.⁸ It called for "societies and higher education organizations to play a leading role in promoting equal treatment of women and men and to demonstrate a commitment to their practices." In response, the Chemistry and Physics Librarian at Rutgers University conducted an environmental scan of efforts academic libraries have made to assist with retention of women in STEM fields.⁹ It highlights efforts such as collections-based projects, programming initiatives, and librarian-led courses like Closing the Gap: Women in Science, Technology, Engineering, and Math at Rutgers University to position the library as an active contributor in supporting female students for professional success.

Women in Architecture

The literature reviewed in the architecture discipline is less focused on methods of support and more on bringing awareness to the problem, which is a necessary first step in implementing real change. A pivotal article, published in 1993 near the height of feminist theory in architecture, dives deep into how the socioeducational context of the university plays a critical role in restricting the potential of women in the field.¹⁰ It argues that the university is where skills, knowledge, and attitudes toward the practice develop.¹¹ The more recent literature builds on this issue with a focus on attrition. In 2000, women represented 13 percent of registered architects, and today that number is 19 percent.¹² At this glacial pace, there will not be a 50-50 gender split in the profession until 2093. The author goes on to say that venues for discussing gender equity are increasing, which indicates the need among aspiring architects for a community to express concerns and explore solutions. The current third wave of architecture feminism—which follows the first wave, which emerged at the end of the 19th century and the second wave, which ran from the early 1970s through the 1990s¹³—has informed some best practices in the profession to close the gender gap. An article in *Architect* identified career points in which women are forced out, such as getting licensed and attaining leadership roles.¹⁴ A key factor identified in this article is that for women to surpass these barriers, they need role models. While this article starts to touch on themes identified in this study, there is no literature on the role libraries specifically can play to better support female architecture students and prepare them for professional success.

Women in the Workplace

The architecture profession has significant work-environment pressures that cause high stress and frequent burnout.¹⁵ Once in the profession, women drop out at a much higher rate than men. Multiple studies have shown that women leave because of the hostile and competitive environment in architecture firms.¹⁶ A study published in *Architect's Journal* points out common reasons women leave, including salary gaps, fewer opportunities for advancement, lack of mentoring and role models, and routine sexism in the workplace.¹⁷ In another study, half of female architects sampled knew cases of gender discrimination.¹⁸ The same study by Fowler and Wilson explained that many women concluded it was impossible to have a family and be successful in architecture because of the long hours and highly competitive environment. It was universally acknowledged that having children changed the lives of female architects more than their male counterparts. The profession needs to have a better understanding of the challenges that women experience, or it will continue to lose women to its own detriment.¹⁹

Mentors and Role Models

The scholarship has shown the need for marginalized communities to see themselves represented in the profession and to have access to mentors and role models. A study on the role of peer support for women in STEM reported that the influence of peers predicted the likelihood that one would pursue a career in STEM.²⁰ Particularly with the graduate student population, the influence peers had on one's confidence had a direct connection to their intent to continue in the STEM profession. This is further supported by another article stating that despite generally higher academic achievement, female students display lower academic self-confidence than males, and self-confidence affects whether a person will persist in a task and may be a key to career decisions.²¹ Another study found that female students exposed to women in

scientific professions had a more positive attitude about women in science and suggested that having role models will increase their chances of considering science as a career.²² The same is true in the architecture literature, which instructs young female architects to seek a mentor for guidance and feedback.²³ The literature confirms that mentoring and support networks are vital to attracting and keeping women in the discipline.²⁴

Diversity in the Curriculum

Diversifying the material taught in the curriculum was identified in both the STEM and architecture literature as critical to promoting women in these fields. Busch-Vishniac and Jarosz found that courses developed with a focus on the role of women, sections in introductory courses containing only women, and hands-on courses that help build skills are ways to address the issue of the lack of diversity in the curriculum.²⁵ In a different article the authors more specifically explain that architecture curriculums and teaching reflect and promote male-centered actions.²⁶ These gendered teaching practices permeate gender inequities and diminish the educational development of women. Instructors must make conscious efforts to incorporate women in architecture as prominent contributors and ensure their perspectives are seen as viable design directions.²⁷ How instructors craft assignments are key to showing all students the value of women's contributions to the built environment.

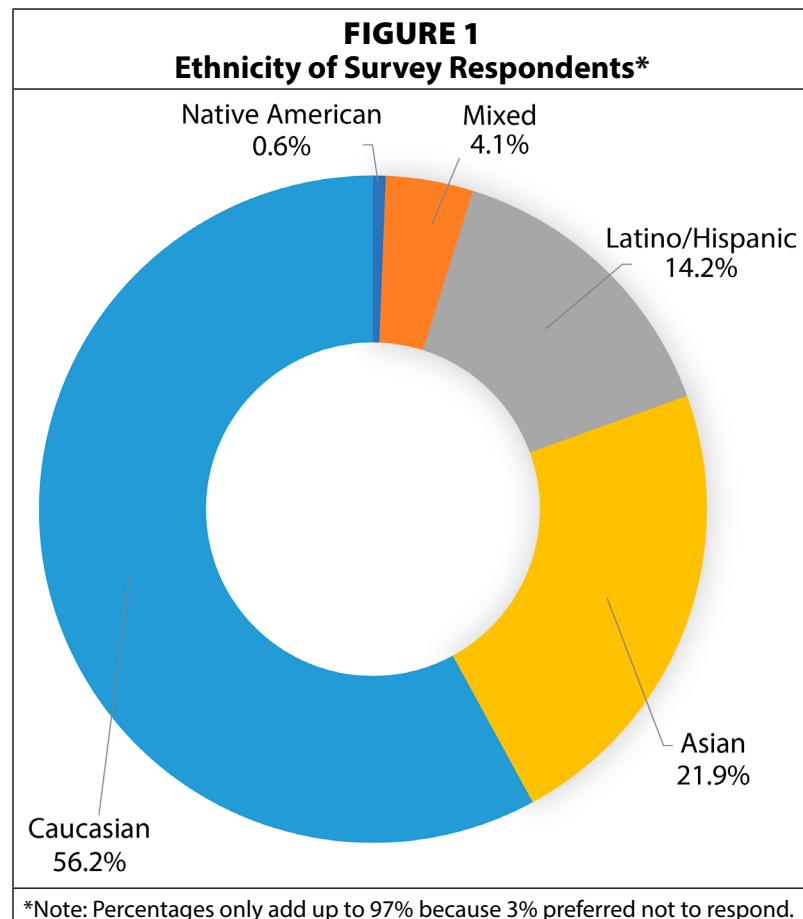
Methodology

A survey was conducted to collect data on the role libraries can play in preparing female architecture students for professional success.²⁸ The survey sought to answer questions related to the demographic makeup of female students in architecture schools across North America, what type of library initiatives currently exist or that the students are aware of, and what library-oriented tools could be developed to prepare them during their academic studies for success in the profession. The survey consisted of forty questions and took less than fifteen minutes to complete. The questions, drawn from initiatives to support women identified in the literature, sought to gather information on the likelihood that specific library initiatives would support women in architecture. To exclude participants that were not women, the first question asked whether participants were female or identified as female and required a response. Less than 5 percent of respondents answered that they were not or did not identify as female, and in doing so were filtered out from the survey. The remainder of the survey was divided into three sections with questions related to 1) the architecture program the student was enrolled in, 2) existing and ideal library and school initiatives to support the student's success, and 3) the student's background and demographic information.

Distributing the survey via architecture schools allowed the researchers to reach the broadest possible audience. The survey was distributed in October 2020 and remained open for forty days. It was distributed via the Association of Architecture School Librarians and the Art Libraries Society of North American Architecture Section listservs. These listservs reached 300 and 152 architecture librarians respectively. However, there is a significant yet unidentifiable amount of overlap of recipients on the two listservs. The description of the survey asked librarians at architecture schools to distribute the survey to their student populations through institutional processes. In November 2020, "Library Support for Female Architecture Students" was published in the Association of Collegiate Schools of Architecture (ACSA) News to highlight the research that was being conducted and expanded the reach of the survey to

all accredited professional degree programs in the United States, Canada, and some international schools.²⁹ Finally, the researchers reached out directly to twenty-two administrators and advisors at accredited architecture schools in North America to ask for the survey to be disseminated.

In all, 457 students from forty unique universities responded to the survey. According to the most recent data from the National Architectural Accrediting Board (NAAB), 26,061 students were enrolled in accredited programs in the 2018–19 school year, and 49 percent of those students were women, meaning there were 12,776 female students enrolled in accredited architecture programs.³⁰ Based on a Qualtrics measurement tool, this indicates the sample size has approximately a 4.5 percent margin of error.³¹ A total of 434 female participants provides an impressive number of respondents and a large enough pool of data to create a comprehensive picture of how libraries can support this subsection of the population. Perhaps equally as important, 44 percent of participants responded that they were from minority or diverse backgrounds, which further indicates that the data has the potential to have a dual impact (see figure 1). The recommendations made later in this article for how libraries can support female architecture students can be translated to how libraries can support the broader community of minority students in architecture.



Findings

Mentors and Role Models

When analyzing the survey data and current scholarship, themes about library support for female architecture students emerged. The first theme is the importance of access to role models. The literature on diversity, inclusion, and equity shows that access to role models and seeing oneself represented is critical to professional development and success.³² When asked, “How much access do you have to female mentors and role models to support you in your education and career?” 68 percent of survey respondents said that they had a moderate amount or higher access to female role models. However, 6 percent said they had no access to female mentors or role models. The response to that question closely reflects the perception of how many women hold leadership positions at architecture schools. According to survey participants, 74 percent said that a moderate amount or more of leadership positions, such as

director or dean, were filled by women. This figure is substantially higher than the number reported by the ACSA which reported that in 2019 only 33 percent of directors, heads, and chairs were women.³³ Having access to an adequate number of women in leadership roles in combination with other themes that emerged from this data, may have a great impact on increasing female students' confidence in their own abilities. As explained in the literature review, self-confidence may be a key factor in career decision-making processes.³⁴

Academic Tools for Career Success

Related to access to mentors and role models, the second theme is a lack of tools to prepare female students for careers. While 64 percent of participants indicated they have received an award, grant, or scholarship, nearly 80 percent stated that they had little or no information about scholarships geared specifically toward women. Programs like the Payette Sho-Ping Chin Memorial Academic Scholarship,³⁵ the Beverly Willis Architecture Foundation Emerging Leaders Program,³⁶ and others present unique opportunities to support women during and after their studies, yet are not widely known, according to the data collected in this study. Another concern was the internship experience among female architecture students. In survey responses, 62 percent said they had work experience in a professional architecture or design environment, including internships, and 78 percent stated they had the tools to be successful in those positions or internships. However, the qualitative data did not reflect the same level of confidence. The comments heavily weighted toward problems in internships and professional environments, such as feeling that they were not being taken seriously, being assigned mundane or routine administrative tasks, and having all male coworkers and/or leaders. In general, survey comments indicated that female students felt they had to work harder than male colleagues to be taken seriously and were not given the same opportunities as male counterparts in the workplace. The literature supports this with research that states women must go farther, work harder, and accomplish more to be recognized.³⁷ Further, concerns about work-life balance were apparent. When participants asked directly if they had concerns about work-life balance in the profession, 73 percent of participants responded yes. In fact, nearly 25 percent of survey participants commented on the work-life balance challenge. An overwhelming number of comments, ninety four in total, addressed this issue and focused on the known demands of the architecture profession during childbearing years.

Diversity in the Curriculum

Another theme and area of concern for libraries, evident in the responses and literature, is a lack of diversity in materials studied in the curriculum. When asked specifically about the diversity of materials in the library collection, 48 percent of respondents said there was little or no diversity, and 43 percent said there was only a moderate amount in print collections (e.g., books and journals). Similarly, respondents said 41 percent of libraries had little to no diversity in their electronic collections (e.g., ebooks and research guides), and 43 percent said there was a moderate amount in electronic resources. To understand whether the work of women was studied, the survey asked how many female architects and designers were taught in courses. The responses ranged from 72 percent who said none at all or a little, to 28 percent who said a moderate amount or a lot. While the perception was that library collections have some diversity, that was not translated into an increase of diverse materials taught in the curriculum.

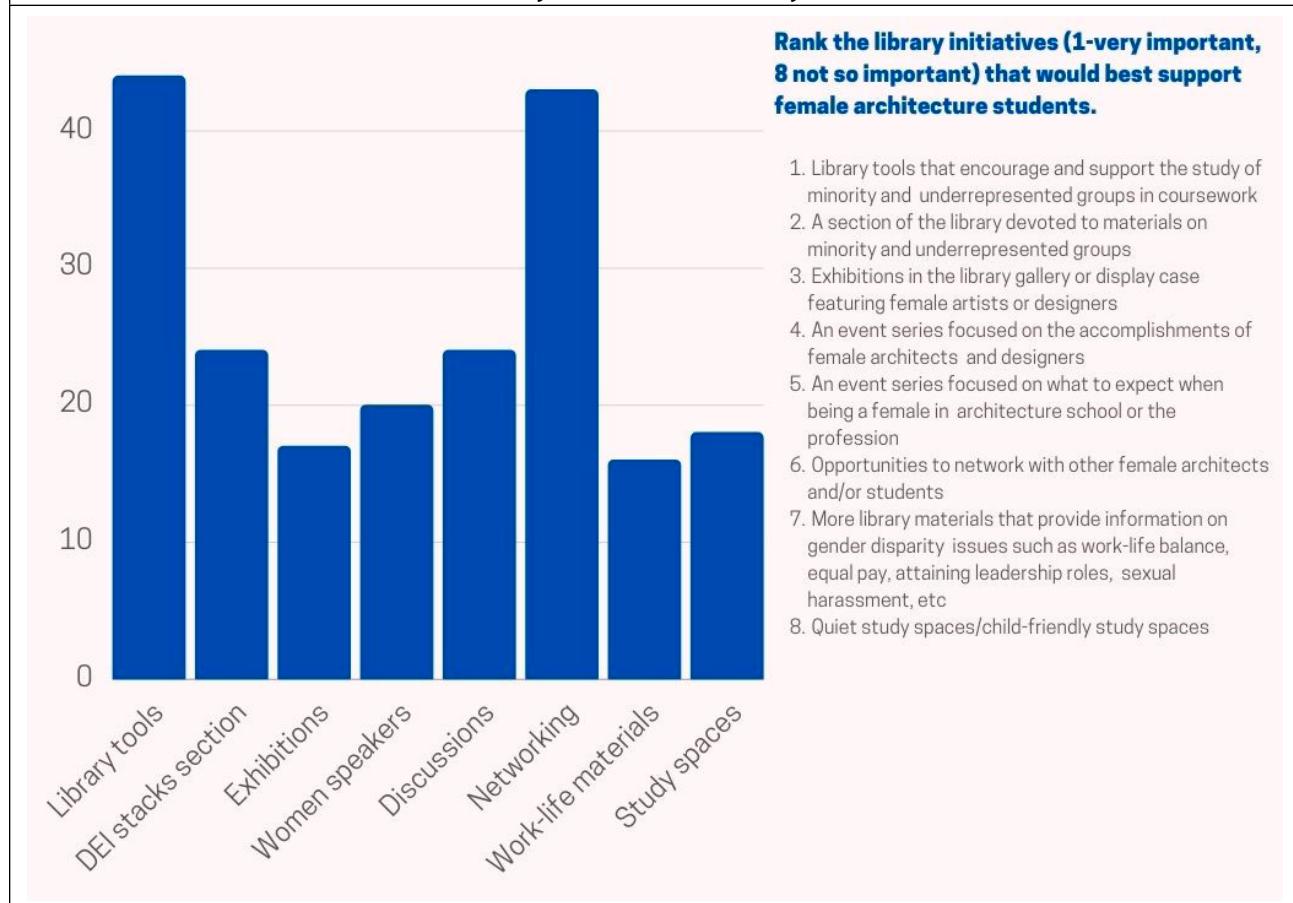
Events and Programs

The last theme is a desire for events and programs that bring awareness to the challenges women face in the architecture profession. When participants were asked if the library hosted diversity and inclusion events, 64 percent said no. It was unclear from the data collected whether libraries were not hosting these types of events or if students were just not aware of them doing so. The comments described events like book displays, networking opportunities, and author talks that more broadly focused on diversity and inclusion, but nothing specifically was mentioned about events that support women. In particular, the National Organization of Minority Architects (NOMAS) and LGBTQ+ groups were mentioned in the participants' comments regarding library events, further highlighting the potential connection between tools that support women and tools that support minority groups more generally.

The Library's Role

Finally, participants were asked what libraries could do to better prepare them for professional success. A key finding in this study is that 70 percent of respondents said the library could play a role preparing them for challenges in the profession. Therefore, the potential for libraries to have an increased positive impact on women studying architecture was evident in the data collected. Participants were asked to rank possible library-oriented initiatives in order of importance (see figure 2). The highest ranked initiative was acquiring tools that encourage and support the study of minority and underrepresented groups in

FIGURE 2
Rank Library Initiatives Survey Question



coursework. The next most important initiatives, in order, were an increase in networking and event activities, more specifically, opportunities for female students to network with female architects, and an event series focused on what to expect when entering the profession and the accomplishments of women in the profession. In relation to the physical library space, respondents stated that a section of the library that highlights materials on minority and underrepresented groups was the most important initiatives. They expressed that quiet study spaces and/or child-friendly study spaces and exhibitions in the library that displayed work by female designers were of lesser importance. However, one comment indicated the desire for gender safe study spaces where they could find relief from unwanted male attention. Lastly, survey participants ranked library materials that related to gender disparity issues, such as work-life balance, equal pay, sexual harassment, etc., as the least important library initiative, but expressed an interest in exploring these topics in discussions or events. Simply put, one commenter indicated that any of these initiatives would be an improvement over the status quo.

Recommendation for Libraries

Mentors and Role Models

This study shows that libraries have the potential to play a unique role in preparing female architecture students for professional success. They can provide access to resources, facilitate learning, and physical space, among other things. The qualitative survey data shows a strong interest in networking opportunities to increase access to mentors or role models. Respondents want to have conversations and hear from women on what it was like to be in the profession and how they were able to overcome barriers. One respondent stated that "I would love to see networking opportunities for women at the library. Maybe a weekly event where we take an hour and talk to each other about challenges we are facing or hosting events to make women feel more comfortable studying architecture and learn more about the field." Events could be informal or formal and structured around a theme. For example, one topic could be how to combat self-doubt and prepare for juried critiques, since the potential for design juries to inflict damage on one's self-esteem is high.³⁸ Another topic for discussion could be what to expect in the field or on construction sites, an area of concern and challenge identified in the survey and literature.³⁹ At the core, survey participants suggest a wide range of topics of interest, the thread being a desire for a venue to have these conversations. A repeat suggestion was to have a program where upper-year students supported lower-year students, as a tool to provide support and techniques for navigating difficult situations. Librarians could facilitate this type of programming through social hours or support groups directed at female students. To expand the reach, digital video platforms offer the opportunity to connect with mentors and other female students across geographic locations. Lastly, to the extent possible, librarians should include female administrators and faculty in event planning. The more mentors participate in the planning process, the more meaningful the events and their impact will be.

Academic Tools for Career Success

To further prepare students for success, librarians can play an active role in providing tools to bridge the gap between school and practice. An area identified for improvement is making scholarships, competitions, and internships directed at female students more accessible. Librarians are well suited to work with school administrators or serve on committees to develop

internal programs for female student's success. Likewise, physical and digital spaces can serve as resource hubs. Printed lists of opportunities geared toward women could be made available in the library or advertised on digital signage. Online tools like research guides could include links to opportunities and support resources to be shared with students and advisors. The opportunity for programs on career preparation also exists. The library could be a forum to discuss work-life balance issues, a major concern identified in the survey and literature. The data shows students are more interested in hearing from other women on how they navigate this issue rather than the library providing resources to read about solutions on their own. However, tackling the issue from both angles would be beneficial for students who were unable to attend programs or prefer to follow up independently. It is important to acknowledge that applying these strategies requires adequate library funding and staffing, yet partnering with other groups can alleviate some of the added time and effort needed.

Diversity in the Curriculum

Librarians have a substantial opportunity to help increase the diversity of materials studied in the curriculum. In many ways, this is the core issue for female students studying architecture. The achievements of female architects and designers do not receive fair representation in school curriculums.⁴⁰ While this has an obvious impact on female students, it also affects their male colleagues because they may not see women as having the same potential as men and empowers that same thinking later in the workplace. Concerningly, in the article "Women Architects and Their Discontents," half of the male sample stated that women opted to work on smaller scale domestic projects.⁴¹ The perception that women choose less important roles is most likely because of what male students perceive from their education in architecture. A well-worded comment from a female respondent explained that "Changing the curriculum is a big one. When we learn about Le Corbusier,⁴² we need to learn about Eileen Gray.⁴³ Ray Eames was not Charles's assistant and that needs to be clear.⁴⁴ Denise Scott Brown is not secondary to Venturi."⁴⁵ To assist in changing this perception, librarians need to curate collections that represent all minorities, including women, so that all architecture students can recognize the vast diversity and potential of their peers.

Collecting more diverse materials in architecture is necessary, but ensuring that they are used and referenced in the curriculum is perhaps the more impactful action. Librarians need to exert extra effort to target these materials to faculty. Survey respondents expressed a need to focus on faculty who teach architecture history courses. In many architectural history classes, female architects prior to the twentieth century are not taught. This is partly because architectural history books make little mention of women. These texts often cover what is taught in history courses, and as a result women's contributions are left out of architecture history curriculums.⁴⁶ Professors who teach history courses must also discuss how women were discouraged or not allowed to claim credit for their contributions.⁴⁷ Librarians can curate tools such as resource lists that include books, articles, case studies, and links that feature women in architecture. The resource list could be embedded in course material through the use of course management systems or research guides. Further, librarians are well positioned to collaborate with faculty to organize reading groups as train-the-trainer programs. A major hurdle, especially for senior male faculty, is that some are simply not familiar with the material that exists on women or how to teach it in their courses. A reading group cohosted by the library could provide all faculty with a venue to digest and discuss this material. By building

working relationships with faculty, librarians can position themselves as collaborators in the curriculum and more successfully embed tools to support female students.

Survey responses included suggestions for how to highlight diverse library materials. The opinions were mixed on whether a section of the library should be devoted to minority and underrepresented architects. Some survey respondents expressed concerns that the point was not to single out these groups but rather give them equal attention. One possible solution, instead of separating these materials, would be to place a label on the outward facing edge of the items to indicate that they include diverse content or are written by a diverse author. This also gives an opportunity to highlight the work of some marginalized groups during certain months, like Women's History Month in March and Black History Month in February. As a tool to facilitate finding diverse library materials, the suggestion was made to incorporate a diversity filter in library discovery layers. In this way, when searching in the digital environment researchers can filter their results to items that include diverse content or are written by a woman author. Alternatively, instructions for using subject headings to conduct diversity searches could be displayed on library websites, assuming materials are cataloged accordingly. Furthermore, librarians could use their information retrieval expertise to advocate for diversity search tools more generally in databases and directories.

Events and Programs

The fact that 64 percent of survey respondents answered that their libraries were not hosting diversity-related events and programs indicates a significant opportunity to either increase programs or increase outreach related to programs. Students said that those current initiatives were primarily organized by student groups, and that they would like to see the school and library, including female role models and mentors, take a more active role in planning. To avoid duplicating efforts, librarians could seek out student groups or clubs to partner with to plan networking opportunities and discussion events for female students. Students are most interested in a program that partnered upper-year students or alumni with lower-year students. One comment suggested that "a program that partners older and younger female architecture students would be valuable. Probably would be done on a volunteer basis, but to have a woman I can specifically contact and feel that I'm not bothering them would be nice." To build on a formal mentorship program, roundtables or workshops in the library could discuss how to handle difficult situations, ways to combat self-doubt, the experiences of female architects or entrepreneurs, and more generally, mental health awareness.

To bring real change, the majority needs to be educated as well, not just the minority. To accomplish this, library events and programs should be shared broadly to target a wide audience. In "Women Need Cooperation Not More Competition," Flora Samuel calls for men to get behind women. She states that they too need to express an intolerance for archaic ways of working and be equal partners for the push toward gender equity.⁴⁸ This means that everyone, men and women, should be invited and encouraged to attend roundtables and discussion panels on how to better support female architecture students. Male students can benefit by being taught tactics for how to advocate for more fair practices and give women a platform in the workplace. Likewise, survey respondents said that the tools identified in this article, such as events and resources list, should be shared with firms and practitioners too. While librarians have more control over preparing students while they are in school, strides also need to be made in changing the workplace culture, which starts with everyone acknowledg-

ing that gender bias exists in architecture. Librarians can work with campus partners to offer workshops and training directed toward strategies to overcome bias and encourage fair treatment of all people.⁴⁹ Hosting online programs and opening them up to everyone, including practitioners, provides an opportunity to reach a wider audience and reduce duplication of effort across libraries. By targeting a wide audience, librarians can help bridge the gap between females in architecture schools and in the profession. For these strategies to be effective, it is essential that they be progressively staffed and funded along the various phases. A strategy for symbiotic yet practical partnerships with other individuals, groups, and organizations must also be developed, implemented, and constantly revised to share the load of the project and deliberately produce the desired result, which is a higher rate of women architects across the spectrum of the field of architecture.

Future Research

Some recommendations for future work on this topic include expanding the study to gather input and insights from practitioners, faculty members, and librarians. Contributions from these varied perspectives on how to support female architecture students and equip them for professional success will lead to novel exploration of effective ways to reach this goal. The importance of including librarians in such studies would help libraries amass resources that could further support female architecture students.

Conclusion

The main contribution of this paper is to shed light on the role of academic libraries in preparing female architecture students for professional success. It provides recommendations for achieving this goal based on a survey that was distributed to female architecture students enrolled in architecture schools in the United States, Canada, and some international schools.

Female students were not significantly affected by the gender difference while at school. However, the impact of this difference was significantly noticed once they entered the profession. Libraries can play a major role in tackling this issue by providing diverse materials that support the work of women in architecture, introducing tools that bridge the gap between school and practice and working with the faculty to get these materials included in course work and the curriculum. Libraries can also help female architecture students combat self-doubt and succeed in the profession by holding events that introduce them to the professional environment and arm them with tools to overcome the challenges they may face in the profession.

Seeing women represented in the profession fosters confidence, professional development, and success. However, the representation of women in the profession is currently weak, and therefore a cultural shift in the profession should occur, in which female architects would no longer be seen and treated as minorities. This shift will be the result of a process that starts with making appropriate changes in the school curriculum with the help of libraries to support women's presence and role in the field, which can then extend to the profession. The strategies and tools outlined in this study support other marginalized groups as well.

To make this shift, it is important to acknowledge that both male and female architects have a vital role in architecture to celebrate their technically qualified contribution equally and fairly. The difference in gender should no longer be seen as an issue that makes the profession favor one gender over another. This difference should be looked at as an opportunity that brings out creativity, diversity, and partnership in architecture. Therefore, the job respon-

sibilities should accommodate both genders to facilitate their welcomed participation and provide equal opportunities for both. These contributions would increase female architecture students' confidence, which would then empower them to reach their highest potential and experience upward mobility.

The results of the survey reflect that female architecture students see that libraries can play an important role in supporting them in their academic and professional lives. Libraries can be seen as powerful communication tools that connect the architecture schools with their female students, fulfilling the students' needs and partnering with the schools as well. Moreover, libraries can serve as a bridge that connects female architecture students to the professional world by providing guidance and equipping them with the tools for success in the field.

Appendix 1. Library Support for Female Architecture Students

Q1 Are you a female or identify as a female?

- Yes
- No

Q2 What College or University do you attend?

Q3 What program are you enrolled in?

- Bachelor of Architecture
- Master of Architecture
- Doctorate of Architecture
- Other _____

Q4 Did you work as an architecture or design professional prior to enrolling in a graduate or doctoral program?

- Yes
- No

Q5 What year are you in the program?

- 1st year
- 2nd year
- 3rd year
- 4th year
- 5th year

Q6 What is your current GPA?

- 4.0 or higher
- 3.5–3.9
- 3.0–3.4
- 2.5–2.9
- 2.0–2.4
- 1.9 or lower

Q7 Do you feel the library collection (books, journals, etc.) represents minorities in architecture and design?

- A great deal
- A lot
- A moderate amount
- A little
- None at all

Q8 Do you feel the library's online tools (research guides, ebooks, etc.) support women in architecture or design?

- A great deal
- A lot
- A moderate amount
- A little
- None at all

Q9 Does the library host inclusion and diversity events that you know of?

- Yes
- No

Q10 Briefly explain the diversity and inclusion event program(s).

Q11 Rank the library initiatives (1-very important, 8-not so important) that would best support female architecture students.

- _____ Library tools that encourage and support the study of minority and underrepresented groups in coursework
- _____ A section of the library devoted to materials on minority and underrepresented groups
- _____ Exhibitions in the library gallery or display case featuring female artists or designers
- _____ An event series focused on the accomplishments of female architects and designers
- _____ An event series focused on what to expect when being a female in architecture school or the profession
- _____ Opportunities to network with other female architects and/or students
- _____ More library materials that provide information on gender disparity issues such as work-life balance, equal pay, attaining leadership roles, sexual harassment, etc.
- _____ Quiet study spaces/child-friendly study spaces

Q12 Please share anything else the library could do or is doing to support female students studying architecture.

Q13 How many female faculty teach in your program?

- 1-2
- 3-5
- 5-10
- 10 or more
- Unsure

Q14 How many female faculty are in leadership roles (i.e., department chair, dean, etc.) at the architecture school you attend?

- A great deal
- A lot
- A moderate amount
- A little
- None at all

Q15 How much access do you have to female mentors and role models to support you in your education and career?

- A great deal
- A lot
- A moderate amount
- A little
- None at all

Q16 How many women architects and designers do you study in your courses?

- A great deal
- A lot
- A moderate amount
- A little
- None at all

Q17 How much do you feel your school's lecture series or invited speakers represent females in the profession?

- A great deal
- A lot
- A moderate amount
- A little
- None at all

Q18 How much information on scholarships for females studying architecture does your school provide?

- A great deal
- A lot
- A moderate amount
- A little
- None at all

Q19 How much information on competitions, academic opportunities, and career opportunities for females does your school provide?

- A great deal
- A lot
- A moderate amount
- A little
- None at all

Q20 How much programming does your school offer to prepare women for interviews and career advancement?

- A great deal
- A lot
- A moderate amount

- A little
- None at all

Q21 How accessible and valuable are your school's on-campus counseling services?

- A great deal
- A lot
- A moderate amount
- A little
- None at all

Q22 Please share anything else your school is doing or could do to better prepare you for being a woman in the profession.

Q23 What, if any, student organizations are you actively involved in?

Q24 Do these student organizations do anything to specifically support female students? If yes, please describe.

- Yes _____
- No

Q25 Do you or have you ever held a leadership role (i.e., president of student organization, managed employees, etc.)? If yes, please describe.

- Yes _____
- No

Q26 Have you ever received an award, grant, scholarship? If yes, please describe.

- Yes _____
- No

Q27 Have you worked in a professional architecture or design position, including internships?

- Yes
- No

Q28 Did you feel like you had the tools to be successful in your position or internship?

- Yes
- No

Q29 Do you feel being a female presented more challenges for you in this position or internship? If yes, please describe.

- Yes _____
- No

Q30 Do you have childcare or caregiving responsibilities that make studying or succeeding

in architecture more difficult?

- Yes
- No

Q31 Do you have concerns about work-life balance in the profession? If yes, please describe.

- Yes _____
- No

Q32 Do you believe the library or program can better prepare you for work-life and gender discrimination issues? If yes, please describe.

- Yes _____
- No

Q33 Do you have any additional thoughts on being a female architecture student that you would like to share with the researchers? _____

Q34 What is your age range?

- 15–19
- 20–24
- 25–29
- 30–34
- 35–39
- 40–44
- 45–49
- 50 or older
- Prefer not to say

Q35 Please specify your ethnicity.

- African-American
- Asian
- Caucasian
- Latino/Hispanic
- Native American
- Native Hawaiian/Pacific Islander
- Mixed
- Prefer not to say

Q36 Are you married?

- Yes
- No
- In a domestic partnership
- Prefer not to say

Q37 What is your current household income level (if your household includes roommates

only consider your individual income)?

- \$0–\$19,999
- \$20,000–\$39,999
- \$40,000–\$59,999
- \$60,000–\$79,999
- \$80,000–\$99,999
- \$100,000 or higher

Q38 What is your current employment status?

- Employed full-time
- Employed part-time
- Full-time student
- Seeking opportunities
- Prefer not to say

Q39 How many children do you have?

- None
- 1
- 2–4
- More than 4
- Prefer not to say

Q40 Where were you born?

- North America
- Central America
- South America
- Europe
- Middle East
- Africa
- Asia
- Australia
- Pacific Islander
- Other
- Prefer not to say

Notes

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Liaising the Catalog: Collaborating Across Library Departments to Promote Successful Discoverability through Enhanced Cataloging

Tammie Busch, Debbie Campbell, Susan M. Howell, Mary S. Konkel, Dennis Krieb, Mingyan Li, Cathy Mayer, and Ross Taft

Academic libraries are increasingly asked to articulate connections between the work of library staff and student success. This article discusses how a team of librarians participating in CARLI Counts, an immersive professional development program funded by a Laura Bush 21st Century Librarian Grant through the Institute of Museum and Library Services, responded to the lack of research investigating the indirect impact of the work of technical services staff on student learning. An anonymous online survey distributed to library staff of the Consortium of Academic and Research Libraries in Illinois (CARLI) member institutions explored the perceived value of enhanced cataloging in supporting student research. Survey results point to opportunities for communication and collaboration among technical services and public services librarians to improve understanding of enhanced catalog functionality and user needs.

Introduction

Bibliographic information contained in a MARC record enables library catalog users to find and identify resources when conducting research using the library catalog. Additional bibliographic information may provide more satisfactory results, as enhanced cataloging provides additional access points. When a student seeks assistance from reference and instruction librarians or staff in locating resources, the level of bibliographic information in a catalog record can impact the success of this interaction. A student's ability to conduct a successful search affects the forward trajectory of their research and its outcome. If resources are described more comprehensively, the outcome is likely to yield greater success.

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Due to staff reductions in technical services departments, catalogers may be discouraged from describing resources comprehensively or from enhancing catalog records: they are sometimes directed to create records that are “good enough.” What if all bibliographic records created by catalogers are only ever “good enough?” What impact might this have on library staff’s ability to help students find suitable resources for their research? Through a survey conducted in 2020, authors of this article explored how reference and instruction librarians and staff perceive the value of enhanced cataloging in identifying resources to support students’ curricular needs. Although the authors eventually hope to survey students’ perceptions of catalog records, such exploration was not initially feasible due to an ILS and discovery system migration and temporary institutional closures during the COVID-19 pandemic.

Literature Review

Jon R. Hufford published the results of a study that “determined the extent to which elements of a bibliographic record were consulted by reference staff members of three ARL libraries.”¹ Hufford’s research demonstrated that reference staff members “generally consulted only a limited number of elements” in a bibliographic record.² However, he also acknowledged that he did not know how comprehensive or enhanced these records were and, given local cataloging practices, it would be difficult to estimate the probability of each element within a record. Drawing on research from Peter Heron and Charles McClure, Hufford also raised the question of the skill of surveyed reference staff in using bibliographic data. Hufford suggests that reference staff “may be neglecting their catalogs’ potential for enhancing the quality of service to patrons.”³ With the rapid evolution of library discovery systems come new methods for users to interact with a library’s catalog, as well as new methods for displaying enhanced bibliographic information. As a result, scholarship surrounding the importance of these enhanced records in the discovery process has revealed new opinions discussed below.

Subject Headings/Description

Historically, subject headings using controlled vocabularies have been the foundation of librarian search strategies. This was confirmed by William Schultz, Jr. and Lindsay Braddy in their 2015 survey of public services and technical services librarians.⁴ Additionally, Tina Gross, Arlene Taylor, and Daniel Joudrey found that even with summary and content data enrichment, the mean percentage of hits that would be lost in the absence of subject headings was 27 percent.⁵

Nevertheless, for a sole cataloger responsible for cataloging a wide range of resources across many subject areas and formats, finding suitable Library of Congress Subject Headings (LCSH) can be challenging. In a study of dissertation cataloging practices in ARL academic libraries, Catherine Sasson found that subject information was included more often in notes or local or uncontrolled access points than with Library of Congress subject headings.⁶ This decline in the use of LCSH in dissertation cataloging was also reflected in the literature, which confirms the need to look beyond traditional controlled vocabulary when enhancing records.

Subject headings translate the “aboutness” of a resource, not of the creator. Researchers have found creator information to be a promising tool for providing better access to works by specific demographics.^{7,8} The MARC 21 field 386 allows catalogers to record demographic terms for creators and contributors. Use of this field comes with some controversy, such as the risk of “othering” minorities due to the lack of available LCSH terminology, or limited search

results if demographic information is not added comprehensively. Nevertheless, ethical and comprehensive application of this information could increase discovery for certain materials.

Circulation

In addition to increasing discovery, enhancements also have the potential to increase circulation. Mina Chercourt and Lauren Marshall looked at the impact of enhancing bibliographic records with table of contents in terms of circulation statistics.⁹ Their results suggest enhancing with table of contents does have a positive effect on circulation, especially in items cataloged prior to January 1, 2000, and those books that fall into the General Literature or American Literature subjects. As well as supporting the work of record enhancing, this study also suggests the need for collaborative work between cataloging librarians and reference librarians and staff.

Communication and Collaboration with Library Staff

The importance of collaboration between cataloging and reference librarians was highlighted in a report published by the Online Computer Library Center, Inc. (OCLC) that looked at the impact of catalog data on end users' experiences.¹⁰ It was discovered that in addition to addressing duplicate records and typographical errors, reference librarians want upgrades to brief records and added evaluative content such as table of contents, summaries or abstracts, and cover art.

Without these upgrades, brief records can impede the discovery of entire collections for some end users, a finding highlighted by Janelle Zetty.¹¹ When reference staff at Edith Garland Dupre Library were having difficulty locating scores for music because of a lack of contents notes, they brought it to the attention of their cataloging department. Working together, reference and cataloging staff devised a workflow for enhancing records, resulting in an improved user experience.

However, Catherine Sassen, Rebecca Welch and Kathryn Loafman found that concerns with cataloging services are not always expressed by library staff outside of cataloging.¹² Catalogers may need to request feedback from public services staff in order to improve services and increase visibility and value. The authors surveyed personnel in both the Public Services and Cataloging and Metadata Services departments at the University of North Texas to assess the perceived importance of various cataloging services. Their survey results help to highlight the misunderstanding in the profession at large regarding what catalogers actually do. For instance, in regard to authority control, public services staff indicated that adding birth and/or death dates to personal name headings was a low priority in terms of enhancements. However, they also indicated that grouping all works by the same author together in the catalog was a high priority. Catalogers likely understand that both relate to authority control, and could use this as an opportunity to inform public services staff of how authority control works and the role catalogers play in enhancing discovery and access for end users.

Returning to Sassen's 2017 study on dissertation cataloging, she suggests that the decline in use of LCSH could be due to limited catalog staffing and recommends consulting with reference and IT staff to better understand patron information-seeking behavior prior to enhancing brief records.¹³ These consultations may help ensure the greatest impact of a cataloger's work. Furthermore, decisions about the approach to cataloging dissertations should be shared with reference and instruction librarians so they can best serve library users.

Catalogers cannot work in a vacuum. Input from reference librarians and library staff is integral to ensuring the best discovery process for our end users and optimum use of our collections.

Background

The CARLI Counts Technical Services Team project was prompted by the CARLI Technical Services Committee (TSC). During the September 2019 TSC meeting, Committee discussion identified the need for promoting the value and importance of technical services departments in connection to student success. Via the library catalog, a professional cataloger provides the bridge between a student and library resources to enhance information discovery and research, thus supporting student success. To create this bridge, a cataloger must have proper training and understand bibliographic control in relation to cataloging and indexing. Therefore, TSC recognized the important guiding role professional catalogers play in providing training, development and implementation of best practices, and keeping abreast of the most updated cataloging standards. Yet, the Committee acknowledged a lack of data and research connecting the work of catalogers to student success.

At the November 2019 CARLI Annual Meeting, there was a call for participants to form a second cohort of CARLI Counts. CARLI Counts is an immersion program designed to prepare librarians to make effective use of research findings on the impact of academic libraries on student success for the twin purposes of service development and library advocacy. Upon learning of the opportunity, TSC members proposed the formulation of a technical services-focused team to explore the value and impact of cataloging on student success. With the support of CARLI staff, a multi-institutional team was formed consisting of librarians with expertise in cataloging, reference, and administration from five institutions. The team also incorporated program mentors and a CARLI staff liaison.

Methodology

An IRB-approved survey was drafted using Qualtrics Experience Management Software licensed by the University of Illinois Chicago (see appendix A). Quantitative data were gathered using multiple-choice questions, which were crafted by article coauthors to focus on catalog fields with enhanced cataloging potential. Where applicable, a Likert Scale was used to measure the level of agreement with statements provided as to how valuable participants perceived various parts of a bibliographic record. Qualitative data were elicited by providing participants with the opportunity to share comments and elaborate on answers. A pilot survey was distributed randomly in June 2020 to ten CARLI Counts mentors to respond and provide feedback. Responses were requested by July 2020. The authors also used the pilot study to test for internal consistency. Using Cronbach's alpha, inter-rater reliability of the pilot survey was deemed highly consistent, based on an alpha of .9135. The pilot study was amended to incorporate minor changes based on feedback from CARLI Counts mentors. The final survey was released in October of 2020 with a closing deadline of December 2020. The focus for distribution was on CARLI member institutions and other Illinois academic libraries. Participation in the survey was solicited at the November 13, 2020, CARLI Annual Meeting and highlighted in the November 20, 2020 *CARLI News*, an e-newsletter sent to all 129 CARLI member institutions. The survey was disseminated to several academic library discussion lists in Illinois, including the Illinois Association of College & Research Libraries (IACRL). The authors also shared the survey within their professional networks and institutions.

There were 171 eligible survey respondents. The data were extracted from Qualtrics and tested using ANOVA and t-tests to test for statistical significance. Qualitative responses were

reviewed individually by each of the authors to look for common trends, and observations were then further analyzed through discussion.

Data Analysis

The survey administered was designed to collect feedback from reference and/or instruction staff regarding the value of enhanced cataloging. Eligible respondents have experience providing reference and/or instructional services. By answering “yes” to the qualifying question, “Do you have experience in providing reference and/or instruction?” 171 respondents qualified and completed the survey. Among those, a little over half (52 percent) had cataloging experience. Most participants were professional librarians (89 percent) followed by paraprofessionals (10 percent), and one graduate student.

Quantitative Data Analysis

Table 1 lists the survey results for the question, “When selecting resources for a student, indicate the degree to which information in a catalog record is helpful.” The question was accompanied by a 4-point Likert Scale with assigned values: “0 = Not Useful at All,” “1= Somewhat Useful,” “2= Very Useful,” and “3= Essential.” Analysis of the feedback on selected fields of the catalog record revealed that the highest mean values were subject headings (2.60), summary/abstract (2.49), and table of contents (2.48) (see table 1).

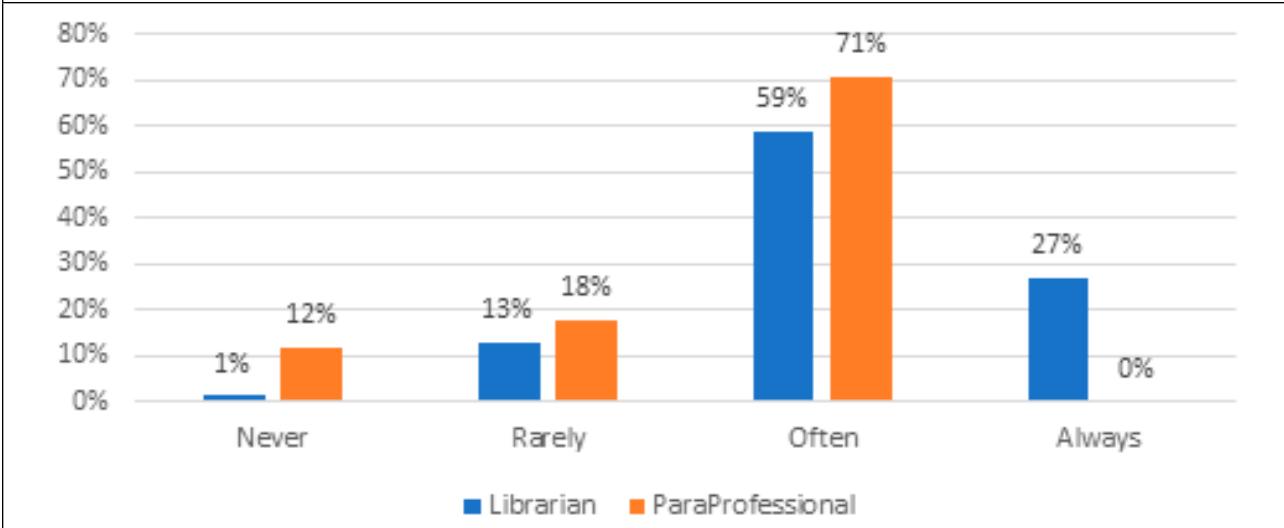
TABLE 1
Mean Values and Number of Responses for Perceived Usefulness of Selected Catalog Fields (Likert Scale 0–3)

	Mean of Perceived Usefulness	Number of Responses
Variant titles	1.51	166
Supplementary content	1.58	168
Summary/abstract	2.49	166
Notes	1.40	166
Table of contents	2.48	167
Local notes	0.97	166
Other authors	1.58	166
Accompanying material	1.53	165
Subject headings	2.60	167
Specific subject headings	1.96	166
Statement or responsibility for creation	1.37	166
Genre of resource	1.74	165
Genre form of resource	1.75	165
Related works	1.55	165

Summary/Abstract

Librarians and paraprofessionals showed high variability when responding to the question: “In determining the suitability of a resource for a student, how often do you review the summary/abstract within a catalog record?” (see figure 1). Data reveals that librarians utilize the summary/abstract more often than paraprofessionals when assisting users.

FIGURE 1
Perceived Value of Summary/Abstract within Catalog Record



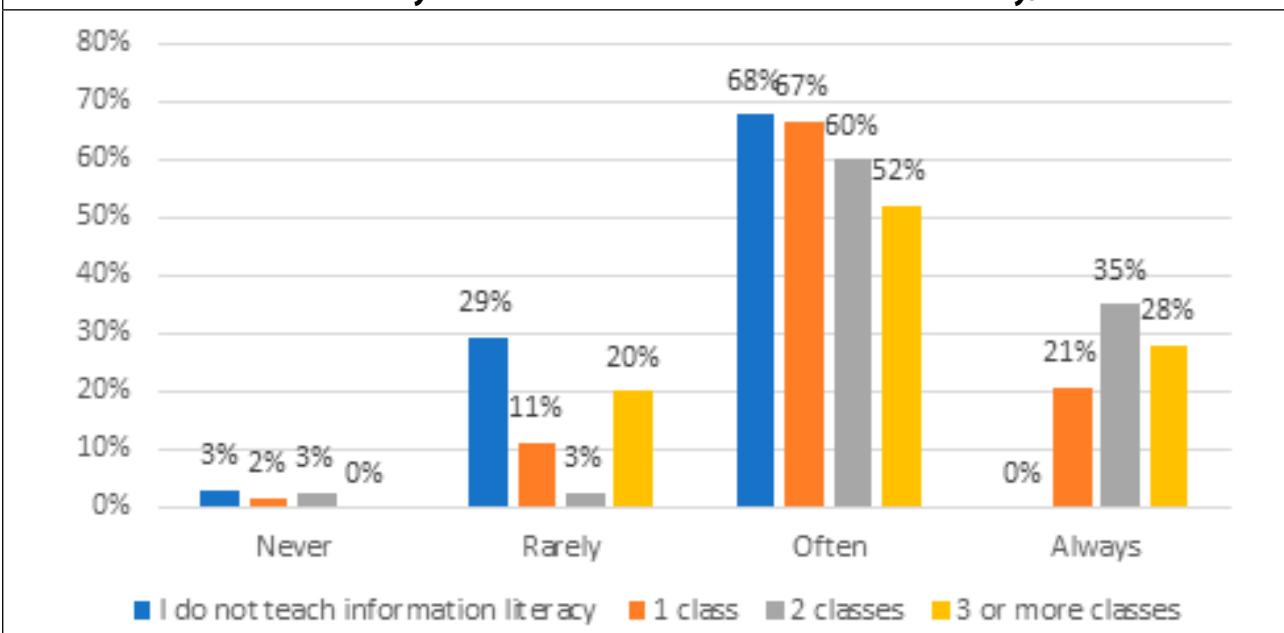
There is a statistically significant difference ($P=.003$, effect size= .756) in perception between professional librarians and paraprofessionals regarding the importance of the abstract/summary (see table 2).

TABLE 2
Responses (N) And Mean Value Of Librarians & Paraprofessionals Reporting Perceived Value Of Summary/Abstract Within Catalog Record

* $P=.003$. (Statistically Significant at an alpha of .05, Effect size=.756)

Group	Librarian	Paraprofessional
Mean	2.11	1.59
N	152	17

FIGURE 2
Information Literacy Sessions and Perceived Value of Summary/Abstract



For those teaching information literacy, there was also variability according to the number of sessions taught (see figure 2).

Among these library professionals, statistical significance ($P=.034$, effect size=.23) of perception toward abstract/summary was also identified regarding information literacy teaching load (see table 3). Data reveals that librarians with greater teaching load utilize an abstract/summary more frequently when assisting users (see table 3).

TABLE 3
Responses (N) And Mean Value Of Librarians & Paraprofessionals in Relation to
Information Literacy Teaching Load

* $P=.034$. (Statistically Significant at an alpha of .05, Effect size=.23)

Group	No Teach	1 class	2 classes	3 + classes
Mean	1.83	2.06	2.28	2.08
N	42	63	40	25

Table of Contents

On the contrary, the responses to the question, "In determining the suitability of a resource for a student, how often do you review the information contained in the table of contents of a catalog record (such as chapters, soundtrack titles, conference paper titles)?" no statistical differences in perceptions were observed between library professionals and paraprofessionals (see table 4) or teaching load (see table 5)

TABLE 4
Responses (N) And Mean Value Of Librarians & Paraprofessionals Reporting Perceived
Value of Table of Contents within Catalog Record

* $P=.100$. (No Statistical Significance)

Group	Librarian	Paraprofessional
Mean	1.89	1.59
N	151	17

TABLE 5
Responses (N) And Mean Value Of Librarians & Paraprofessionals In Relation To
Information Literacy Teaching Load

* $P=.680$. (No Statistical Significance)

Group	No Teach	1 class	2 classes	3 + classes
Mean	1.8	1.9	1.8	2
N	41	63	40	24

Although the table of contents and summary/abstract have very similar mean values in aggregate, when broken down by job classification there is no statistically significant difference in perception between professional librarians and paraprofessionals regarding the importance of the table of contents. No statistical significance was revealed by the survey responses for summary/abstract, nor for table of contents in relation to years of academic experiences.

Filtering & Faceting

Regarding the feedback from the question “How often do you use filtering/faceting or an advanced search to narrow down search results when helping a student?” the researchers found library professionals who have been in the field longer tend to use the filtering/faceting function more often than those new to the profession. However, the P value .078 is only slightly higher than the established alpha value of .05 and therefore is not statistically significant (see figure 3 and table 6).

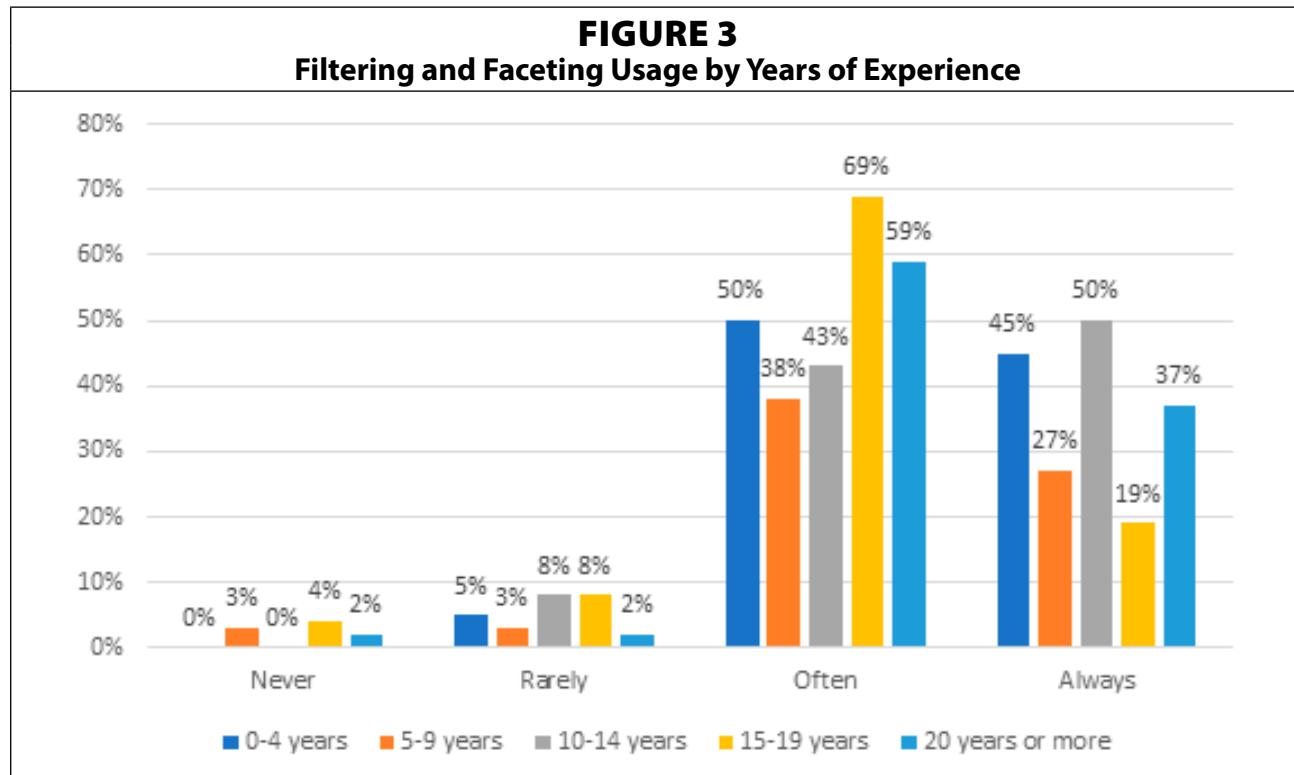
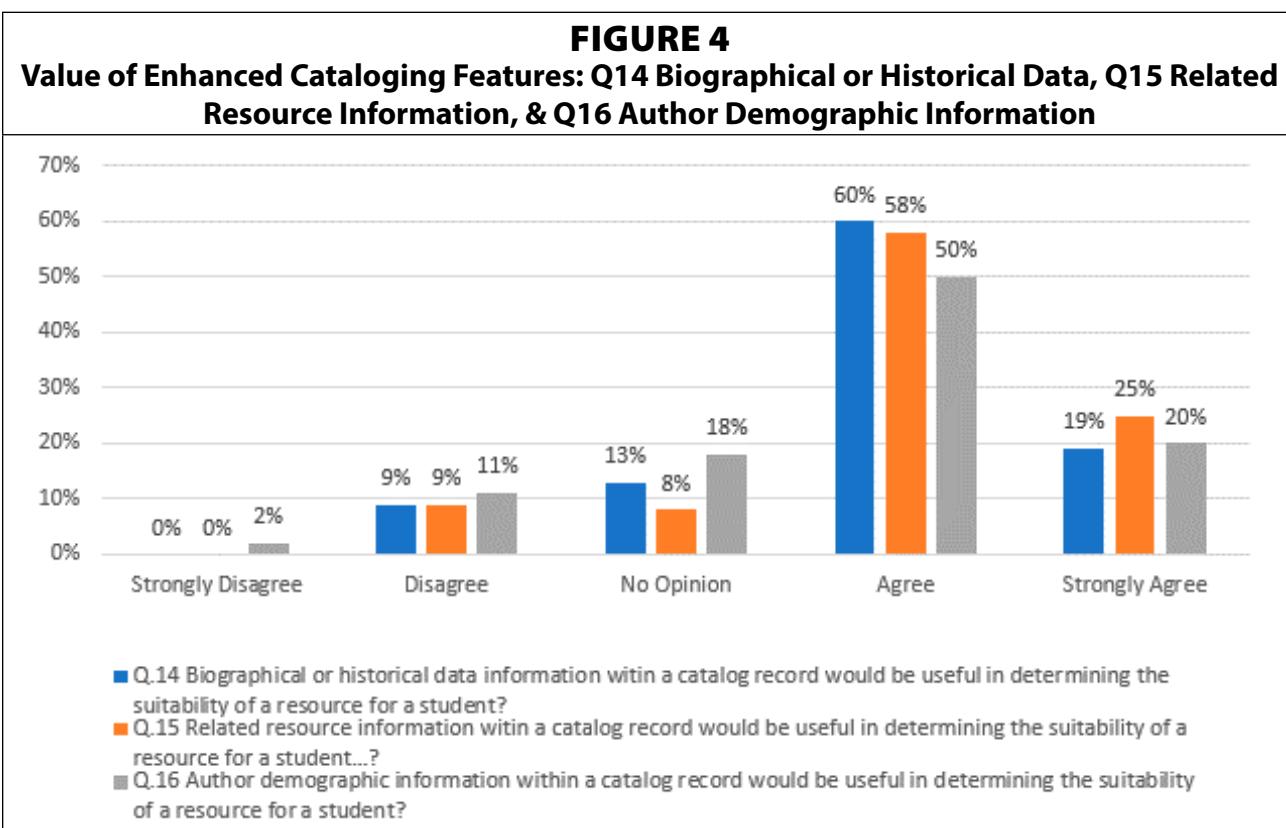


TABLE 6
Responses (N) and Mean Value of Years of Experience in Relation to Filtering/Faceting Usage
*P=.078 (No Statistical Significance)

Group	0-4 Years	5-9 Years	10-14 Years	15-19 Years	20+ Years
Mean	2.4	2.5	2.4	2	2.3
N	20	37	40	26	46

The way these fields are indexed in discovery layers could account for these differing perceptions in regard to the abstract/summary and the table of contents. Generally, the table of contents can be discovered with a title search, while the abstract/summary can only be retrieved by a keyword search. The effectiveness of the filtering/faceting also heavily depends on the design of the discovery system.

Feedback regarding specific cataloging fields was also collected from the survey, including biographical or historical data information (545 field), related resource information (76X-78X fields), and creator/contributor characteristics (386 field). In examining trends to include more creator/contributor demographic information in catalog records, most participants perceived this information as valuable (see figure 4).



Qualitative Data Analysis

From the survey results, respondents made valuable suggestions regarding cataloging enhancements. Some of these enhancements can be readily implemented by catalogers while others, such as the use of delimited content notes, are not yet operational due to limitations of discovery system local configurations. Others are simply beyond the scope of the catalog record.

Enhancement suggestions that can be implemented regularly include making sure catalog records include edition statements, which one study participant indicated as essential. In reference to table of contents, another participant stated that for “music materials this information is critical.” Respondents also stressed the importance of summaries/abstracts, age ranges, reading levels, and award winners for teacher education students.

There were a few cataloging enhancement suggestions that are challenging because of the constraints of out-of-the box discovery system configurations. Moving beyond the out-of-the-box configuration, a trained systems librarian is required to counter system limitations. Most bibliographic records contain publication information, which some respondents wanted as a searchable field. Such a field would have to be indexed by the discovery system to make it an access point.

Finally, some suggestions mirrored functionality seen in article databases or did not fall within the scope of the bibliographic record’s capability, such as the number of times a work is cited or the number of times an item is circulated. Other suggestions are not standard practice, such as having textbooks searchable by class name, but rather are addressed through localized system functionality. It was also suggested that there are implicit biases in the Library of Congress Subject Headings. Although subject heading bias is within the realm of the catalog record, it is beyond the scope of this article.

While some suggestions cannot be simply achieved by enhancing catalog records, they imply a greater need for communication. By communicating and closely collaborating with public services colleagues, catalogers can gain a greater understanding of what information is most valued and helpful. Through improving communication with discovery system vendors, technical services librarians can offer more effective suggestions and feedback on how to increase the usability of the information provided in catalog records. These collaborations will allow librarians and paraprofessionals to have a greater impact on student success.

Next Steps & Future Possibilities

Communication and Collaboration

Catalogers should first and foremost seek opportunities to communicate and collaborate with reference and instruction librarians. This dialog will provide technical services staff with meaningful insight into how public services colleagues use cataloging fields within a record to assist users with their research, further contributing to their institution's mission and goals. In addition, this dialog will also equip reference staff with a better understanding of what fields go into a "complete" record, as well as potential enhancements that improve metadata and access. Our survey results indicate there is a fundamental divide between what reference staff would like to see included in a record in order to support user queries, and what is actually feasible to include due to limitations with the library's discovery system. Intentional collaboration between cataloging and reference departments would allow for a more holistic understanding of the inherent limitations and possibilities for the catalog. Ultimately, this enables the library to better address user needs.

Collaboration between reference, instruction, and technical services departments should be tailored to the needs and capacity of the library and its staff. Based on our survey results, conversations with reference staff on the extent and limitations of catalog records may promote a more collaborative environment within the library. Interactive discussion could offer reference and technical services departments the opportunity to unpack specific examples of how the catalog is used locally. Ultimately, dialog between departments serves the goal of improving patron access to resources.

Communication and collaboration regarding cataloging fields should also include paraprofessional staff who, based on our survey results, indicate they use cataloging field enhancements differently. These conversations may improve their understanding of enhanced catalog records and aid cataloger's judgment in prioritizing cataloging fields for enhancement. Furthermore, conversations and research with students should be pursued to collect data identifying which enhanced cataloging fields they find useful when independently searching the catalog.

Cataloging, Training and Discovery

Library staff should never lose sight of a basic cataloging tenet—we catalog for our users. In addition to communication and collaboration with public services colleagues, it is imperative that catalogers keep abreast of updates in cataloging fields and emerging standards in cataloging practice. Since cataloging is an organic and iterative process, professional catalogers should be having ongoing conversations with all cataloging staff, guiding training within their institutions and working toward developing best practices that will optimize the discovery experience.

Changes in institutional cataloging practices may take time and effort to effectively implement. Enhancing the catalog record with additional indexed access points might serve as an interim solution for improved discovery. Being able to search by publisher information is valuable to library users and staff alike, and our survey respondents concur. However, due to publisher name variations in bibliographic records, concatenation of this search is difficult. In addition, publisher name changes are not always reflected in authority records, so an authorized access point in a record alone would not solve this problem. For example, when Westminster Press merged with John Knox Press, their name became John Knox Westminster Press, which is not reflected in the Library of Congress authority record. OCLC attempted to address this issue with the Publisher Name Server research project, which resulted in WorldCat Publisher Pages.¹⁴ This prototype allowed users to select a major publisher and then explore its publication history as represented in the WorldCat database. This prototype may be the closest solution to the creation of authority records that reflect these important relationships. Unfortunately, this prototype was decommissioned in June of 2012 because the process could not be automated. Additionally, the RDA overriding principle of “take what you see and accept what you get” does not lend itself to standardization of publisher names with a keyword search.

Cataloging for users also requires familiarity with the mapping profiles and limitations of the library system from back end to public user interface. How is cataloging data being displayed to the user? Are there additional fields from default settings that can be turned on to display fields that will provide enhanced information? Catalogers and public services librarians should actively participate in the development of the library system by recommending functional improvements to vendors and championing those system enhancements that result in enhanced cataloging fields indexed for discovery and display.

The library catalog today is not your grandmother’s catalog. It has evolved into a launch pad for reference, research, acquisitions, data collection, biographical and demographic information, links to related works—and the list goes on. Enhanced cataloging is a critical component in discoverability of our library resources and ultimately our student’s success. Our research has provided an increased awareness of the value of enhanced cataloging and the professional staff needed to achieve it.

Limitations and Further Research

Geographic location limited the scope of our research to libraries in Illinois, most of which are using the same library services platform. As CARLI member libraries collectively migrated to the platform in June 2020, most respondents were new users of the system.

To further explore the impact of cataloging on student success, we suggest further research to explore student perceptions through surveys, interviews, and focus groups. Ethnographic research may be particularly helpful in answering questions such as, How are students using catalog records? What fields are students using? Why do they select particular resources?

Acknowledgements

We would like to thank our CARLI colleagues for their participation in our survey. We also wish to thank CARLI staff for the training and support provided throughout the CARLI Counts Cohort 2 experience. Specifically, we are grateful to Lisa Janicke Hinchliffe and Anne Craig for providing feedback on the development of our survey and this article.

APPENDIX A—Survey Instrument

CARLI Counts TS Team Survey

Descriptive Information about the Survey Respondents

Q1 Do you have experience in providing reference and/or instructional services?

- Yes (1)
- No (respondents with this answer would leave the survey) (2)

Q2 Do you have cataloging experience?

- Yes (1)
- No (2)

Q3 What is the job classification of your position?

- Librarian (MLS/MLIS) (1)
- Paraprofessional (2)
- Graduate student worker (3)
- Student worker (4)

Q4 In a typical week during the academic semester, do your current library responsibilities include providing reference service or information literacy/instruction?

- Yes (1)
- No (respondents with this answer would leave the survey) (2)

Q5 In a typical week during the academic semester, how many hours are devoted to providing reference assistance, including desk, chat, phone, or by appointment?

- 0–4 hours (1)
- 5–10 hours (2)
- 11–14 hours (3)
- 15 or more hours (4)

Q6 In a typical week during the academic semester, how many information literacy/instruction classes do you teach, including in person and online?

- I do not teach information literacy/instruction classes (1)
- 1 class (2)
- 2 classes (3)
- 3 or more classes (4)

Q7 How long have you worked in an academic library?

- 0–4 years (1)
- 5–9 years (2)
- 10–14 years (3)
- 15–19 years (4)
- 20 years or more (5)

General Survey Questions

Q8 In determining the suitability of a resource for a student, how often do you review the summary/abstract within a catalog record?

- Never (1)
- Rarely (2)
- Often (3)
- Always (4)

If you would like to provide more information, please click and leave your comments below: (5) _____

Q9 *In determining the suitability of a resource for a student, how often do you review the information contained in the table of contents of a catalog record (such as chapters, soundtrack titles, conference paper titles)?*

Never (1)
 Rarely (2)
 Often (3)
 Always (4)
 If you would like to provide more information, please click and leave your comments below: (5) _____

Q10 *How often do you use filtering/faceting or an advanced search to narrow down search results when helping a student?*

Never (1)
 Rarely (2)
 Often (3)
 Always (4)
 If you would like to provide more information, please click and leave your comments below: (5) _____

Targeted Survey Questions

Q11 *When selecting resources for a student, indicate the degree to which information in a catalog record is helpful.*

	0=not useful at all (1)	1=somewhat useful (2)	2=very useful (3)	3=essential (4)
Variant titles (such as preferred/also known as, published in another country as, title on container) (1)				
Supplementary content (such as a bibliography, appendix, discography, filmography, index, etc.) (2)				
Summary/abstract (3)				
Notes (such as history of work, details of conference/symposium, closed-captioning, target audience, reading level, Braille, other language tracks, dissertation information, system requirements for playback/access, etc.) (4)				
Table of contents (such as chapters, soundtrack titles, conference paper titles) (5)				
Local notes (such as retention, part of a specific donation, signed by author) (6)				
Other authors (such as producers, directors, translators, narrators, cinematographers, costume designers, performers, actors, screenplay writers, musicians) (7)				

Accompanying material (such as reader discussion guides, answer keys, test banks, supplements, booklets, maps, designs/plans, model key guides, etc.) (8)				
Subject headings (such as Library of Congress, Library of Congress Children's) (9)				
Specific subject headings beyond Library of Congress (such as MeSH (National Library of Medicine) and subject headings in other languages) (10)				
Statement of responsibility for creation/ content with authors credentials & affiliations (11)				
Genre of resource (such as mystery, romance, detective, cookbooks, graphic novels, animated movies, western, sci-fi, etc.) (12)				
Genre Form of resource (such as large print, alphabet books, pop-up books, artists' books, etc.) (13)				
Related works (such as earlier, later, based on, translated from, contained in, etc.) (14)				

Q12 Is there information you would add to a cataloging record to help students determine if a resource is useful? If yes, what information would you include?

Future Cataloging Record Enhancement

Q13 Questions 14–16 address the concept that creating cataloging records often requires complex decisions in order to provide complete and rich detail, which enhances the users' ability for resource discovery. Cataloging is also an organic process, with national standards continuously updating new fields. The following are newer information fields that can now be added to cataloging records.

Q14 Would biographical or historical data information within a catalog record be useful in determining the suitability of a resource for a student? (MARC 545)

This is an example of the 545 field in a bibliographic record:

545 0 Randall Mason is Associate Professor of City and Regional Planning, former chair of the Graduate Program in Historic Preservation, and Senior Fellow of PennPraxis at the University of Pennsylvania's School of Design. Max Page is Professor of Architecture and History and Director of the Historic Preservation Program at the University of Massachusetts in Amherst.

- Strongly agree (1)
- Agree (2)
- Disagree (3)
- Strongly Disagree (4)
- No opinion (5)

Q15 Would related resource information within a catalog record be useful in determining the suitability of a resource for a student, especially if this information were hyperlinked? (MARC 76X-78X fields)

These are examples of 76x-78x fields in bibliographic records:

770 08 Supplement (work): Breslin, John. Banking law. First supplement to the third edition. Dublin, Ireland : Round Hall, Thomson Reuters, 2015.

773 08 Contained in: Austin, Alfred, 1835–1913. Poetry of the period. London: R. Bentley, 1870.
776 08 Online version: Garfinkel, Irwin. Feminization of poverty. Madison : University of Wisconsin—Madison, 1985.

- Strongly agree (1)
- Agree (2)
- Disagree (3)
- Strongly disagree (4)
- No opinion (5)

Q16 Would author demographic information within a catalog record be useful in determining the suitability of a resource for a student? (MARC 386 field)

This is an example of the 386 field in a bibliographic record:

245 00 Eyes of desire: a deaf gay & lesbian reader / Raymond Luczak, editor.

386 Deaf; Gays; Americans

386 Deaf gays

- Strongly agree (1)
- Agree (2)
- Disagree (3)
- Strongly disagree (4)
- No opinion (5)

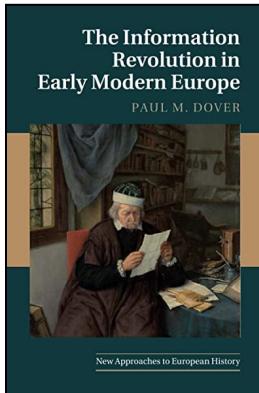
Q17 Is there anything else you would like to share with us in regard to enhanced cataloging information?

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12. Catherine Sassen, Kathryn Loafman, and Rebecca Welch, "Assessment of Cataloging Services in an Academic Library," *Technical Services Quarterly* 33, no. 1 (2016): 1–26, <https://doi.org/10.1080/07317131.2015.1093820>
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Paul M. Dover. *The Information Revolution in Early Modern Europe*. Cambridge: Cambridge University Press, 2021. 342p. Paperback, \$29.99 (ISBN: 978-1316602034).



Millions of documents and digital objects are searchable in online discovery tools and databases. It is no wonder that a common concern of researchers today—whether first-year undergraduates or seasoned professors—is information overload. Paul M. Dover, however, suggests that struggles searching for and keeping track of information are nothing new. In *The Information Revolution in Early Modern Europe*, Dover argues that early modern Europeans placed greater emphasis on information management in the face of increasing amounts of data, which were piling up in mounds of paper in both bureaucratic and personal settings. Instead of viewing the post-Gutenberg period as an “age of print,” Dover says that we should see it as an “age of paper” (5). He questions the binary between manuscript and print cultures and contends that paper was the driving motor of a new information revolution.

Dover divides his study into eight chapters. The first two are a reflection on paper as a material object and its informational functions. Paper—originally made from rags—was far cheaper than the traditional mediums of parchment and vellum. As paper mills expanded from the 1230s onward, paper became more widely available and thus transformed Europe into “a culture of paper” (40). Europeans, as a result, were not as concerned with writing things down, which placed them in a predicament that Dover calls one of the “paradoxes of paper” (39). They had greater liberty to record a wealth of information for everyday transactions and for future generations, but as they exercised their newfound freedom, they faced the daunting tasks of storage, sorting, and searching.

Chapters 3 and 4 look at the role paper played in the rise of capitalism and the expansion of the early modern state. Merchants and monarchs generated paper trails of letters and other documents in their everyday affairs, making writing both a commercial and political activity. As the biggest consumers of paper, businesses and governments became information managers and, subsequently, produced paper tools like notebooks, registers, inventories, and indexes to administer their expanding archives. Dover claims that paper technologies created “virtual courts” and communities across Europe and around the world. Indeed, without paper European companies and empires would not have been able to maintain the same levels of communication and control across such vast distances.

The fifth chapter is yet another corrective to Elizabeth Eisenstein’s printing revolution. Manuscript book production had already been increasing in the late medieval period thanks to the availability of paper, and print should not be conflated with books. Dover recognizes that there was a “quantitative revolution” (152) given the major increase in the number and variety of books post-Gutenberg, but he provides a crucial reminder that printers produced a wide range of loose sheets for a diversity of purposes, indulgences being one important example. Print also led to more manuscripts as early modern scholars jotted down notes, copied printed

texts, and still purchased manuscript “publications.” Dover rightly describes the early modern period as a “new age of manuscript” instead of simply as an “age of print” (181).

Chapters 6 and 7 look at how increasing levels of paper contributed to changing views of the natural world and of the self. Naturalists’ combination of observation, description, and reading generated a range of note-taking techniques—loose-leaf manuscript reading notes, paper notebooks, and commonplace books—designed to augment the memory. Men and women across various social classes and professions exchanged letters and began to produce what Jacques Presser has called ego-documents, things like diaries, travel narratives, spiritual reflections, and family books. In scientific and domestic spheres, then, Europeans had a “preservative instinct” (242) that transformed them into managers of information. For this reason, Dover favours an information revolution over a scientific one and sees increasing levels of correspondence as an epistolary revolution.

No book can possibly cover everything about paper in early modern Europe, but Dover glosses over two important areas worth highlighting. Throughout his book, writing and managing information is primarily an urban affair. Beyond one brief reference to the Tuscan peasant Benedetto (243), most Europeans, who were illiterate and would not have had mounds of papers in their homes, are largely absent from his discussion. Dover understands the complementary relationship between textuality and orality and notes how notaries connected the illiterate to written culture, but he fails to explain in detail the roles peasants (who are absent from the index) participated in the information revolution and how they were influenced by it.

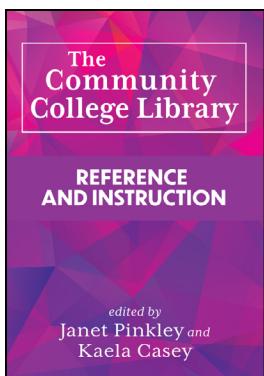
Dover also fails to adequately address the relationship between information management and empire building. He draws on a few examples from the Spanish empire, but he overlooks what I would call—drawing on the work of Walter Mignolo—the “darker side” of paper. European forms of paper expanded as European empires fanned across the globe and destroyed alternative forms of record keeping among various Indigenous communities. In their place, European missionaries, churchmen, and colonial officials jotted down notes and published a wide range of observations about local cultures that in several cases were only available in Europe.

The Information Revolution in Early Modern Europe is a helpful synthesis of many of the changes that took place in the information landscape of early modern Europe. Scholars of the early modern period, information science, and printing will need to read this book. Undergraduate and graduate students will appreciate Dover’s connections between the past and the present as digital technologies have made “archivists and information managers out of us all” (283). — Jason Dyck, University of Western Ontario

Community College Library: Reference and Instruction. Janet Pinkley and Kaela Casey, eds.

Chicago, IL: Association of College and Research Libraries, a division of the American Library Association, 2022. 317 p. Softcover, \$98.00. (\$88.20 ALA members) (ISBN: 978-0-8389-3768-6).

The Community College Library: Reference and Instruction is the next in a series of collected works aimed at increasing research and scholarly writing specific to community college libraries. Along with another recently released collection on assessment, *CCL: Reference and Instruction* highlights a wide range of teaching strategies, outreach efforts, critical looks at practice in the community college, and partnership opportunities. Each of the twenty-four chapters is relatively short and infused with both informal anecdotes and ties to the greater body of in-



formation literacy research. In many ways, this mix of academic insight and informal creativity embodies community college librarianship itself.

A discussion of the community college environment is a common theme in the first few chapters. The lack of research done by community college librarians is in stark contrast to the number of community college students in the United States. Research and publication are often not high on the list of community college librarians' responsibilities, and even when they are, most community college librarians simply do not have the time to conduct research and publish their findings due to chronic understaffing and other responsibilities. Meanwhile, community college

librarians serve roughly one-third of all college students in the United States, and their voices are a critical component of the academic library conversation. Due to the lack of time and focus on publishing research, they often go unheard in the academic landscape.

Another thread throughout the chapters is description and analysis of the complex lives of community college students and how that lived experience can be incorporated into reference and instruction work. This work is perhaps the most valuable contribution found in this collection: community college librarians have found incredibly creative ways to engage students in research while acknowledging their lived experiences as first generation, non-traditional, undocumented, or homeless, just to list a few of the many aspects of community college students' lives. In one chapter, the authors note that 40 percent of their college's student body is under the age of eighteen. In another, the authors state that 65 percent of their student body is part-time. In a third, a community college with 10,000 students and eight locations has some campuses with no library or no full-time librarian. It is not uncommon to hear a community college student say that they have never written a research paper before. The role of community college librarians is critical in closing the knowledge gap and preparing students to transfer and continue their academic journey. In each of these chapters, authors find creative solutions to meet the needs of their unique situations. Stepping back and taking in the volume as a whole, any reader will see how challenging the work of community college librarians is and how valuable their roles are in supporting many of our country's most vulnerable students.

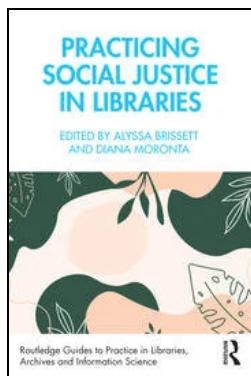
The collection also offers commentary on the ACRL Framework for Information Literacy. Starting with a chapter analyzing the familiarity of the Framework to community college librarians, the collection addresses the ways librarians make the Framework function for their students. Several articles center on practical activities or tools to help students connect Framework concepts to actual research projects. The subtext of these articles is the chronic underpreparedness of many community college students, another reality referenced throughout the collection. Several chapters detail community college librarians' partnerships with faculty in credit-bearing courses. Librarian-taught, credit-bearing information literacy courses are also discussed as a way to ensure that students attain these critical skills. Authors at multiple institutions note the political and bureaucratic challenges in creating and gaining approval for these courses.

This volume comes at an interesting time in history. So much has happened between when the book was finished and when it was published. One chapter details the need for critical thinking when evaluating medical information, but immediately predates the COVID pandemic. That article later goes on to discuss the authority of Dr. Oz as a medical resource without the foresight that he would later run for office. The authors do note that the pandemic

hit in the early stages of the project, but perhaps a revision of some of the chapters that directly relate to current events would have been beneficial.

In many cases the content of this volume is as much aspirational as it is informational. This is not unexpected. Community college libraries are understaffed and lack resources such as robust institutional research offices. The brevity of many of the chapters is an asset to those looking for quick reads with tangible takeaways, though a research agenda/call to action concluding summary would have been appreciated. One only hopes that the title of the volume does not prevent academic librarians at four-year colleges and universities from also reading it: they too can benefit from a better understanding of this critical component of higher education, and perhaps that will lead to more partnership opportunities between two- and four-year academic librarians. — *Jaime Hammond, Naugatuck Valley Community College*

Practicing Social Justice in Libraries. Alyssa Brissett and Diana Moronta, eds. New York: Routledge, 2022. 155 p. Paper, \$39.95 (978-0-367-76490-6).



The editors articulate the following guiding questions for this collection: What does diversity work look like in librarianship? How are librarians implementing social justice elements into their daily work? How are librarians protesting and resisting in their everyday work? While in some chapters I may have longed for a little more theoretical grounding or a clearer awareness of how these chapters connect with existing literature, these guiding questions provide a clear through-line for the collection as a whole. This book is made for those seeking practical yet challenging approaches to incorporating social justice into library work.

I am a white, settler-descendent, disabled, queer/trans/non-binary librarian working in the ancestral homelands of the Dakota people. I want to acknowledge that these identities shaped my perspective as I read these chapters.

The collection opens with three Black librarians who work in predominantly white institutions sharing their observations about institutional responses to anti-Black racism and their survival strategies as they advocate for social change at their institutions ("Black Librarianship in the Times of Racial Unrest"). One of the themes from that chapter carries over to chapter 2: the importance of having BIPOC¹-centered programs and networks to support those doing much of the heavy lifting to move conversations about social justice forward. A standout observation from this chapter references one of the presentations from the conference the librarians organized, in which archivist Joyce Gabiola argues that diversity research is "a panopticon to surveil POC, and diversity initiatives were institutional devices to control POC and protect whiteness" (22). Observations like this challenge dominant narratives about social justice research and practice, and exemplify the important work contained in this collection.

Other authors discuss how to incorporate social justice into library programming ("Information Is a Two-Way Street" and "Bringing Diverse Library Exhibitions and Events to Life"), and how to incorporate sustainability into building design and student learning ("Environmental Equity for Students in the Library and LEED² Buildings"). This last chapter would have benefited from more focus on sustainability conversations happening in the library profession. I truly could not tell if the authors were unaware of library sustainability movements and scholarship, or if they were deliberately not discussing them. (Is library sustainability culture a social justice nightmare and better left unmentioned? I don't know! But now I'm very curious.)

Some standout chapters that I've already brought to the attention of colleagues include "LibGuides for Social Justice" and "Weaving the Longhouse 'Four Rs' in LibGuides." Both chapters are beautifully contextualized in relation to their respective community needs and the responsibilities that come with sharing information—including knowing what cultural information is appropriate to make public.

Another standout chapter is the brilliantly titled "Adhocking It: Overcoming the Overwhelm to Start Creating Equitable and Inclusive Collections Now." The authors discuss their process: identifying the need to change collection practices to better incorporate "voices traditionally marginalized, or altogether excluded, from academic scholarship" (100); articulating why it matters; and acknowledging how overwhelming it can feel to try to fix something with hundreds of years of historical momentum, especially when libraries' data management tools were not designed for this purpose. Reading about how they worked through the challenges to develop more inclusive collections, and how by doing this work they were able to build more humanizing relationships with students, was very motivating.

I was also moved by the critical reflections contained in "Creating EDI Internships within the Academic Library." The internships in question served as paid opportunities for undergraduate students to learn skills that would support their own personal or professional goals while doing library EDI³ work under the supervision of a librarian. However, such a position has potential pitfalls. As intern Atmaza Chattopadhyay notes, students who are passionate about social justice but who have had prior negative experiences with this sort of position when they were "framed around EDI [but] only served to further the capitalist interests of the organization," may be hesitant to apply for fear that they and their work will be mere tokens (125).

Due to my personal and professional interest in disability studies, I was very excited to read "Creating More Possibilities," which uses adrienne maree brown's work on emergent strategy to critique individualistic rhetoric around self-care. As several authors in this collection note, including those in the final chapter on "Diversity Fatigue," social justice work can be traumatizing and exhausting for those who undertake it. This is due not only to being marginalized persons trying to survive in a racist, cis-sexist, ableist working environment but also to being repeatedly called onto participate in or even lead emotionally heavy diversity committees because of those identities.⁴ Emergent strategy helps us envision possibilities grounded in interdependence and decentralization of responsibility. By approaching diversity fatigue from a systemic lens, we can better see the possibilities that come from a community of care. This sentiment is echoed in the concluding chapter: "It is in a shared accountability that the emotional labor that is often affiliated with DEI efforts may move beyond the diversity fatigue experienced by a minority population to that of a collective, equally divided experience" (151). — *Jessica Schomberg, Minnesota State University-Mankato*

Notes

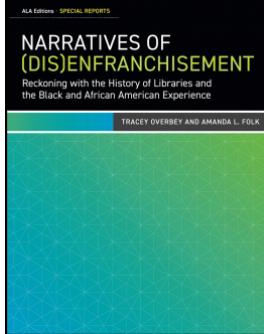
1. The expanded form of this abbreviation provided by the authors is Black, Indigenous, People of Color
2. Leadership in Energy & Environmental Design

3. This acronym and its expanded version are inconsistent across chapters but mean essentially the same thing: Equity, Diversity and Inclusion (EDI) and Diversity, Equity and Inclusion (DEI).

4. The combination of chapter two and the final two chapters helped me to see connections between the fatigue and trauma caused by doing disability work and Jasbir Puar's writing on debility (creating endemic disability through a process of slowly wearing out targeted populations). It was a very exciting spark of realization!

Narratives of (Dis)Enfranchisement: Reckoning with the History of Libraries and the Black and African American Experience. Tracey Overbey and Amanda L. Folk. Chicago: ALA Edition, 2022, 88p. Paper, \$24.99 (\$22.49 ALA members) ISBN: 978-0-8389-3737-2.

Narratives of (Dis)Engagement: Exploring Black and African American Students' Experiences in Libraries. Amanda L. Folk and Tracey Overbey Chicago: ALA Edition, 2022, 80p. Paper, \$24.99 (\$22.49 ALA members) ISBN: 978-0-8389-4886-6

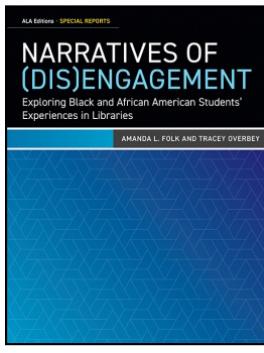


ALA Editions features two special reports written by Tracey Overbey and Amanda L. Folk. Studies such as these help to fill knowledge gaps in the academic literature and center the narratives of Black and African American experiences in American libraries and various learning spaces from K-12 to higher education. The authors have stimulated a meaningful dialogue that is, quite frankly, long overdue in addressing several critical issues within the LIS profession. Both reports speak to topics such as systemic racism and white supremacy, confronting whiteness in American libraries, and instilling and promoting antiracist principles and values within our work environments. This review examines both of Overbey and Folk's reports, and supplies the reader with pertinent information and valuable resources for further consideration and exploration.

In the introduction to *Narratives of (Dis)Enfranchisement*, the authors explain the purpose of the publication. They acknowledge that they do not aim to provide a comprehensive nor authoritative account but a means to help the library community reckon with its racist past to achieve a more equitable and antiracist future. Chapter 1 includes sections on the overwhelming whiteness of librarianship in the United

States, confronting whiteness in libraries, race, and racism within the United States, concluding with a summary of what lies ahead. The second chapter provides historical context regarding the African roots of education and librarianship. Overbey and Folk explain that African and African Americans' contributions to libraries and education have been largely ignored and rarely taught. Moreover, chapter 3 discusses how Black and African Americans have been denied access to public libraries or have been provided separate and unequal resources and facilities. This history illustrates that these public spaces have not always been free and open to everyone. School libraries, educational disparities, and segregation are the focus of chapter 4. Chapter 5 covers academic libraries and the historical exclusion of Black and African Americans within institutions of higher learning. Using critical race theory and theories of whiteness, chapter 6 examines how racialized experiences in libraries contribute to discrimination and marginalization. A discussion of librarians' involvement in equity-minded, race-centered assessment, evaluation, and research concludes the report.

The second report, *Narratives of (Dis)Engagement*, differs from *Narratives of (Dis)Enfranchisement* because it focuses on Folk and Overbey's research, which examines Black and African American students' library experiences before entering college and while attending the Ohio State University. Chapter 1 introduces the authors, discusses race and the LIS profession, and provides an overview of the research described in greater detail in chapter 2. The second chapter includes detailed information about the study, its participants, research methods, and

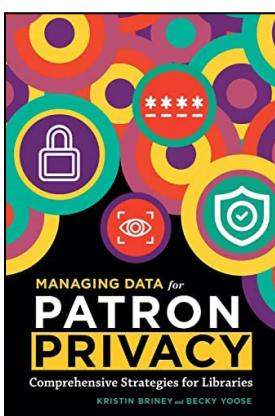


the data collection and analysis process. Chapters 3 and 4 explores the study participants' experiences with public and school libraries.

Chapter 5 looks at how Black and African American students in this study used the Ohio State University Libraries. Chapter 6 explores the role of race and whiteness in students' library experiences from a critical race theory and whiteness theories lens. Furthermore, chapter 7 discusses the research findings, antiracist practices to support white librarians, and resources in different formats to continue the learning journey. Folk and Overbey's research provides LIS professionals with tools and resources to enhance equity-centered work. I highly recommend both reports. I also strongly recommend that this research be included as a part of the LIS curriculum to educate the next generation of librarians, and that it be used as a professional development resource for current librarians and administrators. These reports offer the LIS community an opportunity to engage in thoughtful conversations about the state of our profession and to learn from the experiences of Black and African American library users, who have been historically excluded from our institutions, and often underserved.

— Jamillah Scott-Branch, Georgetown University Qatar

Managing Data for Patron Privacy: Comprehensive Strategies for Libraries. Kristin Briney and Becky Yoose. Chicago, IL: ALA Editions, 2022. 176p. Paper, \$69.99 (\$62.99 ALA members) ISBN: 978-0-8389-3828-7.



Not long before I sat down to write this review, Baker & Taylor, a leading content distributor to academic, public, and school libraries, fell victim to a ransomware attack. Though Baker & Taylor remedied the issue within weeks, the incident left those using the service at a standstill. The attack left Baker & Taylor's clients fearful of interacting with the distributor online and unsure if any customer data was compromised. With security breaches seemingly becoming more commonplace, Kristin Briney and Becky Yoose's *Managing Data for Patron Privacy: Comprehensive Strategies for Libraries* arrives at an all-too-important moment to inform library workers of their role in handling patron data. This extensive how-to guide, which spans ten chapters, explores relevant themes impacting library patrons, including the overall security of data, current risks in various library settings, and a given library's current patron data management process.

Rooted in their work in consultancy for research data management and extensive experience in library data in various library settings, Briney and Yoose signal to readers not only a sense of urgency but passion for discussing this critical topic.

Chapter 1, "The Value of Data and Privacy," discusses the idea that "data has value" and often goes undersecured. Though data collection has seemingly become second nature to library workers, data management's role is rarely scrutinized. The authors convincingly argue that librarians' lackluster approach to data management costs patrons their integrity, stating, "When data is breached or leaked, patron privacy is lost" (5).

Before diving into the text, the authors introduce readers to two librarians—one a systems librarian at a public library, the other a science librarian at a university—whose engagement with data makes the claims of the book concrete for readers. Following these librarians throughout this book is a delight as we see their decision-making process based on what was currently happening in their respective libraries and how past practices in data management

lead to their decisions. As a former public librarian now in an academic setting, I see the value in including multiple perspectives as examples mentioned throughout the text apply to different library settings.

In chapter 2, “The Data Landscape,” readers are introduced to various pressures that shape the field’s commitments to library patron privacy. Briney and Yoose give examples of federal regulations, many of which have become well known among library workers, including the Freedom of Information Act. Adding these legislative pieces and others will be particularly helpful for those new to working in libraries.

Chapter 3, “Data Inventory,” considers the components of conducting a successful library data inventory. I found this chapter to be incredibly instructive. It includes clear and feasible suggestions for getting started, such as identifying stakeholders, “key people who have knowledge of the relevant data practices (32),” and determining the elements of a data inventory (including the purpose of the data being collected, how long it should be kept, and those who have access to it).

The following chapter on risk assessment makes it clear that not all risk is equal. Though the authors include explanations of threats that are deemed malicious or technical, I especially appreciate Briney and Yoose’s addition of threats that mount over time, arguing that “as data sets grow, there is an increased risk of re-identification and broader damage should a data breach occur. Data growth is not risky in and of itself. Rather, data growth increases other risks” (51).

The authors discuss policy implementation in chapter 5. I can’t be the only one who cringes when the time comes to write effective policy, and this aversion must be why Briney and Yoose include tables throughout that help the reader envision what might be included in institutional policies regarding a library patron confidentiality policy, keeping topics in mind to incorporate in each. In chapter 6, the authors revisit the librarians from the initial case study. The public librarian has created an encrypted drive to store and share patron data from an integrated library system. In contrast, the academic librarian works with library IT and a systems librarian to secure a work laptop and encrypt a USB to move files securely. I found these librarians’ experiences incredibly relatable.

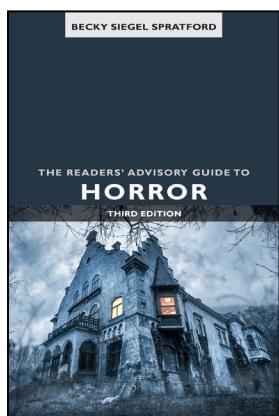
In the remaining chapters, the authors explore data practices after implementing strong policies. Chapter 7 discusses strategies for handling data *after* a contract with a vendor is not renewed, including that “the vendor should provide confirmation to the library that the deletions were successful” (115). Chapter 8 takes on library assessment and forces readers to think critically about how their assessment aims to minimize harm to minority communities. The authors argue that “...when considering assessment on minoritized groups, it is better to bring impacted groups into the discussion early...” (125). In a predominantly white profession, this is a necessary addition that often goes unacknowledged in the LIS.

In chapter 9, the authors discuss particular privacy training areas for library workers to focus on, ranging from responding to data requests from law enforcement to handling incidents of data breaches. Not to be overlooked, Briney and Yoose give a nod to the well-known Library Freedom Project (LFP) and its Library Freedom Institute. The inclusion of LFP is intentional, acting as an excellent introduction to library workers and LIS students who may be interested in exploring privacy issues in libraries.

The authors conclude by urging readers to remain diligent in their work advocating for patron data privacy, with acknowledgment given to groups and networks available for support and resources.

Kristin Briney and Becky Yoose have written an essential book that serves as a call to action, urging library workers to think critically about what we deem “patron data” and *how* and *why* we as library workers manage patron data. Though not required, reading this book in chapter order was extremely helpful. The fact that it can act as a “go-to-this-chapter-to-learn-X” guide allows readers to peruse the topics they are most interested in. If you seek a book that challenges your idea of patron data and *your* position in managing it while offering real-world, applicable examples as a guide, *Managing Data for Patron Privacy: Comprehensive Strategies for Libraries* is a must read. — *Jasmine Shumaker, University of Maryland, Baltimore County*

Siegel Spratford, Becky. (2021) *The Readers' Advisory Guide to Horror, Third Edition*. Chicago: ALA Editions, 2021, 182 p. \$64.99 (\$58.49 ALA members) ISBN: 978-0-8389-4876-7.



Becky Siegel Spratford's third revised edition of *The Readers' Advisory Guide to Horror* is part of ALA Publishing's Readers' Advisory Series, which introduces librarians to various genres and associated media such as graphic novels, audiobooks, and more, to provide library users with horror genre resources. While the audience would be mostly public librarians, academic librarians may find this useful for several reasons. For instance, horror has academic value, and librarians who have a basis for recommending titles or horror subgenres such as gothic horror will help enhance student and faculty experience in their university libraries.

According to the author, there was a need for this third edition because “Horror has seen an explosion in the mainstream popularity” (ix), citing *The Walking Dead* television series, New York Times bestsellers who were not Stephen King, and other examples. Emerging authors who have written some groundbreaking horror in the last decade were of course not included in the previous edition, so the third edition is a valuable update.

The book is divided into three parts: a discussion of the horror genre, annotated lists of the most common or popular horror subgenres, and tips for libraries to grow and showcase their collection.

In her first chapter, “The Lure of the Dark Side,” Spratford covers the basics, such as defining horror, discussing the appeal of the genre, and preparing the reader for the contents of a book. Using Joyce Saricks' framework for readers' advisory, Spratford outlines the appeal of horror including tone and mood, characters, pacing, language and style, plot, and frame and setting, as well as horror themes. She also frames the chapter as a “cheat sheet” to help library workers “get into their heads and think in their terrorizing terms” (13). The second chapter covers a brief history of 21st-century horror from the Gothic novel to the present. Spratford goes well beyond the cis het white authors who still dominate the genre. In fact, she names and discusses the four “New Heads of Horror”: Stephen Graham Jones, Victor LaValle, Carmen Maria Machado, and Paul Tremblay (20). She includes the “Old Guard,” Tananarive Due, Christopher Golden, Brian Keene, and Caitlín R. Kiernan, who are established writers as well as advocates for the genre (25). Included in this chapter are a Top 20 of the 2010s, horror trends, and more.

Chapter 3, “Helping Your Scariest Readers,” eases the library worker into the RA conversation with horror-loving patrons. Spratford includes talking points, questions, and answers to help the library worker and patron engaged in the hunt for their next read.

Part 2 contains Spratford's brief introductions of subgenres and annotated lists of titles published since 2000, including ghosts and haunted houses, vampires, zombies, witches and the occult, monsters, killer flora and fauna, demonic and Satanic possession, psychological horror, cosmic horror, and body horror. She also provides a chapter on "horror adjacent" subgenres like suspense and dark fantasy, as well as horror in other formats including audiobooks, podcasts, graphic novels, and more. In part 3, Spratford offers advice on collection development, outreach, and promotion of the horror collection and horror programming beyond the month of October.

While this third edition includes plenty of valuable information, I do find her definition of horror rather rigid. Spratford focuses her definition on stories where "the author manipulates the reader's emotions by introducing situations in which unexplainable phenomena and unearthly creatures threaten the protagonists and provoke terror in the reader" (3). Very human monsters can be just as frightening, if not more, than a shambling horror. In chapter 2 she suggests that folk horror "fizzled a bit" (32), failing to draw a broad readership. With existing publications on folk horror, such as *We Don't Go Back: A Watcher's Guide to Folk Horror* (2018), *A Walk in a Darker Wood* (2020), *The Mammoth Book of Folk Horror* (2021), *The Fiend in the Furrows* (2018), and the release of the documentary *Woodlands Dark and Days Bewitched: A History of Folk Horror* (2022), it can be argued that interest in folk horror has only grown in recent years. But these are small concerns.

Overall, Spratford provides a valuable resource for library workers in this guide through terror that she keeps up to date on her website, [RA for All: Horror](#). I highly recommend this book for those who need an introduction to horror as well as those who are familiar with the genre and strive to advise on the growing number of diverse authors. Academic librarians who need genre related works for their students and faculty, selectors for fiction and popular reading collections, and crave a way to highlight unique collections in a university or college library would benefit greatly from *The Readers' Advisory Guide to Horror, Third Edition*. — Lizzy Walker, Wichita State University