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Guest Editorial

The Role of Academic Libraries in the Shifting Landscape of Zines

Evan Bobrow

What is a Zine?

In my workshops, I always start by asking this question. The students are often apprehensive and unsure, worried about saying the wrong thing. Some will say they have no idea; others will tentatively describe a folded pamphlet. In general, they tend to focus more on zines as objects, rather than the culture that surrounds them.

By contrast, when you ask a zinester[1] to describe the medium, they are likely to respond with "it's whatever you want! As long as you're making it yourself." When pressed they might talk about photocopying, saddle-stitched staplers, folded mini-zines, etcetera—but stress that this isn't what it's about. It's about sharing information, self-expression, and building community. Stephen Duncombe writes that when asked for a definition, his "initial, and probably correct, impulse is to hand over a stack of zines and let the person asking the question decide, for this is how they were introduced to me" (Duncombe, 2008, p. 6). However, as I've continued to teach teens and young adults, it has become clear that few people are being exposed to zines through this method.

In a recent workshop when asked "what are zines?" a student answered that they're "like a real-life version of an Instagram carousel post." Comments like this are not new. In the article "Zines Are Not Blogs," zine librarian and researcher Jenna Freedman responds to similar comparisons, expressing some frustration that explaining zines was often met with "You mean like a blog?" (Freedman, 2005). These questions are emblematic of the cultural shift surrounding zines and book arts in general. Digital imitations of printed media have become the point of reference for many people, rather than the original physical inspiration. Beyond conflating digital and physical structures, more recently the curated nature of social media content tends to hide the messy fringes of zine culture. Zines have become less scribbled manifestos and more glossy, professionally printed periodicals, both online and at in-person zine fests (McDermott, 2018). There is nothing inherently wrong with this, reference points and general trends naturally shift because of evolving technologies. However, the modern landscape of zines and resulting perspectives color a patron's impression of a library zine collection. For some this may be their first opportunity to get their hands on the "scrappy pile of pamphlets" Duncombe describes. How can we make that experience powerful? What collection practices do justice to the rich history of zines, the artists who make them, and the people who read them?

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* *Evan Bobrow is Owner/Operator of Rathaus Press, email: evan@rathaus.press.*

Zines as a Radical Act: Then and Now

Zines are a medium that grew out of a need to speak and be heard. While the first works to use the name "zine" were science fiction fanzines of the 1930s, the self-publishing revolution was kicked into high gear with the widespread adoption of photocopiers in the 1970s and 80s (Joseph & Sawyer, 2023). With the means of production in the hands of the people, it became possible to not just speak your mind but shout it to whoever would listen. Zines acted as way to share information and perspectives that mainstream culture was either uninterested in or unwilling to acknowledge. For those on the fringes of society, zines were a safe space to be themselves. Zinester, design professor, and activist Tad Hirsch writes: "While zines can be self-important, pretentious, and, well, dull, they can also be thought-provoking, emotionally fulfilling, and response-generating. They can lead to a community of creative, intelligent people in open discussion, without the intervention of commercialism or any real institutionalism" (Duncombe, 2008, p. 206). In the 1970s-90s, zines were radical because of their content: their countercultural ideals, rejection of authority, and often explicit nature. And while this is still true of modern zines, the option to post these same ideas on the internet recontextualizes the choice to print them on paper.

The internet took the spirit of zines, that "anyone with anything to say can say it to anyone in the world" and made it an accessible reality (Bleyer, 2004, p. 55). The same information could be shared in a folded mini-zine or on personal homepage, but the latter can be accessed by anyone regardless of location, on the same machine where you can read international news. In this way, the blank URL bar has proven to be the "great cultural equalizer" (Bleyer, 2004, p. 57). Twenty-one years since these quotes were published, the rise of social media amplified this phenomenon beyond expectation. Quantifiably social media platforms are a more effective means of communication than passing out your stapled booklets—and yet, people still make zines.

In the first edition of *Notes from Underground*, Duncombe offered that the future of the medium could be summarized in "one word: computers." He predicted that while they wouldn't become completely obsolete, that "zines on the internet are the likely successor to paper" (1997, p. 197). In the new afterword "Do Zines Still Matter?" included in the second edition, he reconsiders this prediction, arguing that while the choice to print physical zines is in some ways a nostalgic one, that zines have always been about more than their content (2008). The internet has made it easier to access zines, and while digital zine archives can be incredibly valuable[2], these facsimiles cannot replace the experience of holding a zine in your hand. There is a level of intimacy that cannot be replicated online, an almost mystical sensation of closeness (Piepmeier, 2008; Watson & Bennett, 2021; Kauffman, 2018). A zine reader interviewed by Watson and Bennett addresses this, saying: "I don't think I've ever read a full zine digitally, and I'm not sure that I ever will... I think digital sharing of zines is a really great way to get zines to more people… [but] I don't feel that zines work in the same way digitally as they do in printed form, but it is something as a reader that I definitely feel quite strongly that I can't get the same experience from reading a zine on a screen that I can in printed form" (2021, p. 13).

This idea is vital to understanding why, despite everything, people make the conscious choice to put their work on paper. In this age where you can publish whatever you want in an instant for the world to see, the decision to make a physical zine becomes a radical act. It is a call for connection, it satisfies an urge for thoughts to be made tangible. This has never

been more relevant than in the present moment, when users are complaining that Instagram, Facebook, and X (formally Twitter) have devolved into AI, far right political extremism, and horrific news stories. Policies such as allowing artists' work to be scraped to train generative AI, or most recently Meta ending third-party fact checking, has resulted in many artists leaving these platforms. Some have headed to alternative platforms like Bluesky, while others question returning to social media at all (Tenbarge, 2025). It feels like we might be entering a new era, one being defined as we speak. What is clear is that people crave community—something that zines have always excelled at making. In her foundational article "Why Zines Matter: Materiality and the Creation of Embodied Community" Alison Piepmeier writes that "In a world where more and more of us spend all day at our computers, zines reconnect us to our bodies and to other human beings" (2008). Seventeen years later, with computers even more intwined in daily life, we can consider this sentiment and make the revolutionary choice to consider ourselves.

The Library as a Source of Inspiration: Building Cycles of Creativity

At least 170 zine libraries and collections[3] exist across the US, demonstrating growing interest in the medium. The question becomes: when developing or maintaining a zine collection, especially in a larger academic institution, what are the priorities and best practices? And beyond this, how can a zine collection go beyond pamphlets on shelves, and become a tool for motivating students to grow creatively? Academic libraries specifically have the opportunity to create a cycle of creation and inspiration, aided by their standing within existing institutions. A possible path:

1. Academic libraries legitimize zines as a source for research in the eyes of library patrons through the collection's context in a larger institution.
2. The library uses that perception of legitimacy to encourage patrons to create their own zines, either through programming or independently.
3. The library further acknowledges and incentivizes this creation by offering opportunities for student work to be included in the collection.
4. Patrons become contributors, inspire other patrons, and communities continue to grow.

This is just one, simplified version of how this could look. The truth would be messier, like zines themselves. A major consideration here is that making zines out of a perceived legitimacy is counter to their essence. The point being that anyone can make a zine, regardless of status, race, ethnicity, gender identity, sexuality, and education level. The idea of "legitimacy" here is in response to shifting cultures surrounding zines, and the changing impression of what a "typical zine" is.

In recent years, there has been a shift in quality of the archetypal zine, with the line between "zine" and "art book" becoming a bit murky. At fests you'll see fewer perzines[4] and classic photocopied minizines, and more professionally printed work (McDermott, 2018). This can range from periodicals reminiscent of traditional glossy magazines, to risograph[5] printed work, to elaborate popup books. Returning to the idea that creating physical media in 2025 is a deliberate choice, it makes sense that artists who make that choice care deeply about the materiality and aesthetic of their work. These works are still zines, and in some cases unique printing techniques and constructions can be a source of inspiration to potential, emerging, or established zinesters. However, the overall trend towards refined and curated work has the

effect of making the medium seem more professional and less attainable. Some zinesters have pushed back against this shift, creating events such as Dear Diary Zine Fest (DDZF). DDZF was founded in 2018 in response to feeling discouraged by the commercial nature of modern zine fests, and craving space specifically for perzines. The inaugural event had exhibitors from all over North America, some travelling internationally or cross-country to attend, indicating that this gap had been felt in the larger zine community (McDermott, 2018).

The impact of this shift also effects people less familiar with zine culture. When I speak to students about making their own zines, they seem intimidated. They say: "I'm not an artist, I wouldn't know what to do." Alternatively, they come up with a grand plan for what is effectively a 60+ page book. Both responses come from perceiving zines as this huge thing that requires a massive investment of time, and while that can be true, it doesn't have to be. Collecting policies that include scrappier, unassuming zines show students that you don't need to be a great artist to make a zine. In this case, to "legitimize" these works is to show that anyone can make something worthy of consideration.

It is also important to consider zine authors' wishes when developing these collection policies. In an anonymous survey[6] conducted from December 2015 through August 2016, zinesters rated their level of comfort with their work being included in different types of libraries. Notably participants responded more negatively to being included in libraries "closed to a specific academic community" (9.3% extremely non preferable, 23.3% non preferable, 49.3% neutral, 9.3% preferable, 8.6% extremely preferable) versus public libraries (0.6% extremely non preferable, 0% non preferable, 16% neutral, 22% preferable, 61.3% extremely preferable) (Hays, 2018, p. 67). This feeling does not apply to otherwise using zines in academic settings. Attitudes about being included in a lesson plan for a professor's class (70.5% extremely preferable or preferable, 27.2% neutral) or their zine being used as a part of academic research (66.2% extremely preferable or preferable, 33% neutral) were generally positive (p. 68).

These findings indicate that access is very important to zinesters, which makes sense as it is a medium founded on democratization of information. Zines have a history of being anti-establishment, it is natural for there to be some tension between their authors and academic institutions. Given this context, asking zinesters for permission before acquiring their materials is paramount for academic librarians. Zines are personal, they're raw, they're unfiltered, that is what makes them powerful. But it also makes the author vulnerable if their words are removed from their anticipated context (Hays, 2018). In 2015 the Zine Librarian Interest Group published "Zine Librarians Code of Ethics," a guide to navigating these aspects of collection development, access, and use. By showing the community respect and grace, academic libraries can demonstrate their commitment to zine culture, and in turn inspire their users. Duncombe writes, "A zine, with all its amateur, low-rent, scruffy seams showing, says something else to the reader: this is easy, you could probably create something just as good, now go out and Do-It-Yourself" (2008, p. 210). There is a magic to holding a zine in your hands, only to be suddenly struck with inspiration to create. Zine libraries have the opportunity to bring this experience to all who visit, and therein lies their power.

References

Bleyer, J. (2004). Cut-and-Paste Revolution. In V. Labaton & D. L. Martin (Eds.), *The Fire This Time* (42–60). Anchor Books.

Duncombe, S. (1997). *Notes from Underground: Zines and the Politics of Alternative Culture* (1st ed.). Verso.

Duncombe, S. (2008). *Notes from Underground: Zines and the Politics of Alternative Culture* (2nd ed.). Microcosm

Publishing.
Freedman, J. (2005). *Zines Are Not Blogs*. Barnard College. https://zines.barnard.edu/zines-are-not-blogs.
Hays, A. (2018). Zine Authors' Attitudes about Inclusion in Public and Academic Library Collections: A Survey-Based Study. *Library Quarterly*, *88*(1), 60–78. https://doi.org/10.1086/694869
Joseph, B. W., & Sawyer, D. (2023). *Copy Machine Manifestos: Artists Who Make Zines* (First Edition). Phaidon, Brooklyn Museum.
Kauffman, R. (2018). For the Love of Zines: On Zines and Librarianship. *Technicalities*, *38*(1), 9–12.
McDermott, M. (Host) Alex B, Enola D, Angel Xoxo, Valentine Jones (Guests). (2018, February 10). *Episode 2: Dear Diary Zine Fest* (2) [Audio Podcast Recording]. In *Long Arm Stapler*. https://open.spotify.com/episode/3TrJhSQQHhBhA1o9NebweN?si=1d524941e35c4e68.
Piepmeier, A. (2008). Why Zines Matter: Materiality and the Creation of Embodied Community. *American Periodicals*, *18*(2), 213–238.
Tenbarge, K. (2025, January 15). *Meta's pivot to the right sparks boycotts and a user exodus*. NBC News. https://www.nbcnews.com/tech/social-media/meta-boycott-facebook-instagram-users-delete-accounts-policy-changes-rcna187480.
Watson, A., & Bennett, A. (2021). The felt value of reading zines. *American Journal of Cultural Sociology*, *9*(2), 115–149. https://doi.org/10.1057/s41290-020-00108-9.

Notes

1. Term for a person who makes zines.
2. For example, Queer Zine Archive Project (established in 2003) has a significant portion of their collection available for free online. This includes many historically significant zines by LGBTQ+ creators, creating a valuable resource for research and education, especially for those who would otherwise not have access to work of this nature.
3. Counted from the list of zine libraries collected by Barnard College (https://zines.barnard.edu/zine-libraries).
4. Portmanteau of "personal zine," a zine written about personal experience, opinions, and emotions.
5. Risograph (or riso) is a brand of digital duplicators manufactured in Japan. They print at high speeds in vivid colors by pushing ink through a stencil wrapped around a color drum. The process is often described as a "cross between photocopying and screen printing." Riso has grown in popularity significantly over the past ten years, with over 300 print shops in the US and 900 internationally according to the "Atlas of Modern Risography" (https://www.stencil.wiki/atlas).
6. Participants had to be older than 18 and had to self-identify as zine writers. Survey was promoted through online zine communities and in person zine fests. Number of responders per question ranges from 110-150 (Hays, 2018).

Marginalized Graduate Students Navigating the Academy During the Covid-19 Pandemic: A Phenomenological Approach

Maha Kumaran, Cecile Farnum, Aditi Gupta, and Lisa Levesque

The aim of this study was to understand marginalized graduate students' use of academic libraries for research activities during the COVID-19 pandemic. Using a phenomenological approach, this study investigated the challenges, barriers, and coping strategies of marginalized graduate students from three Canadian universities. Focus groups were conducted to stimulate discussions and gather rich data from participants. Based on findings, this study offers several recommendations for inclusive spaces, accessibility across institutions, bridging divides, and more to address service gaps and improve library access for all users.

Introduction

The COVID-19 pandemic brought many challenges to the education sector and highlighted the barriers users experienced while accessing educational and research resources. Although all library users and researchers face challenges, marginalized students, with their already taxing lived experiences, face additional barriers exacerbated by the pandemic. Thiem and Dasgupta (2022) identified a series of connected barriers marginalized students experience when entering and persisting through higher education, which include insufficient social capital (which may cause students to struggle to understand campus norms and expectations); low utilization of campus resources; balancing paid work and classes; negative academic stereotypes and low faculty expectations; cultural mismatch; lack of representation on campus; and lack of access to high-value relationships with faculty and senior peers.

The aim of this study was to understand how marginalized graduate students used the library for research activities during the COVID-19 pandemic, the challenges, and barriers they experienced, and the coping strategies they developed to overcome these challenges and continue their research. The three participating university libraries, the University of Saskatchewan, the Toronto Metropolitan University (formerly Ryerson), and the University of Victoria are all based in Canada and are members of the Canadian Association of Research

* *Maha Kumaran is Acting Assistant Dean, Collections and Discovery and Librarian, Education & Music Library at the University of Saskatchewan, maha.kumaran@usask.ca; Cecile Farnum is Liaison Librarian at Toronto Metropolitan University, email: cfarnum@torontomu.ca; Aditi Gupta is Engineering and Science Librarian at the University of Victoria, email: aditig@uvic.ca; Lisa Levesque is Law Librarian at Toronto Metropolitan University, email: lisa.levesque@torontomu.ca.*

Libraries (CARL). During the COVID-19 pandemic, these three university libraries adapted their services to support researchers working remotely and meet public health requirements, including offering print pick up and mail out, scanning resources, space booking, and offering more online support. A more detailed description of library services created during the pandemic can be found in Appendix A.

The researchers' interests span many areas that dovetail with research on marginalized populations, including experience with qualitative research, as well as research on equity, diversity and inclusion topics in academic libraries. Researchers and the research assistant (RA) also have various intersecting identities. Their common interest in these research topics, care for marginalized communities, and the opportunity to conduct research related to the pandemic, resulted in this collaboration.

The definition of marginalized populations presented by the National Collaborating Centre for Determinants of Health (2022) was used for this study. As per this definition, marginalized students included are:

- International students
- Indigenous students
- LGBTQIA+ students
- Students with disabilities
- Racialized/ethnic minority student
- First-generation students, and,
- Non-traditional students (e.g., mature students, students attending school part-time, students with dependents, and/or students struggling with financial issues)

Literature Review

The literature has demonstrated how the pandemic challenged academic library users by creating barriers to physical resources, physical spaces, technology, and expertise (Ashiq et al., 2022; Tej, M et al., 2021), and how academic libraries responded to these pandemic-related challenges with new services and support (Ayeni et al., 2021; Eva, 2021; Howes et al., 2021; Vogus, 2021).

When implementing these new services, academic institutions and libraries run the risk of excluding the perspectives of their users who exist in the margins, particularly since academic libraries typically reflect the ideologies of the dominant culture (Bales & Engle, 2012). In particular, marginalized students experienced these barriers in ways that were unique to the experiences of mainstream library users. For example, researchers (Herrera, 2016; Whitmire, 2003) have documented how students of color experience academic libraries differently, often using library resources more than white undergraduates. Stone and Collins (2013) identified a similar trend at a UK university; noting that both Black and Asian students show more library visits and PC usage than white students and that a higher proportion of their e-resource use occurs on-campus. A reliance on the library—as an equalizer in terms of access to resources—positions the academic library as an important space for marginalized students. Thus, their experiences are particularly relevant to understanding the effect of the pandemic on academic library users.

Methodology

A phenomenological approach was used to understand and capture the lived experiences of marginalized students' access and use of their libraries. As is the goal of any phenomenological study,

this study aimed to elicit the essential characteristics of the COVID-19 phenomenon and its effects on students accessing library resources, spaces, and services to conduct research during a pandemic (Norlyk & Harder, 2010; Webb & Kevern, 2001).Focus groups were used to access data through participant interactions which are a valid tool, as participants' data can be confirmed, reinforced, or contradicted within the group discussions. Focus groups "support the notion of collaboration and dialogue as being part of the phenomenological endeavour" (Bradbury-Jones et al., 2009, p. 667). According to Bradbury-Jones et al., in a phenomenological inquiry, focus groups will stimulate more discussions, provide new perspectives, and encourage exchanges among members to provide rich data. Phenomenology-influenced questions are "generally broad and open-ended so that the subject has sufficient opportunity to express his or her viewpoint" (Giorgi, 1997, p. 245). Therefore, an open-ended semi-structured questionnaire (Appendix B) was used to get participants to start conversations. Questions were designed using a two-tiered model to obtain descriptions and elicit meaning from our participants, and to probe for context and descriptions with possibly a personal experience example. A group moderator guide (Appendix C) was designed to help the RA and the facilitator from Canadian Hub for Applied and Social Research (CHASR) conduct focus groups.

Method

A data management plan (DMP) was created and ethics approvals were sought and cleared from all three institutions.

Two methods were used to gather data and identify participants for the study. First, participants were identified with a screening survey (Appendix D) that helped to ascertain a range of eligible marginalized students who were willing to participate in focus groups. Demographic information included the student's institution, as knowing the institution allowed focus groups to be conducted separately, as per ethics requirements, and helped understand the nuances between the three institutions. The survey was designed and created using SurveyMonkey through the University of Saskatchewan, and the survey link that included the consent form (Appendix E) was sent to graduate student groups, liaison librarians and other relevant institutional units at all three institutions, along with an email request to participate. A link to the screening form was sent with two reminders at equal intervals. The screening survey collected 123 responses in total from all three institutions. Researchers chose a range of eligible students from the screening survey for sampling purposes for the second step. These students met a variety of selection criteria: marginalized identities, facing hardships, different types of graduate programs, their place within the length of the program, etc.

The second method of data collection involved focus groups that were arranged and conducted by a CHASR expert and the research assistant (RA), a graduate student from a marginalized group. The intent of having an RA was to have an insider approach and distance researchers from participants, so participants could share their perspectives openly, provide deep and rich data, and feel comfortable criticizing the library. In fact, their open criticism might help improve library policies and practices for marginalized users. Details of sample students from the survey were forwarded to the CHASR expert, who contacted the students and invited them to participate in focus groups. A total of six focus groups were conducted and completed between February and March 2022. There were two focus groups for each institution for a total of 20 students: seven students from TMU, seven students from U of S and six students from UVic. Two students' names were drawn from the survey and offered a $50 gift certificate for their participation.

Data Gathering, Coding, and Analysis

The focus group discussions occurred on web conferencing software, and recordings were transcribed by CHASR. Data were anonymized by CHASR, and the transcript files were emailed to participants, including the Transcript Release Forms, to elicit any edits, deletions, or additions from participants. This process of member-checking aided in capturing their experiences accurately. After confirmations from participants, the RA uploaded de-identified transcripts to OneDrive for further analysis and coding. Transcripts were anonymized by the researchers to upload to an open repository (https://borealisdata.ca/dataset.xhtml?persistentId=doi:10.5683/SP3/CKETHW), in accordance with the DMP.

Taguette, a free and open-source qualitative data analysis tool was used for coding and data analysis. The constant comparative method was used to develop a codebook collaboratively and to capture recurring and standalone themes.

Two members of the research team developed the codebook, with one conducting an initial assessment and the other conducting a preliminary review and additional coding work. The two other members of the research team then conducted an additional review and further coding development. This approach allowed for reliability testing of the codebook, and the deep familiarity of all researchers with the data allowed for productive conversations about its analysis.

Results

Screening Survey Results

The screening survey had 123 responses. There were 51 participants from the University of Saskatchewan; 34 from Toronto Metropolitan University; and 38 from the University of Victoria. A majority of the participants were in a Masters' program (Figure 1), and most participants had been at their institutions for over six years and in their current programs for over three years.

Over 50% (n = 64) of participants identified as racialized or ethnic minority students. As indicated in Figure 2, over 30% of participants self-identified as international students; 10% as Indigenous; over 22% as sexual minorities; and close to 24% self-identified as students with disabilities. In addition, almost 29% were first-generation students. Close to 38% of students identified as non-traditional students.

FIGURE 1
Participants' Level of Program

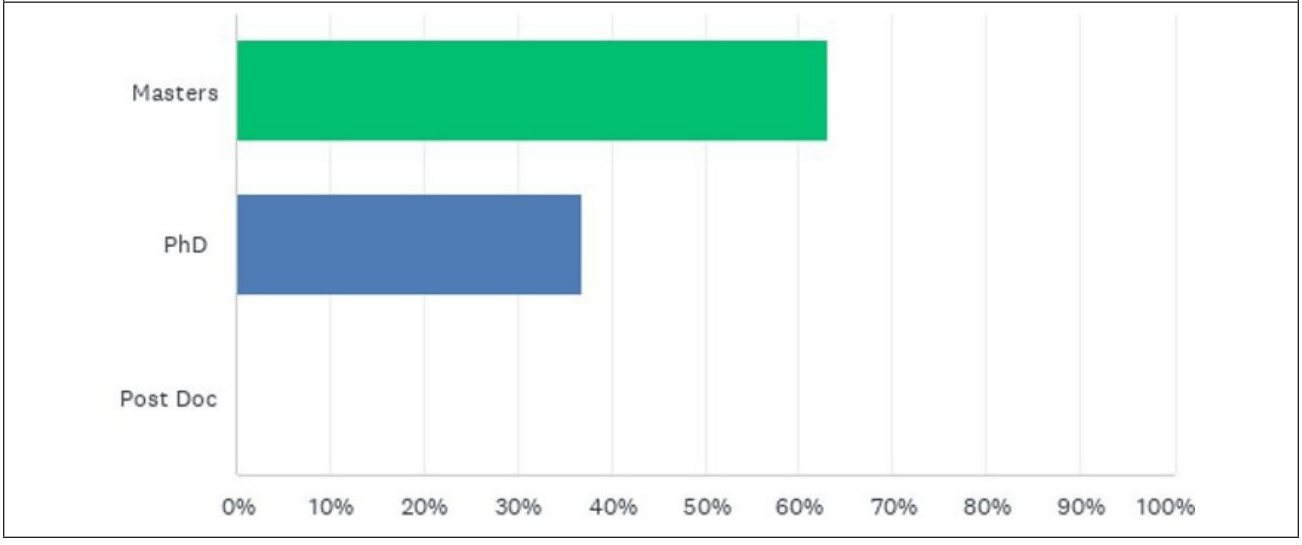
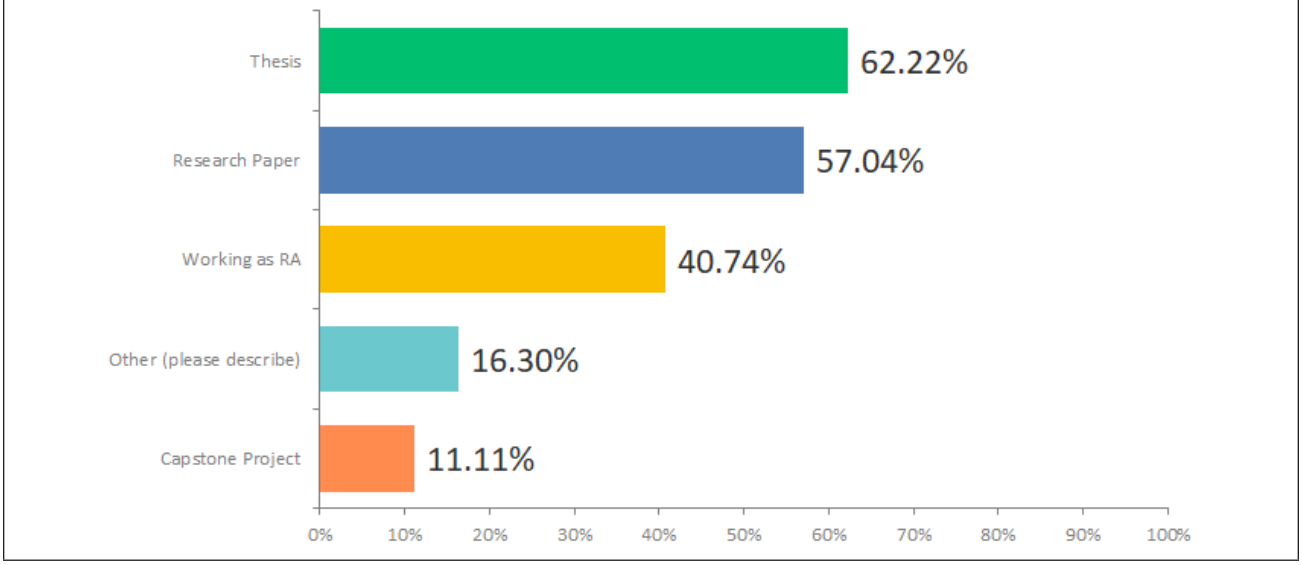


FIGURE 2
Participants' Representation and Their Response Rates

ANSWER CHOICES	RESPONSES	
International student	38.53%	42
Indigenous student	10.09%	11
LGBTQIA+ student	22.94%	25
Student with a disability	23.85%	26
First-generation student (first to go to university)	28.44%	31
Non-traditional student (eg: mature student, attend university part-time, have dependents).	37.61%	41
Total Respondents: 109		

Around 119 participants shared their hardships as the following: personal finances (71.43%; n = 85); self-health (55.46%; n = 66); family member's health (33.61%; n = 40); family responsibilities (37.82%; n = 45); childcare (12.61%; n = 15); difficult living situations (32.77%; n = 39); and other COVID-19 related issues (42.02%; n = 50).Participants were working on projects such as theses, research papers, capstone projects, working as research assistants for faculty or someone else, or other activities (Figure 3) at the time of the study.

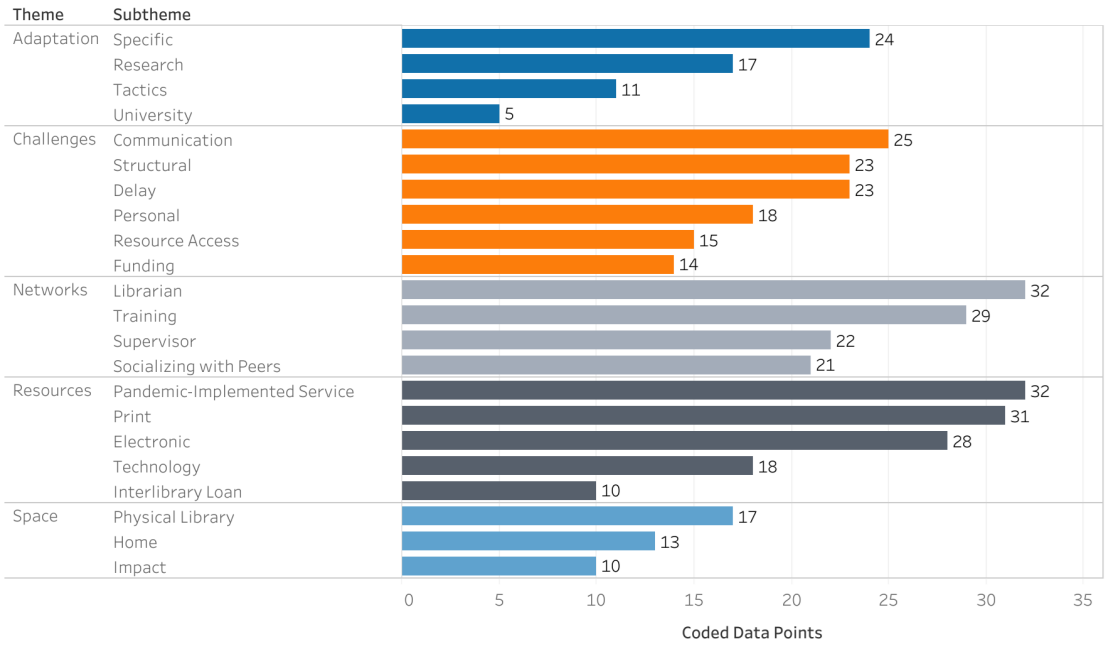
FIGURE 3
Participants' Projects



Focus Group Results

Five themes emerged through the two data analysis phases. The broad themes were: adaptation, challenges, networks, resources, and space. The data visualization provided in Figure 4 demonstrates the various themes and subthemes, as well as the corresponding number of data points coded during analysis.

FIGURE 4
From the Margins: Coded Results



Adaptation

Participants faced different types of distractions, including different living conditions with family members and roommates, pets, background noise, and other issues. These distractions required adaptations that were specific to participant needs. For example, one participant described their challenge in switching between English and the language spoken at home as one of several distractions which eventually resulted in them moving out. In another instance, a neurodivergent respondent described how they have flourished in a virtual space but their extroverted friends "are pulling their hair out." Participants emphasized the need for openness, creativity and flexibility in adaptations, and acknowledged that adaptations are easier for some than others.

During the early stages of the COVID-19 pandemic students experienced significant changes to their academic work due to emergency remote learning. The student participants described their adaptations as having both positive and negative impacts on their research. For example, two participants (10%) could not access their research population groups (e.g., long-term care residents) and needed to adjust data collection practices or choose another population. Others needed to change their research process as they now solely relied on electronic resources. One of the participants mentioned having to prepare for a comprehensive exam solely using electronic resources and stated, "I had to figure out how to write the entirety of my comps paper without actually using any [physical] books that we didn't have online access to … it definitely shifted some of how I ended up thinking about what I was doing academically, especially with my first comp." A common adaptation described by participants (n = 6, 30%) was to use nearby libraries, including public libraries or academic libraries accessed through an alumni account or a partner's account, in addition to those available through their institution. When students had access to multiple libraries, they would compare levels of access during the pandemic, ease of use, and describe the benefits of one library over another.

These adaptations were positive in that they prompted new questions and modes of research, but also negative in that they did not allow for students' original research plans to be completed. For participants whose original research plans included location-specific research, such as visiting a foreign library, or location-specific methods, such as land-based research, these modes of research were not possible.

Some participants (n = 6, 30%) described their tactics for avoiding distractions. For example, they set routines, used the Pomodoro technique to learn, listened to music, turned off notifications, physically removed themselves from distractions, and kept their hands occupied during online calls with activities such as crocheting, colouring, or a fidget toy. Although tactics differed between participants they commented on one another's tactics and agreed that having tactics to prevent distraction was important.

Students also described how, from their perspective, the university adapted to COVID-19. Professors adjusted syllabi and their expectations for assignments, reduced group work, and offered extensions. One student described assignment leniency as not always being positive for their time management. Students also described variable attitudes from professors, with empathy waning over time.

Challenges

Participants spoke of communication difficulties with the university and library. They did not always know what services were available, who to contact, or how to go about finding this information. They described university and library websites as challenging to navigate. Participants felt that the lack of communication was pronounced at the beginning of the pandemic when changes were made abruptly, and communication planning was probably still developing and ongoing at institutions and libraries. One student asked us to "just connect between the dots of IT at [this] university, IT, the library, and different programs," emphatically requesting that university units need to "get out of your goddamn silos." Despite these frustrations, participants acknowledged that librarians were making efforts to ease the transition to online and remote access and learning. One student wrote: "I feel like the librarians really tried to take the pressure off, I don't know if that's how they operate normally or if they're just being really super understanding … but I found them to be super easy to work with and really easy to communicate with."

Delays to their research were another significant challenge encountered by students. Practicums and internships were delayed, as were ethics applications and grants. Overall, students described the delays as frustrating and as extending their period of time in school, with one student writing: "I'm on my third year of a two-year program because of the pandemic, it's been really challenging." Delays were described as compounding and having downstream effects on communication and funding.

Participants also identified how the pandemic revealed structural inequities around library access. Participants with accessibility needs described their pre-pandemic challenges that were largely unknown to able-bodied library users (n = 2, 10%). One student sarcastically described this phenomenon when physical books were no longer accessible to anyone: "They're like 'Oh, wow, whoa, imagine not being able to physically go in and grab a book,' and I'm like, 'Yeah, a bunch of people have been feeling like that this whole entire time and nobody cared.'" Structural issues identified also included university bureaucracies, a lack of readily available supports, and even challenges with the physical university infrastructure

that caused injuries. For example, one participant who uses a wheelchair injured themselves traveling to the library on an uneven sidewalk.

Students framed their personal struggles as existing within the larger context of graduate study. A student remarked that graduate school was challenging even without the COVID-19 context and framed their personal challenges accordingly: "When I started my master's degree, one of my instructors said, 'It takes a lot of tenacity,' without even knowing about COVID, to be able just to learn, I mean it was a lot of extra learning for me." Other personal but also communal challenges that came up were imposter syndrome, shared living situations, and productivity guilt. Marginalization also arose as a personal challenge affecting some students more than others. For instance, one participant described how every student in their program was engaged in building networks and as an international student, they were at a disadvantage.

Resource access was a significant challenge, specifically access to print resources, out-of-subscription resources, resources that would reflect diverse viewpoints, and difficulties accessing resources from their home libraries when they moved away to different geographic locations. Funding challenges came in the form of delays or simply unavailable resources. Participants acknowledged the help available through services such as interlibrary loans (n = 6, 30%), but they mentioned going into debt over living spaces, food needs, and other service changes such as the removal of hotspot lending.

Networks

All participants (n = 20, 100%) indicated how highly valued academic networks of support were to them as graduate students. Academic networks could include other peers, supervisors, professors, librarians, and other academic staff who play a role in their academic and research work.

Students described challenges accessing support during online learning. For example, without access to the physical library space, they experienced difficulties accessing help from librarians or were confused about how to contact them. Those that were able to access librarians remotely found their support to be extremely impactful in accessing resources, developing search strategies, accessing older and hard-to-find materials, and navigating processes such as recalls. They appreciated the willingness of librarians to go above and beyond in supporting their research, with one student stating that: "one of my closest supporters is [librarian] and I don't know where I would be without him, to be honest … reach out to librarians because honestly, they are so passionate about their work and they will just do whatever they can to help you." Students also described their increased reliance on librarians as they advanced in their studies.

Many libraries offered new or enhanced online learning opportunities during the pandemic, such as online workshops and skill-building opportunities. Students described attending workshops on various topics. Two students remarked that the library had been the most "consistent" and had done a better job "pivoting" to online workshops than other units. Students described having an attendance requirement for workshops or needing to complete a certificate to be motivators for attending workshops.

Students describe their supervisor as an important support (n = 13, 65%). Supervisors provided lists of resources, including lengthy ones which formed the basis of student research, provided ethics recommendations, and offered support and guidance. Students even used supervisors for direct access to hard-to-find resources, including print materials and

scans, which indicates some overlap in the supervisor and librarian roles. Two students were significantly impacted by their supervisors' absence: one took a stress leave, while another's supervisor died due to COVID-related health issues. The student who lost her supervisor to COVID stated: "I think about her every day." This particular disruption resulted in a personal, emotional loss, as well as a required change in research focus.

Students described their peer network as being an important part of the academic experience (n = 9, 45%). They called socializing with their peers a way to learn how to navigate academia and the development of future "professional connections." This was highlighted as a particular challenge for international students because they were unable to draw on pre-existing network connections, and for PhD students who had a "solitary" experience of research compared to master's students. Another described the important role peers can have when navigating the hidden curriculum, as well as the burdens associated with this kind of mentorship: "So you have to find your cranky, mature grad student who can help you figure things out, but then that's unpaid labour, which is already something I know all about from being in the precariat." Participants felt socializing opportunities were not adequately provided by the university.

Resources

Participants described having accessed many of the pandemic-implemented library services (n = 12, 60%). They mentioned internet hotpots, mail-out services, curbside print pickup, scan and deliver, advance booking of accessible spaces, online workshops, fine waiving, and support that helped them navigate the use of the library systems. Scanning services were noted as "life changer[s]," and print pick-up was noted as "really special," especially if their niche research area required print materials. They noted that these services were fast, convenient, helpful, and impactful, and also highlighted the value of long-term access to resources through scanned copies or extended loans. The accessibility gains made by libraries during the pandemic did not go unnoticed by participants and they hoped that some of these new ways of doing things would stay post-pandemic: "I think that the library actually has done a really great job of pivoting and offering those services online, and I'm honestly hoping that, now that things are sort of shifting back, that they don't just stop all of that because I think that it has a lot of benefits." One neurodivergent participant felt that Zoom interactions with librarians were leveling the playing field for all library users. A participant called librarians "can-doers" because of their willingness to offer new services, and another noted that their experience with the library improved drastically after the pandemic started.

Access to print and electronic resources was often mentioned as related. Some had a strong preference for using print resources or electronic, and few others valued both formats. One student found it easier to use the online resources, so they do not have to "get confused by stuff at the library." And in sharp contrast, another stated their enjoyment of borrowing print books helped them find other nearby materials. Participants also commented on delays in receiving scanned materials and emphasized specific ways of navigating within electronic resources, using tools such as searching within a text, annotating resources, or a browser extension for authentication. Library print loans normally alleviated the cost of textbooks, and so reduced access to print during the pandemic made these costs a concern. Participants were cognizant that those who could afford to pay for access did so.

Participants tried workarounds during lockdown periods in terms of access to technology. They used software trials rather than purchasing the full package and accessing

resources through VPNs. However, trial versions had limitations and VPNs would time out. Accessibility softwares and open education resources were also described as challenging to access. Interlibrary loan access was considered an important resource for their research work. Participants who relocated due to work placements mentioned challenges with receiving interlibrary loans during the pandemic; it was also a challenge when everything was shut down during the pandemic and interlibrary loans were also suspended for a short time.

Space

Students described the importance of the physical library, describing it as a neutral, quiet space for study and academic work. One student mentioned: "Libraries are just great places to work in, I feel like I'm more productive if I'm in a library, so not being able to have that physical space has not been very great." The lack of access to the physical library during the pandemic created hardships for students who were living in shared spaces and did not have access to quiet study spaces. For instance, students found studying at home was difficult. They described the library as an "active space" that created an ambience suitable for study, where they were surrounded by collections, people, and work-related resources. Libraries offered limited distractions, and they enjoyed the opportunity to work collaboratively, share ideas and thoughts on the whiteboards and interact with peers.

In contrast, studying at home could be both isolating and distracting. One student mentioned, "I really appreciated having the space to work at the library where I could just buckle down and focus on doing my work for a few set hours in a day, rather than being at home with these distractions or having to shuffle around space." Isolation was also a hardship experienced by many, and the inability to maintain a division between work and home.

Students shared that one important adaptation was adjusting to their physical space. Some described trying to create a quiet space at home, including coordinating with their housemates. One respondent described moving locations within their household in order to feel that they were in a different space; another respondent described hiking and working in nature as an adaptation.

Participants also discussed the use of online resources and using Zoom to organize study groups and discussion forums. Zoom burnout, the lack of social interactions in their surroundings, and the loss of opportunities to do focused research led to anxiety. Ironically, the return to campus and some normalcy led to more issues of access than those experienced during the pandemic. For example, students had access to certain services which were withdrawn after the pandemic, and this created issues for students with disabilities who then had to make an extra effort to visit the library in person to use library services. Similarly, as libraries opened, one student mentioned feeling anxious when visiting the library, as they were fearful of contracting COVID. As a result, they eventually avoided using the library in person and continued accessing library services from home.

Limitations

As with any research study, some limitations may have impacted the results. For example, the sample experiences of these students may not represent those of students in different programs.

Similarly, over half of the research participants (n = 11, 55%) in this study were engaged in research related to a marginalized topic, which could have affected their research experi-

ences during the pandemic. As the resources required for this type of research may have been harder to access online, this could have impacted their pandemic-related observations.

Since this study was conducted during the pandemic when policies were still changing, and communication about library services was fractured, this may have impacted participants' usage and awareness of library services. Furthermore, the study results may not be representative of all academic libraries in Canada, given that the participating institutions do not include the local contexts of French language and Atlantic institutions.

Reflections and Recommendations

This study found a variety of barriers and challenges experienced by marginalized graduate students, including barriers to accessing networks, limited access to library and research spaces, and a lack of access to library resources and technology. As a result of these challenges, participants adapted to their circumstances by altering their research, workspaces, and learning tactics to complete their work.

As libraries move into a post-COVID-19 landscape, it is important that they learn from these experiences. As mentioned by one participant, "it is really important that we take the best things from the pandemic and move them forward." It is clear that many services and approaches created during the pandemic benefited users and could inform how libraries move forward.

Recommendations

Reduce institutional barriers between academic libraries

Many library users highlighted the importance of being able to access multiple library spaces, services, and personnel during the pandemic. Given the evolution of remote and flexible learning in the academic sector, creating more fluidity of access between libraries will be important to users. Such fluidity could be coordinated at provincial or national levels through governing library bodies (e.g., CARL, library consortiums—COPPUL, OCUL, etc.) or by examining existing reciprocal relationships between academic libraries. Less fragmentation between library associations and other relevant bodies could enable coordination and collaboration to help users.

Keep accessibility as a priority

As pandemic restrictions have eased or been removed, libraries could consider how new services might be maintained to benefit all library users. For example, users with accessibility challenges may appreciate the continuity of all online services going forward. Similarly, the opportunity to book library spaces in advance rather than having a first come first served practice benefits all library users but especially those with accessibility concerns. Libraries should employ a point-person for accessibility and provide comprehensive training for all staff in the library to educate users on available services and support.

Bridge the rural/urban/global divides

Students relocating to smaller cities and rural areas during the pandemic were not as well-resourced as students in larger cities with better infrastructure, additional libraries, and high-speed internet. For international students who returned to their home countries, time zone issues impacted their ability to access services and support. While some libraries already had distance education services in place to deliver resources to many parts of Canada, others

did not. These types of services, while designed for specific student populations, can help all students, particularly if they experience a change in location or circumstance during their studies. Libraries should consider eligibility for these services beyond their initial scope to be more inclusive of the needs of students facing their own unique challenges.

Acquire technology tools to support the use of e-resources

Given the increased use of electronic resources during the pandemic, a recommendation for libraries is to acquire and promote resources that enhance online browsing or mapping of collections (e.g., browzine, research rabbit, etc.). Libraries could also prioritize their digitizing efforts, especially for collections that would be used often and widely for research but only currently available in print. Similarly, educating students about additional ways of accessing electronic resources, such as ezproxy browser extensions, or tools for locating open versions of articles, would be beneficial to their academic work.

Prioritize mental health

With many students describing the isolation and loss they experienced during the pandemic, the limited opportunities to connect with peers and the resulting impact on their mental health, academic institutions need to properly fund mental health resources on campuses. Ultimately, greater visibility and accessibility of these resources are required, with targeted approaches for specific communities to reflect their unique needs and circumstances.

Trauma-informed librarianship and building for empathy

There has been a recognition that empathetic approaches to service may be missing from educational institutions. As a result, since the pandemic and during the endemic, many academic libraries have adopted the trauma-informed principles outlined by the Substance Abuse and Mental Health Services Administration (2014) with a focus on understanding how trauma can adversely affect the well-being of students and how to support their emotional and psychological well-being (Richardson et al., 2021). Providing workshops and other professional development opportunities for library staff to build empathetic approaches to service delivery and student engagement should be a high priority for all libraries.

Better visibility and accessibility of librarians

Many participants spoke positively about working with librarians when they were able to make the connection. The visibility and accessibility of librarians were severely diminished when both the physical library closed, and academic networks declined. Therefore, maximizing efforts to make librarians accessible and reachable to students would benefit all users. Relying on users to find and reach out to a librarian is a barrier that many students, for a variety of reasons, will not be able to overcome easily. Libraries should elevate access to librarians' contact information to top-level pages of their websites, in easy, transparent ways that will allow users easier connections to librarians. Libraries should prioritize employing UX best practices on library websites and investing in strategies for proactive outreach and communication of librarian skills and expertise.

Improve communication and transparency

Many study participants emphasized the need for better communication and transparency

from all units of the university, including libraries. The impact of silos and the resulting lack of coordinated communication and collaboration impacted the student experience negatively. Libraries in particular need to consider ways to proactively communicate and reach out to graduate students and build those connections early on in their academic careers. If libraries have research guides or other skill-building resources these must be made prominent, or reminders should be sent so students have these tools on top of their minds.

Libraries should also consider the challenges inherent in online communication, without tone, intention, and body language being visible to the recipient. This may particularly affect students from diverse cultural backgrounds. An awareness of best practices with respect to online cross-cultural communication should be considered.

Audit and assess the continued value of pandemic-implemented services

To ensure that libraries learn from the pandemic experience, libraries are encouraged to undergo audits of pandemic-implemented services, with the goal of assessing their value. Currently, some libraries have continued pandemic-implemented services while others have not. Many library users experienced challenges accessing libraries prior to the implementation of these services and would continue to use these services if they were available. In fact, it may encourage the use of the library from a cohort of students who otherwise would have considered alternatives.

Conclusion

The use of a phenomenological approach helped identify and delve into their experiences about where and how their experiences with the library could be improved. The focus group data reinforced the importance of the library as a distinct place that unifies and provides access to many key services: research collections, learning, collaboration and social spaces, technology, and expertise.

As libraries move forward with planning for a time when COVID-19 is endemic, the lived experiences of marginalized graduate students clearly have a good deal to teach them about "how to take the best things from the pandemic and move them forward." As libraries adapted to these challenges, students retooled and reimagined their use of library spaces, services, and personnel. Similarly, libraries reimagined how they could support users in this new environment by developing or enhancing services to bridge the gaps brought on by the pandemic. This level of creative thinking and exploration of new ways of doing things should not stop now. As many of our study participants noted, barriers to accessing library resources and services existed before the pandemic; re-establishing the pre-pandemic library will only serve to retrench these barriers for many students. Through the recommendations, we hope to influence policy changes and empower libraries with what is possible when building inclusive and equitable library spaces and services.

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References

Ashiq, M., Jabeen, F., & Mahmood, K. (2022). Transformation of libraries during Covid-19 pandemic: A systematic review. *The Journal of Academic Librarianship*, *48*(4): 102534–102534. https://doi.org/10.1016/j.acalib.2022.102534

Ayeni, P. O., Agbaje, B. O., & Tippler, M. (2021). A systematic review of library services provision in response to COVID-19 pandemic. *Evidence-Based*, *16* (3):67–104. https://doi.org/10.18438/eblip29902

Bales, S. E., & Engle, L. S. (2012). The counterhegemonic academic librarian: A call to action. *Progressive Librarian*, *40*:16–40.

Bradbury-Jones, C., Sambrook, S., & Irvine, F. (2009). The phenomenological focus group: An oxymoron? *Journal of Advanced Nursing*, *65*(3): 663–671. https://doi.org/10.1111/j.1365-2648.2008.04922.x

Eva, N. (2021). Information Literacy Instruction during COVID-19. *Partnership: The Canadian Journal of Library and Information Practice and Research*, *16*(1): 1–11. https://doi.org/10.21083/partnership.v16i1.6448

Giorgi, A. (1997). The theory, practice, and evaluation of the phenomenological method as a qualitative research procedure. *Journal of Phenomenological Psychology*, *28*(2): 235–260. https://doi.org/10.1163/156916297X00103

Herrera, G. (2016). Undergraduate library collection use and diversity: Testing for racial and gender differences. *Portal: Libraries and the Academy*, *16*(4): 763–774. https://doi.org/10.1353/pla.2016.0051

Howes, L., Ferrell, L., Pettys, G., & Roloff, A. (2021). Adapting to Remote Library Services during COVID-19. *Medical Reference Services Quarterly*, *40*(1): 35–47. https://doi.org/10.1080/02763869.2021.1873616

Mohan Tej, M, Rao, M., & K, S. (2021). Impact of COVID-19 on Academic Libraries: A Case Study. *Library Philosophy and Practice (e-Journal)*. https://digitalcommons.unl.edu/libphilprac/6152

National Collaborating Centre for Determinants of Health. (2022). "Glossary of Essential Health Equity Terms." Antigonish, NS: National Collaborating Centre for Determinants of Health, St. Francis Xavier University. https://nccdh.ca/learn/glossary/

Norlyk, A., & Harder, I. (2010). What makes a phenomenological study phenomenological? An analysis of peer-reviewed empirical nursing studies. *Qualitative Health Research*, *20*(3): 420–431. https://doi.org/10.1177/1049732309357435

Richardson, M. A., Rosen, S., Clowney-Robinson, M. M., & San Juan, D. (2021). Bringing Trauma-Informed practices to underserved patrons at university libraries. In J.C. Skinner & M. Gross (Eds.), *Underserved patrons in university libraries: Assisting students facing trauma, abuse, and discrimination* (pp. 91–108). Libraries Unlimited.

Stone, G., & Collins, E. (2013). Library usage and demographic characteristics of undergraduate students in a UK university. *Performance Measurement and Metrics*, *14*(1): 25–35. https://doi.org/10.1108/14678041311316112

Substance Abuse and Mental Health Services Administration. (2014). SAMHSA's Concept of Trauma and Guidance for a Trauma-Informed Approach. https://store.samhsa.gov/product/SAMHSA-s-Concept-of-Trauma-and-Guidance-for-a-Trauma-Informed-Approach/SMA14-4884

Thiem, K.C., & Dasgupta, N. (2022). From precollege to career: Barriers facing historically marginalized students and evidence-based solutions. *Social Issues and Policy Review, 16*(1), 212-215. https://doi.org/10.1111/sipr.12085

Vogus, B. (2021). COVID-19 in academic libraries: Adjusting services to survive and thrive. *Public Services Quarterly*, *17*(4): 269–275. https://doi.org/10.1080/15228959.2021.1979438

Webb, C., & Kevern, J. (2001). Focus groups as a research method: A critique of some aspects of their use in nursing research. *Journal of Advanced Nursing*, *33*(6): 798–805. https://doi.org/10.1046/j.1365-2648.2001.01720.x

Whitmire, E. (2003). Cultural diversity and undergraduates' academic library use. *The Journal of Academic Librarianship*, *29*(3): 148–161. https://doi.org/10.1016/S0099-1333(03)00019-3

Appendix A

Focus Group Questionnaire for: From the Margins: How Marginalized Students Navigate the Academy During the COVID-19 Pandemic

Research (could be a research paper, capstone project, thesis, or working as RA for faculty)

- Tell us about your research project you are working on?
    - **Prompts:**
        - What is your research topic/field of study/research question?
        - What kind of research do you have to conduct for this project?
        - How long have you been working on it?
        - What makes you interested in this topic?

Library Access

- Tell us about what access to your library has been like during COVID-19?
    - **Prompts:**
        - Are there closures to the physical space?
        - Do you use online resources, course materials, interlibrary loan?
        - Have you contacted the library/a librarian for help?
- Before COVID-19, what was your use of the library?
    - **Prompts**:
        - Did you visit the library to find resources, speak to a librarian, etc?
        - What resources did you use?
        - How about use of the library for Internet access, printing, borrowing technology, quiet study, workshops, writing help, etc?

- What challenges did you face in using the library pre-COVID? Have you received library instruction or any training in finding and accessing different types of resources online? When (since COVID, long before COVID?)
    - **Prompts:**
        - Library homepage
        - Finding books
        - Finding articles
        - Finding journals
        - Historical or special collections
        - Other?

Challenges during COVID

- What kinds of challenges or obstacles have you faced due to Covid that have affected your research?
    - **Prompts**:
        - Access to people (cohorts, faculty, library employees to use as sound-board for ideas)
        - Access to print resources
        - Access to online resources
        - Spontaneous access to resources, to on campus help, etc.
- What services/resources/spaces were/are not available to you due to covid and how did/does this impede your research? Did you find it challenging to not have access to the library during COVID-19?
    - **Prompts:** print, borrow AV/laptops, quiet study, access writing/communication centre, attend workshops

Strategies they developed to overcome these challenges

- What changes did you have to make to conduct your research in an online environment?
- What kind of strategies did you adopt to overcome some of the challenges you mentioned above?
- Have any of these strategies included the use of the library?
    - **Prompts**:
        - Did you use the library to find material for your research or for completing your thesis/dissertation?
        - E.g. interlibrary loans, curbside pickup, use study spaces, technology?
- What kind of support did you receive from the library to conduct your research in an online environment?
- If you couldn't access the library, where else did you go?
    - **Prompts**:
        - Borrow materials from faculty?
        - Find open access resources?
        - To another library
        - Buy materials?

Final Question

Is there anything else you want to share with us related to the pandemic and library access?

Appendix B—Moderator Guide

Researchers

Names	Contact Positions	Universities	Positions
Maha Kumaran (PI)	maha.kumaran@usask.ca 306-966-7779	University of Saskatchewan	Librarian, Education & Music Library
Cecile Farnum (Co-PI)	cfarnum@ryerson.ca; 416-735-9151	Toronto Metropolitan University	Liaison Librarian
Lisa Levesque (Co-PI)	lisa.levesque@ryerson.ca; 647-216-5862	Toronto Metropolitan University	Assessment Librarian
Aditi Gupta (Co-PI)	aditig@uvic.ca; 250-721-6085	University of Victoria	Engineering & Science Librarian
Marla Roger	marla.rogers@usask.ca	CHASR, University of Saskatchewan	
Darcia Roache	dar446@mail.usask.ca	University of Saskatchewan	Research Assistant

Purpose of the Study:

The purpose is to understand how marginalized graduate students at three CARL (Canadian Association of Research Libraries) institutions have adapted to the pandemic situation, particularly in their research activities. The three institutions are the librarian researchers' institutions: University of Saskatchewan, Ryerson University, and the University of Victoria.

Aim of the Study:

The aim of the study is to address the three main research questions:

1. How have marginalized graduate students used the library for research activities during the pandemic?
2. What are the challenges faced by marginalized graduate students in their library research activities during this pandemic?
3. What strategies have they developed to overcome these challenges and continue their research?

Introduction

At the focus group interviews researcher(s) should introduce themselves, inform participants about the critical components of the research such as purpose of the research, critical information on the consent form, duration of the interview, that session will be recorded, etc.
Forms: The researcher(s) would need to ask participants to sign a consent form and/or a non-disclosure agreement in keeping with ethics approval.

Participants information regarding the study (What they will be asked/told)

- *"In order to participate in the study we will ask [you] participant to confirm that [you] they are a graduate student who is from a marginalized group who has experienced hardship during the COVID-19 pandemic.*
- *The study will consist of focus groups with questions about how the COVID-19 pandemic has affected your research. Focus group conversations will take no more than 75-90 mins of your time.*

Questions will include challenges you have faced during COVID-19, your use of library resources, and strategies you have used to overcome challenges

- *This study is being facilitated by CHASR, research support and consulting service at the University of Saskatchewan. The focus group interview will be conducted in an online environment using the Zoom Platform available through the University of Saskatchewan.*
- *After the interview, the recording will be stored in a secure online environment and all data will be de-identified. The data will then be transcribed and you will be given an opportunity to review the transcripts of your interview, and, to add, alter, or delete any information from the transcript as you see fit.*
- *Please feel free to ask for clarifications or any questions regarding the procedures and goals of the study or your role"*

Research questions: These questions differ from the actual questions that will be asked of participants. They are the questions the researchers want to be ultimately answered with the qualitative data to be gathered in the interviews. Researcher(s) should inform participants on the number of questions to be answered at the outset of the focus groups.

Research Method

Focus Group

Focus groups are a form of group interview, though not in the sense of a backwards and forwards interviewer and group, rather, the reliance is on the interaction within the group who discuss a topic supplied by the researcher (Morgan, 1988, p. 9). It is often used as a qualitative approach in gaining an in-depth understanding of social issues. The method aims to obtain data from a purposely selected group of individuals rather than from a statistically representative sample of a broader population (Nyumba et al., 2018)

- It yields a collective response instead of an individual and of such participants should interact with each other than with the interviewer (Cohen et al., 2011)
- From the interaction of the group that data emerge (Cohen et al., 2011)
- Focus groups are useful (Bailey, 1994; Krueger, 1988; Morgan, 1988) for: -
    - orientation to a particular field
    - gathering and evaluating data from different sub-group of a population
    - empowering participants to speak out, and in their own words
    - gathering data on attitude, value, and opinion
    - encouraging group rather than individuals to voice opinion
    - gathering qualitative data
    - developing themes, topics and schedules. Flexibly for subsequent interviews and/or questionnaires.

Moderator's Role in Focus Group

Focus groups should be clear on the agenda and the focus, take place in a setting that is conducive for discussion, have a skilled moderator who can prompt people to speak, promote thinking and reflection, and should have a record kept (Newby, 2010, p. 350).

Checklist Step 1: Getting Started: Prior to the Focus Group Session:

- Decide on the meeting particulars (e.g., where and when)

- Ensure that the questions are prepared, determine roles and responsibilities of those conducting the meeting
- Start to recruit participants (e.g., who and why)

Checklist Step 2: At the Focus Group Session

When people arrive:

- Thank people for coming and then review research purpose and objectives.
- Outline how the meeting will proceed, administrative details and let participants know how they can contribute.
- **Recording Permission:** The researcher should ask the participants for their permission to record the session and explain what and how you are recording and who will it be shared with.
- **Questions:** Ask warm-up questions to get the participant comfortable. The questions you ask in the beginning can help you later on in the session and give you additional context. Start with an easy question and lead them to tell you a story about their experience.
- **Participant Questions:** Participants should be given a chance to ask questions. It could also be a chance to eliminate confusion and, where possible, get answers to some questions.

Start with more general questions and then additional questions in the same general manner:

- When all your questions have been asked, it's time for open comments, so be sure to ask if anyone has any other comments to make.
- Tell the group about any next steps that will occur and what they can expect to happen now (e.g., processing information, sharing the aggregated responses) and where the information will be going (e.g., knowledge dissemination in publications, presentations, etc.).

Checklist: Step 3: After the Focus Group Session

- Make a transcript or written summary of the meeting.
- Save the material (audio and transcripts) to the W: Drive folder.

Next Session: Step 4: Data Analysis

- Examine the data for patterns, themes, new questions, and conclusions.
- Share the results with the group.
- Knowledge mobilization (sharing) the findings.

Moderator's skills: non-judgmental, respectful, relaxed and sets the tone of the session.

Moderator Script—Focus Group Interviews

Hello everyone,

Welcome, and thank you for taking the time to participate in these focus groups—we appreciate it. Through these focus groups, the research team would like to hear from graduate students from marginalized groups who have experienced hardship during the COVID-19 pandemic. Specifically, we want to hear about challenges you have faced during the pandemic and strategies you used to overcome them. By hearing from marginalized students and students undergoing hardship, it is a goal of our study to improve library policies and services.

The data from the focus groups will be compiled by the study investigators in order to come to broader conclusions about how teaching is currently experienced by Librarians and how this relates to understandings of success in instruction and appointments.

A focus group is a research method for structuring conversations. This structure includes having individuals play distinct roles. The **notetaker** (one of the investigators) is here to take field notes and assist with any technical issues we might have. I will be acting as the **moderator**. As the moderator it is my job to ask questions to the group and keep the conversation on track. Keeping the conversation on track means:

- Ensuring we have a respectful discussion, including respect for one another's perspectives, time, and expertise
- Making sure everyone gets a chance to speak. If you haven't spoken much I might ask you for your opinion.
- Working through the study questions. This is a semi-structured format, meaning that we don't have to strictly talk about only these questions but we should try to answer all of them.
- Keeping track of time. This focus group should last an hour, but if the discussion is going well it can extend slightly longer.

Another part of my role as moderator is to ask that everyone here consents to participate in this study and consents for their participation to be recorded. This is an internal study and the recordings will only be reviewed by the investigators and deleted once they have analyzed the results. Comments will be anonymized before being included in any shared results.

Share consent form and ask for verbal confirmation that everyone has read it and agrees to it

Are there any questions?

Ok, let's get started with the questions. I'll now hit record.

Questionnaires for Participants

Focus Group Interview Questions

Research (could be a research paper, capstone project, thesis, or working as RA for faculty)

Question 1: Tell us about your research project you are working on?

- **Prompts**:
  - What is your research topic/field of study/research question?
  - What kind of research do you have to conduct for this project?
  - How long have you been working on it?

Library Access

Question 2: Before COVID-19, how would you describe your use of the library?

- **Prompts**:
  - Did you access the physical space?
  - Did you access materials online?
  - Did you visit the library to find resources, speak to a librarian/library staff?

- Use the library for Internet access, printing, borrowing technology, quiet study, workshops, Interlibrary loan, writing help, etc?

Question 3: Tell us about what access to your library has been like during COVID-19?

- **Prompts:**
  - Did you access the physical space, when possible?
  - Did you use the library's resources?
  - Virtual appointments with a librarian or other library staff?
  - Did you use any additional library services? (e.g., mobile internet access, laptops)

Question 4: Have you received library instruction or any training in finding and accessing different types of resources online?

If yes, when (since COVID, long before COVID?)

- **Prompts**:
  - Library homepage
  - Finding books
  - Finding articles
  - Finding journals
  - Historical or special collections
  - Other?

Challenges during COVID

Question 5: What kinds of challenges or obstacles have you faced due to Covid that have affected your research?

- **Prompts:**
  - Access to people (cohorts, faculty, library employees to use as soundboard for ideas)
  - Access to spaces
  - Access to print resources
  - Access to online resources
  - Spontaneous access to resources, to on campus help, etc.

Strategies they developed to overcome these challenges

Question 6: What kind of strategies did you adopt to overcome some of the challenges you mentioned above?

- **Prompts**:
  - Borrow materials from faculty?
  - Find open access resources?
  - Try another library
  - Buy materials?

Question 7: Is there anything else you want to share with us related to the pandemic and library access?

Thank: Always thank participants for their time and inform them that their insights will help.

Appendix C. Screening Survey

This form collects personal information that will only be used for the purpose of organizing research focus groups. It will be stored confidentially at the PI's Institutional OneDrive, separate from the data used for analysis, interpretation, and publications.

- Name:
- Email (only for the purpose of contacting you, if you are eligible for this study):
- Name of Institution:
- Level of program: (Type? (Masters/PhD?))
- Length of time at institution as student:
- Length of time with current program
- Do you identify as Racialized/ethnic minority student
  Survey branching logic: if they select this, If you are comfortable doing so, please tell us your racial/ethnic identity.
- Do you identify as any of the following (select all that apply):
  - International student
  - Indigenous student
  - LGBTQIA+ student
  - Student with a disability
  - First-generation student, and,
  - Non-traditional student (e.g.: mature student, attend university part-time, have dependents).
- Which of the following hardships have been an obstacle to your graduate research during the COVID-19 pandemic? (select all that apply):
  - Personal finances
  - Health (self)
  - Health (family member)
  - Family (other issues)
  - Childcare
  - Difficult living situations, and,
  - Other issues that are the result of COVID-19

- What sorts of research projects have you worked on in the past year? (select all that apply):
  - Thesis
  - Research Paper
  - Capstone Project
  - Working as RA for faculty or someone else's research
  - Other, please describe

- In your opinion, how has the COVID-19 pandemic affected university library services?
- How has the COVID-19 pandemic affected your use of the university library services?
- What other challenges have you faced during the COVID-19 pandemic that have affected your research?
- What strategies have you used to overcome these challenges?

Appendix D - Consent Form

Researcher(s):

Maha Kumaran (PI), Associate Librarian, Education & Music Library, University of Saskatchewan, maha.kumaran@usask.ca; 306-966-7779
Cecile Farnum (Co-PI), Liaison Librarian, Ryerson University, cfarnum@ryerson.ca; 416-735-9151
Lisa Levesque (Co-PI), Assessment Librarian, Ryerson University, lisa.levesque@ryerson.ca; 647-216-5862
Aditi Gupta (Co-PI), Engineering and Science Librarian, University of Victoria, 250-721-6085; aditig@uvic.ca;

Purpose and Objective of the Research:

In this research project we aim to understand how marginalized graduate students at three CARL (Canadian Association of Research Libraries) institutions have adapted to the pandemic situation, particularly in their research activities. The three institutions are the librarian researchers' institutions - University of Saskatchewan, Ryerson University, and the University of Victoria. This proposed study aims to address the following research questions:

1. How have marginalized graduate students used the library for research activities during the pandemic?
2. What are the challenges faced by marginalized graduate students in their library research activities during this pandemic?
3. What strategies have they developed to overcome these challenges and continue their research?.

Procedures:

This study is being facilitated by The Canadian Hub for Applied and Social Research (CHASR), research support and consulting service at the University of Saskatchewan. The focus group interview will be conducted in an online environment, it will then be recorded and no personal information will be collected. Your participation in this study will include an interview with CHASR, who will ask for your consent prior to recording of the interview. We hope that you will participate in the online focus groups from a private area of your home so that no individuals outside of the research team hear your conversations.
After receiving your screening eligibility input, if you meet the criteria for the study, we will contact you to participate in the focus group.
The focus group interview will be conducted in an online environment using the Zoom Platform available through the University of Saskatchewan
Please find the Zoom privacy policy here https://explore.zoom.us/en/trust/privacy/
All recordings will be saved in password-protected computers and shared using the PIs institutional OneDrive.
After the study, your data will remain de-identified and will only be shared in an aggregated and de-identified format. We will anonymize and use pseudonyms in all publications and presentations. All data will be transmitted via password-protected files

in a secure environment between the researchers. Data will be disposed of five years after the end of the study.

Funded by:

This study is funded by the Canadian Association of Research Libraries (CARL). The University of Saskatchewan, Ryerson University and the University of Victoria also funded this project. There are no conflicts of interests to be declared.

Potential Risks:

There are no known or anticipated risks to you by participating in this research. If a question, or the discussion, makes you uncomfortable, you can choose not to answer. The research results will only be shared in aggregated data format.

Potential Benefits:

The knowledge gathered through this research will be of benefit to the libraries and other key stakeholders to help inform social justice and equity-based decision-making on access to research resources. We will also use our evidence-based findings to provide recommendations for the library or academic institution policy creation or policy enhancements on creating an inclusive research access environment for all students.

Incentive*:*

Your participation in this research is completely voluntary. All participants will be entered into a prize draw to win one of the two $50 gift cards.

Confidentiality:

You can turn off your computer's microphone and/or camera at any time. The research team will run transcripts by all participants and ask you to sign a transcript release form. Only after this, will the transcript be used for data analysis. The data from this research project will be published and presented with stakeholders and colleagues at academic conferences and via peer-reviewed publications. However, collected data will be stored confidentially and anonymized prior to result sharing and publication. Pseudonyms will also be used. Although direct quotations may be reported from the interview, all identifying information will be removed from the report. We will ask you to review our documents prior to publication for accuracy and confidentiality. No new content will be added at this stage of the research process. This anonymization will include removing participant names and other information that could identify them by context or the nature of the sample. The researchers will undertake to safeguard the confidentiality of the discussion. This survey is conducted using Survey Monkey. Please visit the privacy policy here https://www.surveymonkey.com/mp/legal/privacy/?ut_source=footer However researchers do not have control of participants' recording content. Please find the Zoom privacy policy here https://explore.zoom.us/en/trust/privacy/ All data will be stored for 5 years post publication (with the exception of the Master list or email contacts which will be deleted after the completion of data analysis).

Storage of Data:

The focus group interviews will be conducted in an online environment using the Zoom platform from the University of Saskatchewan. Interviews will be recorded, and videos of

the focus groups will be retained by CHASR during data analysis. CHASR will delete videos and audio recordings based on timelines required by ethics (5 years) after which all videos will be deleted. After the study, your data will remain de-identified and will only be shared in an aggregated and de-identified format. Electronic data will be stored on a password-protected computer during analyses and transmitted between researchers using password driven OneDrive. Data will be disposed of five years after the end of the study. Consent forms will be stored separately from the study. A Data Management Plan (DMP) has been created, with further details around the collection, storage, and de-identification and anonymization of the research data, and is accessible upon request. A de-identified dataset will be prepared for public sharing in a data repository.

Right to Withdraw:

Your participation is voluntary, and you can participate in only those discussions that you are comfortable with. You may withdraw from the research project for any reason, without explanation or penalty of any sort. Should you wish to withdraw, you may leave the group meeting at any time; however, data that have already been collected cannot be withdrawn as it forms part of the context for information provided by other participants.

Psychological or Emotional Trauma Help:

These focus groups are designed in a way that we hope participants feel comfortable, psychologically safe, and in control of the information they choose to share. However, they will include discussion of personal identity and hardship experienced during COVID-19, which are challenging subjects. If you believe you will need assistance due to psychological or emotional trauma due to any unforeseen recollection of past experiences, here is a list of places you may contact for further help.

- Student Wellness Centre at the University of Saskatchewan student.wellness@usask.ca
- Student Wellbeing at Ryerson University
- Student Wellness Centre at the University of Victoria
- Mindyourmind: focus on resources in Canada, the US
- Resources for Marginalized Communities and Allies (Crisis Services Canada)
- Therapy Route: an extensive list of helplines, crisis lines, and suicide hotlines from all around the world.
- Good2Talk provides confidential support services for students in Ontario and Nova Scotia

Follow up:

If you are interested in learning about publications or dissemination, contact the PI, Maha Kumaran at maha.kumaran@usask.ca

Questions or Concerns:

Contact the researcher(s) using the information at the top of page. This research project has been approved on ethical grounds by the University of Saskatchewan Behavioural

Research Ethics Board, Ryerson's Research Ethics Board (REB), and Human Research Ethics at the University of Victoria. Any questions regarding your rights as a participant may be addressed to that committee through the PI's Research Ethics Office: ethics.office@usask.ca; 306-966-2975; out of town participants may call toll free 1-888-966-2975. You may also contact Ryerson Ethics Board at rebchair@ryerson.ca, https://www.ryerson.ca/research/resources/ethics/; Or, University of Victoria Human Research Ethics at ethics@uvic.ca

By completing and submitting this questionnaire, your free and informed consent is implied and indicates that you understand the above conditions of participation in this study.

Applying the COUP Framework to a Library-Sourced eTextbook Adoption: A Mixed Methods Study

Lily Dubach, Penny Beile, Sara Duff, Rich Gause, and Amanda Walden

A growing number of studies have reported that using open educational resources benefits students, but few studies have investigated academic impacts of adopting library-sourced eBooks as the course textbook. This mixed-methods study utilizes the Open Education Group's COUP Framework (Cost, Outcomes, Usage, Perceptions), which has previously been used to investigate the impact of OER adoptions, and applies it to the adoption of a library-sourced eBook for a large university course. Results are based on analysis of qualitative data obtained from a student survey and focus group, as well as quantitative student grade point average and drop/fail rates. Findings show that this library-sourced eBook adoption significantly reduced costs for students with no statistically significant impact on student success metrics. Additionally, students reported that cost savings were appreciated and beneficial; they further described the course eBook as high quality, easy to find and use, and supportive of their performance in class. The authors conclude that the potential benefits to students justify the time, cost, and effort expended by the library to facilitate and support eBook adoptions.

Introduction

From January 2000 to December 2021, textbook prices skyrocketed by over 150 percent,[1] significantly above the average inflation rate of 65.5 percent. Likewise, the cost of college tuition and fees rose over 175 percent, compounding the financial challenge for students to attain a college degree. However, over the past five years the steep incline in textbook cost has faltered from its high of over 200 percent in 2017.[2] There are several possible reasons for the slight slowing in price increases. These include national and state legislative efforts to increase textbook price transparency, affordability initiatives, and open education efforts; faculty awareness and interest in opting for low- or zero-cost textbooks and alternatives; as well as librarians and others, such

* *Lily Dubach is Textbook Affordability Librarian, email: lily@ucf.edu; Penny Beile is Librarian Emerita and former Associate Dean of Academic Engagement, email: pbeile@ucf.edu; Sara Duff is Acquisitions and Collection Assessment Librarian, email: sara.duff@ucf.edu; and Rich Gause is a Subject Librarian, email: richg@ucf.edu. Amanda Walden is Associate Lecturer in the School of Global Health Management and Informatics, email: amanda.walden@ucf.edu. All are from the University of Central Florida.* *The authors would like to extend appreciation to Ryan Murphy, Institutional Research Analyst of UCF Institutional Knowledge Management, for providing requested student data.*

as instructional designers, providing services and resources in support of open educational resources (OER) and library-sourced materials creation and adoption.

These efforts to reduce textbook costs can have a significant impact on student success. Wimberly et al. reported that course drop and fail rates have the potential to decrease so significantly that if a fifty-student course transitioned from a $100 textbook to a free resource, one more student would pass the course.[3] Building upon earlier surveys, the Florida Virtual Campus administered a 2022 survey to which over 13,000 college and university students in Florida responded. The survey found that 32.4 percent of students noted they had earned a poor grade due to not being able to afford a textbook and 24.2 percent had dropped a course due to textbook costs.[4]

In 2015 the University of Central Florida (UCF) started a textbook affordability initiative with the goal of reducing textbook costs to positively impact student success. UCF is an urban university in Orlando, Florida, with a Carnegie Classification of Doctoral/Research Universities-Intensive. The institution enjoys over 70,000 enrollments (as of January 2022) and is recognized as one of the largest academic institutions in the United States.[5] In recent years, UCF received designation as a Hispanic Serving Institution,[6] and over 49 percent of enrolled students are minorities.[7] A high percentage of students transfer to UCF,[8] many via the DirectConnect to UCF program[9] which guarantees admission to UCF from partnered state colleges. Further, in the 2021-2022 academic year, 81 percent of students received financial aid or Pell Grants.[10]

UCF's immense size and diversity lends itself to large course sections and students with varied academic and financial needs. Reducing or eliminating the costs of textbooks for courses benefits all students, but it provides additional support for students who are "particularly vulnerable to the effect of spiraling textbook costs,"[11] such as students who might balance multiple responsibilities beyond their educational pursuits—such as family or job responsibilities—or students who rely on financial aid. A core mission of the institution is to provide access to an affordable college degree, and the textbook affordability initiative supports this student-focused mission.

Since the 2015 inception of textbook affordability efforts at UCF, originally led by librarians and instructional designers, a range of institutional departments and offices have joined the effort and Affordable Instructional Materials is now a Provost's Initiative.[12] At UCF, librarians are most actively engaged in supporting adoptions of library-sourced materials to use in lieu of traditional textbooks.[13] Typically, these library materials are electronic books (eBooks) with licenses that permit all students to access the item simultaneously. Not all traditional textbooks are available in this access model, so interested faculty may need to consider switching their previously required textbooks to ones available through the library.

Librarians at UCF can also support OER adoption. Unlike library-sourced digital books, OER are openly licensed[14] so there are no potential digital access restrictions to impede students using the materials. This has made OER popular for textbook affordability efforts and for researchers investigating associated student benefits. Recently, a UCF librarian and two instructional designers examined an American History course that adopted an OER as the required course material.[15] The authors found no negative outcomes associated with students using OER instead of a traditional textbook; in fact, they reported a theme of gratitude from students relating to the benefits of free access to the materials, while academic performance levels were maintained. The study analyzed quantitative, survey, and focus group data across all four strands of the COUP Framework: Cost, Outcomes, Usage, and Perceptions, which

was developed by the Open Education Group to help study the impact of OER adoption on student behaviors and learning.[16]

The present study also utilized the COUP Framework to investigate the adoption and use of a library-sourced eBook in a Medical Terminology course. This course was selected for the study due to its high enrollment, the timing of the eBook adoption, interest from the instructor, and expertise from librarians who assisted with the implementation. This investigation is patterned after the American History course study, the primary difference being a focus on library-sourced eBook rather than OER adoption. The next section describes the course, the instructor, and how the eBook was adopted. The remainder of the paper summarizes relevant literature, outlines this study's methodology and results, and provides discussion on the findings based on the COUP Framework.[17]

Medical Terminology Course

Medical Terminology is a junior-level course with high enrollment: 1,000-1,500 students every fall, spring, and summer semester. The now-online course is managed by the Health Informatics and Information Management program[18] and run by a single primary instructor who creates the materials and sets up the sections. This ensures all students receive the same material and quality of instruction. The primary instructor initially selected a publisher course pack that included video lectures, PowerPoints, and practice opportunities aimed at the practice-intensive nature of learning medical terminology.

Shortly thereafter, the primary instructor was approached to participate in an inclusive access program that provided students an eBook and online course pack at a reduced price. The program was adopted to ensure affordable access for students and to avoid delays due to financial issues. Students could opt-in and the costs would be added to their accounts. However, the instructors frequently experienced technical issues using the inclusive access program, including a semester where the publisher course pack was unavailable for two weeks at the beginning of the semester. An ideal product was eventually identified that came with timely customer support and seamless integration into the university's web-based learning platform.

Although this subsequent product was high quality, instructors still needed to coordinate with several parties and follow up with students, thereby increasing their workload. Medical terminology definitions and concepts do not change often, yet new editions come out frequently, limiting access to older, cheaper editions. The inclusive access program reduced the price, but it remained more expensive than older editions and instructor-created materials.

During the spring 2020 semester, the primary instructor participated in a UCF Libraries Faculty Advisory Committee meeting discussing library-sourced materials and OER, which prompted the course instructor to research current textbooks available as library eBooks. The subject librarian became involved with the purchasing and implementation of a library-sourced eBook for another class in summer 2020.

The success of adopting this library-sourced eBook, along with the struggles of the current medical terminology text and process, prompted a discussion at the beginning of fall 2020 between the instructor and subject librarian about identifying a library-sourced option for the medical terminology course. They identified an acceptable textbook that required OER supplementation to cover core knowledge. Additional materials could be sourced with support from the subject librarian and instructional designer.

The librarian purchased the eBook and adoption was set for spring 2021. To reduce costs, the publisher course pack was eliminated in favor of instructor-created materials. Creating materials required significant time and effort but, because the base knowledge of medical terminology does not often change, the initial effort would result in requiring only occasional maintenance and updates later. This resulted in zero textbook costs for the students.

Literature Review

This literature review builds upon the review completed for the 2020 article, "Analysis of an Open Textbook Adoption in an American History Course."[19] Where the review for the 2020 article focuses solely on impacts of OER adoptions, this review summarizes the existing literature on library-sourced eBook adoptions and includes newer studies on OER where the literature lacks library-sourced eBook equivalents. Three education databases were searched, including Library Literature & Information Science Full Text (H.W. Wilson), Education Source (ProQuest), and LearnTechLib. Google Scholar and the library's Primo Discovery were also used. Key search concepts related to library-sourced eBooks, librarian involvement in textbook affordability, eTextbooks, OER, and faculty-student perceptions using eBooks. Citation linking analysis was also used to help identify additional articles. A search revealed 319 publications that fit the topics, which were further narrowed to nineteen within the date range 2018-2022. The publications are summarized following each strand of the COUP Framework.

Cost

The Cost strand, according to the Open Education Group's COUP Framework[20] explores how OER can impact financial and cost metrics for students and institutions, including the costs of textbooks previously assigned and calculated savings after transitioning to an open textbook; fee models for supporting OER; and changes in tuition revenue due to changes in drop rates, enrollment intensity, and persistence (and subsequent performance-based funding due to those changes). As described below, most research studies reviewed for this article reported on student savings after adoption of free-to-students course materials (both OER and library-sourced), although some studies considered the cost to the library to provide materials and publisher models related to unlimited user eBooks that could be adopted as course textbooks.

Of the reviewed articles, savings for OER adoptions varied in scope and time frame, ranging from one course, to one academic year, to covering the entirety of textbook affordability efforts. Examples include Beile et al.,[21] who reported $109,548 in savings for one course over two semesters at UCF; Delimont et al., at Kansas State University, who noted approximately $425,000 in savings for courses using open and alternative educational resources over an academic year,[22] and Nicholas et al., who found in 2018 that the University of Georgia textbook affordability program had savings of over $3 million since its inception in 2013.[23]

Library-sourced eBook adoptions have likewise reported potential savings, often through the lens of the cost of the program to the library. For example, Raish et al.[24] stated that the Pennsylvania State University library paid $26,343 in licensing fees for eBook titles which saved students between $383,000 and $417,000 each semester. Similarly, East Carolina University library[25] acquired thirty-one potential textbooks for $3,000 which, when added to forty-two eBooks that were part of the existing collection, saved students between $34,292 to $45,994 per semester. A pilot project at the University of North Carolina at Greensboro, which combined the use of OER and library-sourced eBooks with ten mini-grants alloting $1,000 per faculty

member involved in the program, reported saving students $150,120 in fall 2015.[26]

Although library-sourced eBooks could provide a solution to the negative impacts of high-cost course materials, they are not always available for library purchase. Rokusek and Cooke[27] at Florida Gulf Coast University (FGCU), noted that the user access model is important when determining if the eBooks are suitable for course use. FGCU used GOBI to locate eBooks that matched social science textbooks, and found that twenty-seven (17.7 percent) of 152 textbooks offered suitable unlimited-user access or nonlinear (typically 325 or fewer permitted accesses per year) eBooks. Books in unsuitable format (i.e., limited users or print) were about twice as expensive as those with unlimited users, meaning that students would get access to cheaper textbooks (in the $68 range) but still needed to pay for more expensive books. These reports demonstrate that by successfully helping instructors replace traditional textbooks with library-sourced eBooks libraries can play a significant role in reducing the cost of a college education for students.

Outcomes

The COUP Framework's Outcome strand seeks to investigate and provide "empirical evidence about the magnitude and direction of the learning impacts of OER adoption."[28] Similarly, the literature reviewed for this article focused on student grades and course completions—typically accepted student success markers—to measure learning impacts. While published reports predominantly focused on OER rather than library-sourced eBooks, both OER and library-sourced eBook study results were included in this review. Reports of how the cost of course materials influenced academic behaviors and decision-making, as well as (when available) their impact in relation to various demographic variables, are summarized here.

A review of OER efficacy conducted by Hilton III summarized sixteen studies published between 2015-2018.[29] Of those studies, nine reported statistically significant results that favored students using OER, while one study's results favored using commercial textbooks, and the remaining six either reported no statistically significant differences or did not discuss statistical significance. Colvard et al.[30] further analyzed drop/fail/withdraw (DFW) rates and grade point average (GPA) of the nine studies favorable for OER, and found that DFW rate decreased by 2.68 percent, and that A and A- grades increased by 5.50 percent and 7.73 percent, respectively. Part-time students increased their grades by 53.12 percent and their DFW rates decreased by 29.54 percent.

Student self-reports in survey studies also suggest that use of OER or free-to-student course materials may have a positive impact on student learning and success. Spica and Biddix reported that 3.3 percent of students believe that they have failed courses due to not being able to afford course materials, which would have been mitigated by having access to free or low-cost course materials.[31] This aligns with Florida Virtual Campus Survey results, which found that 32.4 percent of students believe they earned a poor grade due to not being able to afford a textbook and that 24.2 percent had dropped a course due to the cost of course materials.[32] Beile et al. also found that 82 percent of students said that they had delayed purchase of a textbook, 60.8 percent had not purchased a textbook, and 25.2 percent took fewer classes due to textbook costs.[33]

Beile et al. further reported that students who are at least partially responsible for purchasing their own course materials are less likely to purchase the textbook, and that they are more likely not to take a course with an expensive textbook than are students who rely

on other means to purchase textbooks (e.g., parents or grants). This finding suggests that financially at-risk students may be more vulnerable to and likely to suffer from high textbook prices.[34] Spica and Biddix likewise found differences in academic performance barriers for low-income students and non-adult learners and went on to add that younger learners are more susceptible to the consequences of course material costs.[35]

As noted in the introduction, Wimberley et al. found that the total minimum costs of required course materials had a significant effect on the percentage of students who pass a course, concluding that if a course with fifty students moved from a one hundred dollar textbook to zero cost course materials, then one more student would pass the course every semester.[36] As they describe, reducing the costs of required course materials "is what meaningfully improves aggregate student success outcomes, regardless of whether the method is OERs, advertising-supported websites, the library purchased digital items or library print reserves."[37] These findings suggest that removing the barrier of the cost of course materials can increase access and academic success and help level the field for students with significant financial needs.

Usage

The Usage strand of the COUP Framework focuses on the unique aspects of OERs that allow faculty to change the content. However, the content of the actual library-sourced eBook was not amended even though the course instructors created supplementary content. Further, the emphasis of this study is on the student experience rather than the faculty's perspective and use; therefore, for the purposes of this review, the usage section describes how students interacted with these course materials.

Existing studies generally reported on preferences between traditional print textbooks and library-sourced eBooks, how students used these eBooks, and issues students may have encountered with accessing eBooks. Most studies stated that, when given an OER or library-sourced eBook option at no cost to students, students overwhelmingly used it instead of the traditional print textbook. Carr et al. noted that 70.8 percent of students used only the libraries' online access, while 13.9 percent used both print and the library-sourced eBook.[38] Delimont et al. found that 89.9 percent of students surveyed used the open/alternative educational resources option.[39] Ratto et al. stated that only 4 percent of students surveyed did not use the library eBook option.[40] Both Su and Chulkov and VanAlstine revealed that students preferred electronic textbooks if cost was their driving decision.[41,42]

The literature also included studies of student usage of eBook features, such as highlighting, text searching, and bookmarking. Beile et al. found that students often were not aware of the various features that online books offered.[43] Hendrix et al. likewise noted that "over one-half of the students (54 percent) did not use any of the e-textbook engagement features," but added that students who used the features identified the text search feature the most useful.[44] In a Rutgers University survey, Todorinova and Wilkinson reported that 55 percent of students stated it was easier to take notes and 48 percent said it was easier to collaborate with other students when using an eBook.[45] From these reports, and as suggested by Roberts et al.,[46] it appears that students find eBook features useful but need further instruction on how to use them.

Perceptions

Within the COUP Framework, Perceptions refers to how faculty and students think and feel about the effectiveness and quality of open resources compared to traditional textbooks.[47]

Library-sourced eBooks often are the same texts already selected by instructors, and students may not recognize or care whether the online text is open or library-sourced, alleviating concerns about content quality and alignment with course objectives. As such, studies investigating student and faculty perceptions about inclusion of library-sourced content in textbook affordability projects reported mostly positive reactions from both students and faculty.

In general, faculty responded positively to library-sourced eBooks and other affordability measures, with occasional reservations about their implementation. Pittsley-Sousa found that faculty surveyed at Eastern Michigan University reported not seeing a significant change in student performance, although 29 percent went on to add that they believed more students were reading the assigned materials. They also noted that students complained less about the cost of textbooks and participating faculty planned to use library eBooks for future courses.[48] Delimont et al. indicated that faculty typically believe that students perform better using OER or free alternatives to commercial textbooks.[49] Carr et al. stated that most of the instructors who responded to the invitation to use library-sourced textbooks were enthusiastic about the project, praising the opportunity to reduce costs for their students. The few instructors who chose not to participate did so due to their concerns about poor image quality, potentially lacking content, access issues, author royalties, and belief that students should own the textbook for future reference.[50]

Two studies were identified that described student perceptions using open or library-sourced course materials. Carr et al. found that 62.5 percent of surveyed students at East Carolina University who used library-sourced eBooks were highly satisfied with the materials, while 23.6 percent were somewhat satisfied, 11.1 percent neutral, and 1.4 percent somewhat dissatisfied and highly dissatisfied, respectively.[51] An analysis of survey responses about the Open and Affordable Textbooks (OAT) program at Rutgers reported that students participating in the program identified improvements in their experience regarding access, reading, note-taking, and collaboration.[52] Further, 69 percent of students surveyed rated their experience as a 4 or 5 on a 5-point scale, with 5 as the highest. In sum, both instructors and students perceived library-sourced eBooks positively with some concerns expressed.

Methodology

This study employed a mixed-methods approach to investigate the impact of a library-sourced eBook adoption on academic behaviors and performance of students enrolled in a Medical Terminology class. Quantitative data requested from the university's Office of Institutional Knowledge Management included demographic information paired with GPA, pass/fail, and withdrawal rates. The data covered two major semesters pre-adoption (spring and fall 2020) and two major semesters post-adoption (spring and fall 2021) of the library-sourced eBook. Qualitative data were collected during the fall 2021 semester through administration of a survey and focus group discussions.

During the fall 2021 semester, all students enrolled in seven course sections of the Medical Terminology course that adopted the library-sourced eBook were invited to complete a survey. The textbook affordability librarian posted survey invitations in Canvas, the institution's learning management platform, with the initial invitation sent during week five and a follow up reminder sent during week eight. Outside of Canvas, students also received email reminders. At the end of the survey, students were invited to register for a subsequent focus group conducted on Zoom.

The survey was created in Qualtrics with questions based on a previous survey at the same institution examining student outcomes and OER.[53] Questions were altered to suit a library-sourced eBook instead of OER, but the survey followed the same categories of questions related to cost, usage, and perceptions. These questions were designed to identify the impact of textbook costs on student decisions and behaviors. Demographic questions were asked to determine how representative the respondents were to course enrollment. Several questions included decision-tree logic and only displayed if certain answers were selected in previous questions. Survey questions and answer choices are available as *Library-Sourced eTextbook Survey Questions* on UCF's institutional repository.[54]

The focus group further explored student responses to the survey. Students who completed the survey were invited to sign up for the voluntary focus group, which offered a free beverage coupon as an incentive. The focus group included three researchers and eight students, who answered semi-structured interview questions. Questions explored the same categories as the survey but were structured to receive more in-depth and nuanced responses. Students were asked about costs, usage, and perceptions of the library-sourced eBook. Focus group questions are available on UCF's institutional repository.[55]

Results

Of the 1,324 students enrolled in the course in fall 2021, 149 students (11.25 percent) responded to the survey. However, none of the survey questions were forced response, excluding the initial question to agree to participate in the study, so the number of replies to each question varies.

Demographic questions were asked to determine how representative survey respondents were compared to all students in the class. Table 1 illustrates that slightly more students who self-identified as Asian or multi-racial responded to the survey than were enrolled in the course, while the reverse was true for those identifying as White/Caucasian. Overall, however, the representation of racial and ethnic backgrounds of survey respondents was comparable to those enrolled in the course.

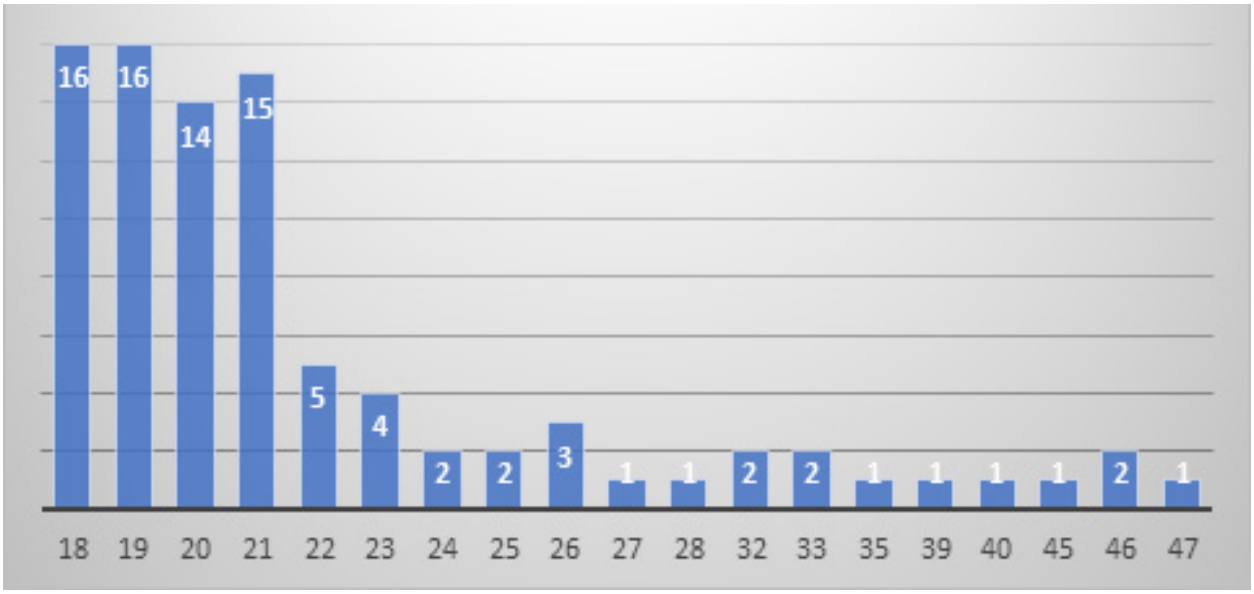
TABLE 1
Race / Ethnic Identification

	Survey Respondents		Medical Terminology Students, Fall 2021	
	n	**%**	**n**	**%**
Asian	12	12.24	132	9.95
Black / African American	15	15.31	192	14.64
Hispanic / Latinx	29	29.59	406	30.65
International	0	0.0	50	3.76
Multi-racial	7	7.14	47	3.54
Native American / Alaska Native	1	1.02	2	0.15
Native Hawaiian / other Pacific Islander	0	0.0	5	0.37
White / Caucasian	33	33.67	482	36.38
Prefer not to answer	1	1.02	8	0.58
Total	**98**	**100.00**	**1,324**	**100.02***

*Rounding error

Students were further compared by age. Age distribution of survey respondents was 82.22 percent (n=74) twenty-five years old or under and 17.78 percent (n=16) over age twenty-five, with an average age of 22.6. This is compared to all student enrollments in the course in fall 2021, which had 90.78 percent (n=1,202) age twenty-five or under and 9.22 percent (n=122) over age twenty-five, with an average age of 21.6. Students who responded to the survey were slightly older than students enrolled in the course (see Figure 1 for age distribution).

FIGURE 1
Age Distribution of Survey Respondents



When comparing gender identities between survey respondents and all students enrolled in the course, survey respondents selected female 81.64 percent (n=80), male 17.34 percent (n=17), and non-binary 1.02 percent (n=1) of the time. The gender distribution of the course for fall 2021 was 72.36 percent (n=958) female and 27.64 percent (n=366) male. Students who identified as female were more likely to respond to the survey than those identifying as male.

As an institution with a large population of transfer students, the enrollment status of students who responded to the survey was of interest. When asked their status of whether transfer student or first time in college (FTIC), 48.98 percent (n=48) of survey respondents answered that they entered UCF as a transfer student compared to 50 percent (n=49) who started their academic career at UCF. One student (1.02 percent) was uncertain about their status. For students enrolled in the course overall, 46.15 percent (n=611) were transfer students, and 53.85 percent (n=713) were FTIC. The percentage of both survey respondents and students enrolled in the course was comparable to the approximate 49 percent transfer and 50 percent FTIC incoming undergraduates at the institution.[56]

Cost

Adoption of a course textbook that is free to students can have financial impacts. These impacts are often tracked as potential savings compared to previously assigned textbooks, as well as the effect that textbook costs have on academic behaviors. This section reports estimated student

savings, a summary of how students noted the cost of textbooks influenced their academic behaviors, and insight into students' other burgeoning financial needs through identification of how savings would be otherwise spent.

The course instructor and co-instructors taught eighteen sections of the Medical Terminology course in the year following adoption of the library-sourced eBook, reaching 3,219 students. The eBook was available for free* and the library online and print copies were available for purchase from the campus bookstore. A total of 129 textbooks were purchased from the bookstore, which equates to approximately 4 percent of student enrollments. The remaining 96 percent of students potentially saved $303,425, calculated by subtracting the actual total cost of purchased textbooks from the probable total cost if all students enrolled in all sections purchased the textbook. It is important to note that these are *potential* savings, as students likely purchased or rented copies from stores beyond the campus bookstore or may have shared or acquired other free versions of the textbook beyond the library. Not all purchases, rentals, or free options are accounted for in this estimation.

When asked how textbook costs have influenced their academic decision-making, more than two-thirds of students (68.7 percent, n=68) who responded to the question indicated that they had not purchased a textbook due to cost. This rose to 78.8 percent (n=78) for those who have delayed purchasing a textbook due to cost, followed by sharing a textbook (49.5 percent, n=49), taking fewer courses (27.3 percent, n=27), and not taking a course (22.5 percent, n=22). The Florida Virtual Campus Survey investigated similar questions, finding that 53 percent of student respondents (n=7,314) reported not purchasing a textbook, 44 percent (n=6,072) taking fewer courses, 38 percent (n=5,244) not registering for a specific course, and 24 percent (n=3,312) dropping a course due to textbook costs.[57] Table 2 provides summary data of the impact of textbook costs on students' academic behaviors.

Students also were asked who pays for their tuition and for their textbooks, with options ranging from self, parents or other family members, scholarships/grants, and financial aid/loans. Multiple responses were allowed. Scholarships were relied upon the most to pay tuition, followed by financial aid, students, then parents. However, the responsibility for paying for

TABLE 2
Impact of Textbook Costs on Student Academic Behaviors

Have you ever:	Yes		No		Prefer Not to Answer		Total
	n	%	n	%	n	%	
Not purchased a textbook due to cost?	68	68.69	31	31.31	0	0.00	100.00
Delayed purchasing a textbook due to cost?	78	78.79	21	21.21	0	0.00	100.00
Shared a textbook with a peer due to cost?	49	49.49	48	48.49	2	2.02	100.00
Taken fewer courses in a semester due to cost?	27	27.27	71	71.72	1	1.01	100.00
Not taken a course because textbooks were too expensive	22	22.47	75	76.52	1	1.01	100.00

* It is important to note that, although a library-sourced eBook is free to students, there were initial costs related to both time and money for selecting and purchasing the eBook. The purchase price for this specific eBook was $127.81 of library funds. The time it took the librarian to investigate options, communicate with the faculty member, and select the eBook accounted for approximately twelve hours of librarian time. Beyond this, it is critical to consider the amount of time it took the faculty member to overhaul the course and create assignments to suit the new material, estimated to take upwards of 160 hours.

TABLE 3
Purchasing Responsibility for Tuition Compared to Textbooks (Multiple Responses Allowed)

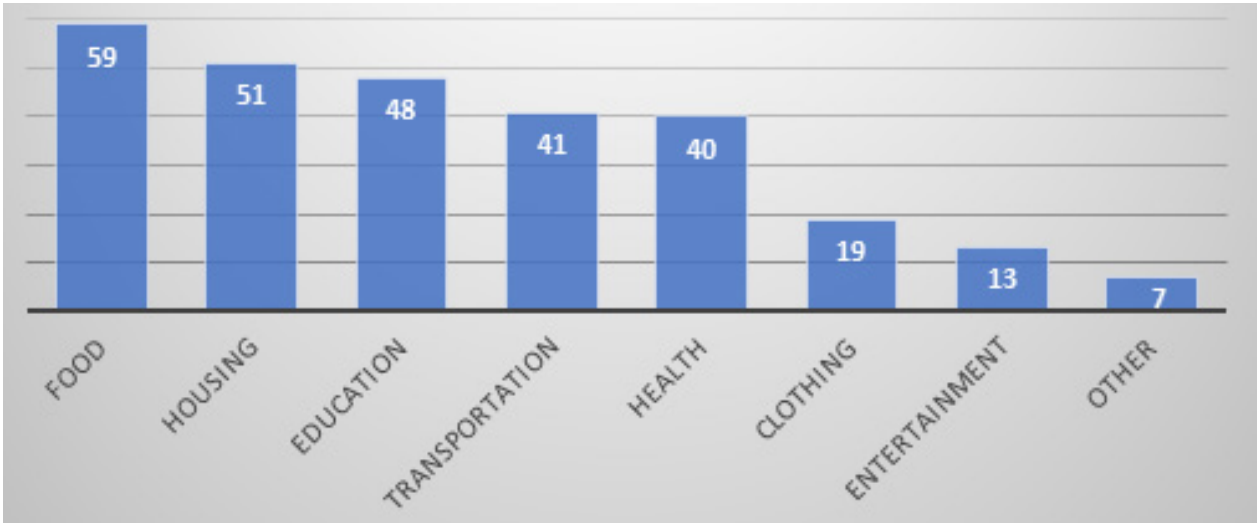
	Tuition		Textbooks	
	n	%	n	%
Students/"Self"	40	24.54	57	37.25
Parents or Family Members	25	15.34	27	17.65
Scholarships/Grants	55	33.74	44	28.76
Financial Aid/Loans	42	25.77	24	15.69
Other	1	0.61	1	0.66
Total	163	100.00	153	100.00

textbooks shifted to students, followed by scholarships, parents, then financial aid. As illustrated in Table 3, students bore full or partial responsibility for paying tuition 24.54 percent of the time, increasing to 37.25 percent for textbooks.

A chi-square test of independence was conducted to examine the relationship between who pays for textbooks and how it affected decisions to not purchase a course textbook, delay purchase of the textbook, take fewer courses in a semester, or not take a course due to the cost of textbooks. The relationship between how textbooks are paid for and not purchasing a textbook was statistically significant at the .01 level ($x2 = 53.97$, 8 df, $p < .01$), as was delaying purchase of a textbook ($x2 = 50.62$, 8 df, $p < .01$), taking fewer courses in a semester ($x2 = 64.86$, 12 df, $p < .01$), and not taking a course due to the cost of textbooks ($x2 = 34.5$, 12 df, $p < .01$). The 37 percent of students who were at least partially responsible for purchasing their own textbooks were less likely to purchase a course textbook, and were more likely to delay purchasing a textbook, take fewer courses in a semester, or not take a course due to the cost of a textbook than students who rely on other sources for purchasing their textbooks.

To explore how free or low-cost textbooks could alleviate other financial needs, students were asked, "If all your textbooks were free, how would you spend the saved money?" with multiple responses allowed. As indicated in Figure 2, students responded that textbook savings would first go toward food, then housing, additional credit hours, transportation, and

FIGURE 2
Potential Textbook Savings Expenditures



health, with clothing, entertainment, and "other" markedly lower. The "other" response allowed comments, with respondents noting saved funds would be directed to savings, other bills, and childcare fees. Focus group attendees likewise agreed that purchasing food was their top priority, but also mentioned items that would assist with education. One student stated, "I'd probably prefer to pay for food or bills than textbooks. My parents and I pay for my textbooks out of pocket; the scholarships I have don't cover textbook costs." Related to how scholarships often do not cover textbook costs, students also agreed that textbook costs can significantly impact the loan debt that students may carry after graduation, with one adding that textbook costs might be "at least 30 percent of loans because of the ridiculous astronomical costs of books."

Outcomes

Academic outcomes are frequently analyzed to investigate whether adopting a different or free-to-students textbook impacts student learning and academic success. In this case, a traditional textbook sourced from a textbook publisher was replaced by a library-sourced eBook. Widely recognized student success markers often include pass, fail, and withdrawal rates, as well as average end-of-semester GPA. Performance on each of these indicators was compared before and after adoption of the library-sourced eBook.

Student data from the two major semesters prior to adoption of the library-sourced eBook (spring and fall 2020) were aggregated and compared to aggregated student data from the two major semesters after adoption (spring and fall 2021). Following the Drop/Add period, a total of 2,567 students were enrolled in the course during the two major terms prior to implementation of the eBook and are included in analysis. Comparably, 2,517 students remained in the course after Drop/Add during the two major terms following adoption of the library-sourced eBook. The impact of the library-sourced eBook adoption was investigated by analyzing the two groups (pre- and post-adoption) on the student academic success markers of pass/fail/withdrawal rates at the end of the semester and average end-of-semester course GPA. Pass rate is the number of students who receive a course grade of A, B, C, or D, while Fail is the number of students receiving a failing grade of F. Withdrawal is the number of students who withdrew from the course after the Add/Drop deadline. Withdrawal rates can serve as an indicator of course persistence, while Pass and Fail rates are generally accepted as indicators of student performance in the course, as is course GPA.

A comparison of Pass/Fail rates between groups was conducted using a chi-square test of independence and no statistically significant difference was seen between students who paid for a traditional textbook when compared to those who had access to the library-sourced

TABLE 4
Pass, Fail, and Withdrawal Rates of Students Enrolled in Course; Traditional Textbook Compared to Library-Sourced eBook

	Traditional Textbook		Library-Sourced eBook	
	n	%	n	%
Pass rate (A, B, C, or D grade)	2,538	98.87	2,486	98.77
Fail rate (F grade)	16	0.62	22	0.87
Withdrawal rate	13	0.51	9	0.36
Total	2,567	100.00	2,517	100.00

eBook, $x2(1, N=5,062) = 1.068$, $p=0.30$. Further, no statistically significant difference was found between the number of students who withdrew from the course when comparing the two major semesters before and after adoption of the library-sourced textbook, $x2(1, N=5,084) = .654$, $p=0.42$ (see Table 4).

Likewise, no statistically significant difference was found with average end-of-semester course GPA when comparing students enrolled in the classes using the traditional textbook compared to those using the library-sourced eBook, $x2(4, N=5,062) = 8.151$, $p=0.09$ (see Table 5). In sum, no changes in student academic outcomes were noted that could be attributed to adoption of the library-sourced eBook. Students who used the library-sourced eBook performed equally well as students using the traditional textbook.

TABLE 5
Average Course GPA of Students Enrolled in Course; Traditional Textbook Compared to Library-Sourced eBook

Traditional Textbook			Library-Sourced eBook		
N	**mean**	**SD**	**n**	**mean**	**SD**
2,554	3.91	.44	2,508	3.88	.52

Usage

The Usage strand from the COUP Framework is defined as the degree to which faculty and students exercise the permissions offered by the OER and how this use impacts student learning. However, the library-sourced eBook used was a fixed medium, electronic publication supplemented with additional course materials. As such, this study explored the Usage strand from the perspective of how students learned about the library-sourced eBook option, as well as their experience related to locating and accessing it, and ease of use for reading, taking notes, and studying.

To begin the survey, students were asked whether they used the assigned textbook for the course, to which 90.1 percent (n=128) responded that they did, while 9.9 percent (n=14) did not. Students who used the text were then asked whether they used the default option of free online library eBook or another alternative, such as an electronic or print copy accessed in another way. Of the 128 students who used the assigned textbook, 84.4 percent (n=108) used the free online library eBook, 3.9 percent (n=5) purchased an electronic copy, 7.0 percent (n=9) purchased a print copy, and 4.7 percent (n=6) accessed a free electronic version from another source. No students who attended the focus group purchased a textbook, but one student noted they had found and used a free PDF version online that was easier to access and use than the library-sourced eBook.

Students who purchased an electronic copy did so because they did not know a free version was available from the library (40 percent, n=2), wanted to keep the book as a reference for later (20 percent, n=1), or did not find the library-sourced version acceptable, with one indicating the book was hard to access and use and another noting that the platform said the book was "only free for the first two weeks" (40 percent, n=2). Similarly, students who accessed a free electronic version of the eBook from another source did so due to not knowing a free version was available (33.3 percent, n=2), wanting to keep the text as a reference for later (33.3 percent, n=2), or seeking increased functionality on their e-reader or computer (33.3 percent, n=2). The nine students who purchased a print copy added that they did so

because they preferred studying from a hard copy (55.6 percent, n=5), did not know a free version was available (33.3 percent, n=3), or wanted to keep the print copy as a reference for later (11.1 percent, n=1).

As several survey respondents noted that they did not know a free textbook was available, the focus group further explored this topic. When asked when they discovered the textbook was available for free, students noted a variety of communication overtures, including a campus bookstore textbook search, information seen in the syllabus, and via email sent by the professor. All attendees added that they would like to see the free textbook option when searching and registering for classes.

Overall, students generally agreed that the library-sourced eBook was easy to find (96.80 percent, n=91), to use (94.68 percent, n=89), to read (92.56 percent, n=87), and to study from (86.18 percent, n=81) (see Table 6 for a summary of responses). However, the number of Strongly Agree/Agree responses declined for "easy to study from," prompting the authors to explore this more in a focus group setting. When students discussed how they read and studied from the eBook, a common theme of reading the eBook online initially and then downloading the eBook so notes could be taken and the text highlighted emerged. Several students, however, mentioned that they did not know about the ability to download chapters. This lack of knowledge led librarians to create a how-to video mid-semester addressing this functionality.

TABLE 6
Student Responses Regarding Ease of Use of the Library-Sourced eBook

	Strongly Agree/ Agree		Neither Agree nor Disagree		Disagree/Strongly Disagree		Total
	n	%	n	%	n	%	%
Easy to find	91	96.80	3	3.20	0	0	100.00
Easy to use	89	94.68	2	2.13	3	3.19	100.00
Easy to read	87	92.56	1	1.06	6	6.38	100.00
Easy to study from	81	86.18	6	6.38	7	7.44	100.00

When asked what features students most preferred about using the eBook, most students cited portability and the word search function for looking for quiz terms. Students also were asked what improvements they would suggest, with responses primarily related to addressing technical challenges. Overwhelmingly, students pointed out that the graphical resolution was especially problematic, while others added that they had issues with downloading the book or book chapters, and that the user interface was clunky and in need of updating. Focus group students likewise complained about resolution of images and graphics, but everyone agreed that the issue was not impactful enough to make them purchase a print copy. All students who attended the focus group session indicated that, based on this experience, they would be on the lookout for other courses that offer free online textbooks.

Perceptions

The COUP Framework defines the Perceptions strand as what faculty and students think and feel about OER, especially compared to traditional textbooks. The current study investigated perceptions of a library-sourced eBook rather than an OER and focused on student perceptions rather than faculty perceptions.

To arrive at general perceptions of quality, students were asked to rate the quality of free educational materials available online when compared to traditional materials (defined as printed or digital materials for purchase). Results were positive, with 64 percent (n=64) of one hundred respondents indicating that the quality of free online materials was about the same or better and 25 percent (n=25) noting the quality was about the same. Of the remaining, 5 percent (n=5) thought free online materials were slightly worse and 6 percent (n=6) did not feel they were familiar enough with free online materials to answer the question.

When asked to elaborate upon their responses, students tended to comment on aspects such as expanded access and usability that free online course materials can provide. Most comments about the quality of free educational materials were positive. For example, students noted that it was difficult to differentiate them from traditional materials, and added observations such as: "thankfully the free educational materials I have used online have been about the same quality as purchased resources, which has been a huge plus since they are free;" "usually quality is the same and we're just paying for the homework or lab codes;" and "I can say this would be my second class using a free textbook and both were about the same or slightly better than a digital textbook I had to pay for in other classes. This free textbook did not cut corners in any way in terms of content, how it is structured and all the way down to the details of the headings, etc." The students who indicated that the quality of free materials tends to be subpar pointed out technical aspects like contending with blurry words and graphics and not having audio that some eBooks provide.

Students who focused on access cited the convenience of using eBooks, accessible anytime, anywhere, and freedom from contending with a large, print textbook. One student commented that "there are advantages of having educational material online, such as accessibility. I am a disabled veteran with spinal injuries and not having to lug around heavy materials helps. Also being able to access the entire book from the internet gives me range in my schedule. I would hope that all courses offer free digital course materials in the future." Similarly, comments about usability of free educational materials online tended to be in comparison to print rather than free versus paid, with students citing the ability to change font, spacing, zoom, and transfer among devices as positives, leading one student to comment, "I believe the free education materials online is (sic) easier to navigate. If needing to search a specific term you can simply just type it in."

Exploring student perceptions of quality specific to the library-sourced eBook, 79 percent (n=75) strongly agreed or agreed that the eBook was high in quality, 12.6 percent (n=12) neither agreed nor disagreed, and 8.4 percent (n=8) disagreed or strongly disagreed. The dimensions of credibility, value, and relevance enjoyed even higher scores. The slightly lower rating for quality may be attributed to low image quality pointed out earlier by students. Focus group attendees added that the free eBook positively influenced their perception of the class and thought it reflected well on the professor for making the effort to ensure that students had access to the materials they need. One student commented that open textbooks (OER) can sometimes be lacking in quality, but that was not seen with this eBook. See Table 7 for a summary of student ratings for worth dimensions of quality, credibility, value, and relevance of the library-sourced eBook. Credibility, value, and relevance each received ratings of over 95 percent, leading researchers to surmise that students perceived these dimensions on par or better than traditional textbooks.

TABLE 7
Student Perceptions of the Library-Sourced eBook: Worth Dimensions

	Strongly Agree/ Agree		Neither Agree nor Disagree		Disagree/Strongly Disagree		Total %
	n	%	n	%	n	%	
Quality	75	78.95	12	12.63	8	8.42	100.00
Credibility	92	97.87	2	2.13	0	0	100.00
Value	90	95.75	3	3.19	1	1.06	100.00
Relevance	90	95.75	3	3.19	1	1.06	100.00

Finally, students were asked to rate the effectiveness of the library-sourced eBook in supporting their learning in the class, with 97.88 percent (n=92) of students agreeing or strongly agreeing that the eBook supported their performance in the course, 96.81 percent (n=91) that it prepared them for quizzes and exams, 93.68 percent (n=89) that it increased their learning about the subject, 87.10 percent (n=81) that the eBook increased their interest in the subject, 84.04 percent (n=79) that it increased their enjoyment of the class, 81.94 percent (n=77) that it encouraged them to think about content in a new way, and 73.40 percent (n=69) that the eBook challenged the way they thought about the course. Table 8 provides a summary of student ratings on these learning dimensions based on use of the library-soured eBook.

TABLE 8
Student Perceptions of the Library-Sourced eBook: Learning Dimensions

	Strongly Agree/Agree		Neither Agree nor Disagree		Disagree/ Strongly Disagree		Total %
	n	%	n	%	n	%	
Supported performance in course	92	97.88	1	1.06	1	1.06	100.00
Prepared me for quizzes and exams	91	96.81	1	1.06	2	2.13	100.00
Increased my interest in the subject	81	87.10	9	9.68	3	3.22	100.00
Increased my learning about the subject	89	93.68	4	4.21	2	2.11	100.00
Increased my enjoyment of the class	79	84.04	11	11.70	4	4.26	100.00
Encouraged me to think about content in a new way	77	81.94	12	12.73	5	5.33	100.00
Challenged the way I think	69	73.40	18	19.15	7	7.45	100.00

Limitations

Although the demographics of the survey respondents were very similar to the demographics of students enrolled in the course, only 11.25 percent of students responded to the survey. This smaller sample size may indicate that the results are not representative of all students enrolled in the course. Because the survey was entirely optional, it is possible that students with more extreme experiences or opinions completed the survey, possibly skewing the results.

Discussion

The Medical Terminology course instructor, working in tandem with librarians, successfully adopted a free-to-students library-sourced eBook in lieu of a traditional textbook. A significant

number of students who responded to the survey noted that, due to textbook costs, they had previously delayed purchasing, not purchased, or shared a textbook, and some had taken fewer courses or not taken a course. Access to the library-sourced eBook reduced the need to make these potentially negative academic decisions for students enrolled in the Medical Terminology course. In this investigation, there was no statistically significant change to the pass, fail, and withdrawal rates nor the end-of-semester course GPA after adoption of the library-sourced eBook, although the GPA of students prior to the adoption of the eBook was high at 3.91, making the average difficult to improve upon. It was estimated that the library-sourced eBook saved these students $303,425 in 2021 alone.

Even though this study did not reveal improvements to academic outcomes, it is possible that, over time, continued and broader access to free textbooks could improve average GPA and shorten time to graduation. As noted in the literature review, Hilton III's summary of studies showed positive academic outcomes in most cases.[58] Further, some students in this Medical Terminology course noted that they would spend textbook savings on increased credit hours, in turn shortening time to graduation, which is another positive outcome to both students and academic institutions with access to free or low-cost course materials. If other librarians wish to pursue a study of this type, they might consider doing so with a course with a broader grade distribution or more grade variability, which may allow impact on course GPA to be more easily discernible. It is plausible that the more expensive the traditional textbook is, the more likely it will be for students to engage in negative academic behaviors. For example, students may be more likely to purchase a thirty dollar textbook than a textbook that costs $150. Like grade variability, exploring a free-to-students textbook adoption may reveal more impact if the cost of the traditional textbook is more expensive.

While tuition tends to be paid by scholarships and loans, this study found that the responsibility of paying for textbooks tends to fall to students. Analysis suggests that students who were responsible for purchasing their own textbooks were more likely to avoid or delay purchase of a textbook, take fewer courses, or not take a course than students who rely on other means to pay for textbooks. Although financial aid status was not analyzed, it is probable that students who are more financially "at risk" are more likely to engage in those behaviors, which may have a negative impact on their academic performance. Providing free-to-students textbooks, whether OER or library-sourced, then becomes an issue of access and equity. In the long-term, some students indicated that textbook costs could significantly increase their debt, and free or low-cost textbooks can reduce that burden.

Survey results suggested that students overwhelmingly felt positive about the textbook itself. Not only did they rate the library-sourced eBook as generally easy to find, use, read, and study from, they added that it supported their performance, prepared them for assessments, and increased their interest in the subject overall. The positive survey responses align with the consistent feedback the instructor receives from students each semester after adopting the library-sourced eBook. This underscores the importance of selecting high quality course materials that align with course objectives and student learning outcomes when identifying potential OER or library-sourced eBooks.

However, students also were quick to acknowledge a variety of user access and technical issues. User access issues were of two types and included limitations associated with downloading chapters or maintaining digital checkout periods, in addition to students simply not being familiar with eBook functionality. The issue with digital checkout periods was due to

the eBook's digital rights management (DRM). Full eBook downloads had to be read in Adobe Digital Editions or related software; students could borrow the eBook for up to twenty-one days at a time, after which students could immediately download the eBook again. Unfortunately, this twenty-one-day limit happened in conjunction with the first exam of the course, which added confusion for students on how to gain access to the eBook again. Had it been clearer to the students that they could download PDF chapters that would not expire, this issue could have been mitigated. Other technical issues most often related to poor quality of eBook images, particularly when magnified. This research project gave librarians insight into how students attempt to solve eBook issues, with many preferring to first attempt to solve them on their own and then by reaching out to the course instructor, who in turn contacted the library for assistance. Rarely did students contact the library directly about access or technical issues.

Considering that students appeared to prefer to figure out eBook platforms on their own, librarians should anticipate this and address potential questions by working with instructors to add videos, guides, or other instructional content to courses for students to access when needed, even when libraries are closed. Further, in addition to providing information on basic eBook functionality, librarians should describe more advanced study features, such as highlighting or notes, so that students are aware of these eBook capabilities. Finally, when those resources are insufficient for addressing student needs, librarians should ensure that students know how to engage with the library for further assistance.

Beyond teaching the students how to use eBook features, it may also be possible for librarians to adjust settings for the eBooks themselves. For example, when the issue arose, the acquisitions librarian was able to increase the checkout time for a whole-book download, ensuring that students would not lose access during critical periods of the semester. Of course, librarians should opt for DRM-free eBooks whenever possible to proactively mitigate potential access issues. If a DRM-free option is unavailable, or if the library wants to ensure the students know how to use the eBook, then information on how to negotiate these issues can be added to instructional materials. Regarding technical issues, such as poor image quality, librarians can reach out to platform or publisher representatives to try to address the problems or suggest supplemental material.

Unanticipated outcomes of the initiative were the emerging relationships between librarians and course instructors, course instructors and students, and students and librarians. This research project, and the communication leading up to it, led to a greater understanding between the instructor and the subject librarian about the functions and benefits of library eBooks. The instructor then had an opportunity to provide the subject librarian a deeper view of the course and issues the students encountered. The findings from this research project provided evidence that the course instructors can now bring to other faculty to illustrate benefits to students and how to mitigate potential issues associated with adoption of a library-sourced eBook. Faculty may be more receptive to switching to a similar option if they hear a success story from a peer.

In this study, the COUP Framework, which was developed to explore impacts of OER adoption on student outcomes, was successfully applied to a library-sourced eBook adoption and investigation. Study results have been shared in a variety of ways on campus: to communicate to university administrators the impact of the adoption on student outcomes and experiences and the library's role in supporting student success and efforts to decrease the cost of a college education; as a way of partnering with course faculty to consider adopting,

implementing, and investigating the impact of library-sourced eBook adoptions; and to engage with students and directly support their academic success. As faculty and librarians continue to provide library-sourced and OER course materials, free-to-student textbooks may result in improved student outcomes through cost savings and immediate access to required course content. While significant cost was involved, both in personnel and purchasing or developing materials, the instructors and librarians deemed the effort worth pursuing because of the potential benefits to students.

Notes

1. Mark J. Perry, "Chart of the Day… Or Century?" *American Enterprise Institute*, 2022, https://www.aei.org/carpe-diem/chart-of-the-day-or-century-7
2. Mark J. Perry, "The CD 'Chart of the Century' Makes the Rounds at the Federal Reserve," *American Enterprise Institute*, 2018, https://www.aei.org/carpe-diem/the-chart-of-the-century-makes-the-rounds-at-the-federal-reserve
3. Laura Wimberley et al., "Equitable Student Success via Library Support for Textbooks," *Reference Services Review* 48, no. 3 (2020): 373-383.
4. Florida Virtual Campus, "Student Textbook and Instructional Materials Survey," 2022, https://dlss.flvc.org/research
5. University of Central Florida, "UCF Facts," https://www.ucf.edu/about-ucf/facts/
6. Gene Kruckemyer, "U.S. Department of Education Designates UCF as a Hispanic Serving Institution," *University of Central Florida*, 2019, https://www.ucf.edu/news/u-s-department-education-designates-ucf-hispanic-serving-institution
7. University of Central Florida, "UCF Facts."
8. Peggy L. Nuhn and Karen F. Kaufmann, *Supporting Transfer Student Success: The Essential Role of College and University Libraries* (ABC-CLIO, 2020), 91.
9. University of Central Florida, "DirectConnect to UCF," https://directconnect.ucf.edu
10. University of Central Florida, "UCF Facts."
11. Nuhn and Kaufmann, *Supporting Transfer Student Success*, 132.
12. University of Central Florida, "Affordable Instructional Materials Initiative," https://provost.ucf.edu/initiatives/affordability
13. University of Central Florida Libraries, "Textbook Affordability," https://library.ucf.edu/textbook-affordability
14. UNESCO defines OER as "teaching, learning and research materials in any medium—digital or otherwise—that reside in the public domain or have been released under an open license that permits no-cost access, use, adaptation and redistribution by others with no or limited restrictions," https://en.unesco.org/themes/building-knowledge-societies/oer#:~:text=Open%20Educational%20Resources%20(OER)%20are,with%20no%20or%20limited%20restrictions
15. Penny Beile et al., "Analysis of an Open Textbook Adoption in an American History Course: Impact on Student Academic Outcomes and Behaviors," *College & Research Libraries*, 81, no. 4 (2020): 721-736, https://crl.acrl.org/index.php/crl/article/view/24437/32266
16. Open Education Group, "The COUP Framework," https://stars.library.ucf.edu/lib-docs/387/
17. Open Education Group, "The COUP Framework."
18. University of Central Florida, "School of Global Health Management and Informatics," https://ccie.ucf.edu/hmi
19. Beile et al., "Analysis of an Open Textbook Adoption in an American History Course," 724.
20. Open Education Group, "The COUP Framework."
21. Beile et al., "Analysis of an Open Textbook Adoption in an American History Course."
22. Nicole Delimont et al., "University Students and Faculty Have Positive Perceptions of Open/ Alternative Resources and Their Utilization in a Textbook Replacement Initiative," *Research in Learning Technology*, 24 (2016), https://doi.org/10.3402/rlt.v24.29920
23. Nicolas B. Colvard, "The Impact of Open Educational Resources on Various Student Success Metrics," *International Journal of Teaching and Learning in Higher Education* 30, no. 2 (2018): 262-276, https://eric.ed.gov/?id=EJ1184998
24. Victoria Raish et al., "Beyond OER: Library Licensed E-Books as a Proactive Course Reserves Model and Collections Development Tool," In *The Evolution of Affordable Content Efforts in Higher Education: Programs, Case*

Studies, and Examples (University of Minnesota Libraries, 2018).

25. Patrick L. Carr et al., "Aligning Collections with Student Needs: East Carolina University's Project to Acquire and Promote Online Access to Course-Adopted Texts," *Serials Review* 42, no. 1 (2016): 1-9, https://doi.org/10.1080/00987913.2015.1128381

26. Wm Joseph Thomas and Beth R. Bernhardt, "Helping Keep the Costs of Textbooks for Students Down: Two Approaches," *Technical Services Quarterly* 35, no. 3 (2018): 257-268. https://www.tandfonline.com/doi/full/10.1080/07317131.2018.1456844

27. Steve Rokusek and Rachel Cooke, "Will Library E-Books Help Solve the Textbook Affordability Issue? Using Textbook Adoption Lists to Target Collection Development," *Reference Librarian* 60, no. 3 (2019): 169-181, https://doi.org/10.1080/02763877.2019.1584597

28. Open Education Group, "The COUP Framework."

29. John Hilton, III, "Open Educational Resources, Student Efficacy, and User Perceptions: A Synthesis of Research Published Between 2015 and 2018," *Educational Technology Research and Development* 68 (2020): 853-876, https://link.springer.com/article/10.1007/s11423-019-09700-4

30. Colvard et al., "The Impact of Open Educational Resources."

31. Elizabeth Spica and J. P. Biddix, "Prices They Pay: Academic Achievement and Progress to Graduation Barriers Experienced by Community College Students Due to the Cost of Course Materials," *Innovative Higher Education* 46, no. 6 (2021): 643-662, https://doi.org/10.1007/s10755-021-09557-7

32. Florida Virtual Campus, "Student Textbook and Instructional Materials Survey," 2022.

33. Beile et al., "Analysis of an Open Textbook Adoption."

34. Beile et al., "Analysis of an Open Textbook Adoption."

35. Spica and Biddix, "Prices They Pay."

36. Wimberley et al., "Equitable Student Success."

37. Wimberley et al., "Equitable Student Success," 379.

38. Carr et al., "Aligning Collections with Student Needs."

39. Delimont et al., "University Students and Faculty."

40. Brooke Gilmore Ratto and Andy Lynch, "The Embedded Textbook: Collaborating with Faculty to Employ Library Subscription E-Books as Core Course Text," *Journal of Electronic Resources Librarianship* 24, no. 1 (2012): 1-16, https://doi.org/10.1080/1941126X.2012.656070

41. Shiao-Feng Su, "Exploring Students' Attitudes Toward University E-Textbooks: Experiences, Expectations, and Preferences," *Journal of Librarianship & Information Science* 54, no. 3 (2022): 331-349, https://doi.org/10.1177/09610006211020096

42. Dmitriy V. Chulkov and Jason VanAlstine, "College Student Choice Among Electronic and Printed Textbook Options," *Journal of Education for Business* 88, no. 4 (2013): 216, https://doi.org/10.1080/08832323.2012.672936

43. Beile et al., "Analysis of an Open Textbook."

44. Dean Hendrix et al., "The Library as Textbook Provider: Administering and Assessing a Student-Based E-Textbook Pilot," *College & Undergraduate Libraries* 23, no. 3 (2016): 273, https://doi.org/10.1080/10691316.2014.987415

45. Lily Todorinova and Zara T. Wilkinson, "Closing the Loop: Students, Academic Libraries, and Textbook Affordability," *Journal of Academic Librarianship* 45, no. 3 (2019): 268-277. https://doi.org/10.1016/j.acalib.2019.03.010

46. Kim Roberts et al., "E-Textbook Technology: Are Instructors Using It and What Is the Impact on Student Learning?" *Journal of Research in Innovative Teaching & Learning* 14, no. 3 (2021): 329-344, https://eric.ed.gov/?id=EJ1334606

47. Open Education Group, "The COUP Framework."

48. Kate Pittsley-Sousa, "Expanding Options – Promoting the Adoption of Reasonably Priced Texts that are Also Available as Library eBooks," *Against the Grain* 30, no. 5 (2018): 18-20. https://doi.org/10.7771/2380-176X.8159

49. Delimont et al., "University Students and Faculty."

50. Carr et al., "Aligning Collections with Student Needs."

51. Carr et al., "Aligning Collections with Student Needs."

52. Todorinova and Wilkinson, "Closing the Loop."

53. Beile et al."Analysis of an Open Textbook," 727.

54. Lily Dubach et al. "Library-Sourced eTextbook Survey Questions," *STARS: Showcase of Text, Archives, Research & Scholarship*, University of Central Florida, 2021, https://stars.library.ucf.edu/ucfscholar/1112/

55. Dubach et al., "Library-Sourced eTextbook."

56. University of Central Florida, "UCF Facts."

57. Florida Virtual Campus, "Student Textbook and Instructional Materials Survey," 2022.

58. Hilton, III, "Open Educational Resources."

Assessing Students' Information Literacy: Attitudes and Perceptions of College Students Across Generations

Heather A. Dalal, Arthur Taylor, and Sharon Whitfield

Generation Z has come of age in a world inundated with an immediate and constant flow of information from a variety of sources. This information is usually uncurated, unverified, and presented in ways that make it difficult to discern the source and the veracity of the information. While previous generations had access to similar information, it was more likely to be curated (e.g., library sources), or compiled by professionals (e.g., professional journal reporting, academics), and was also not immediately available.

This exploratory study used data collected from two surveys conducted six years apart in 2014 and 2020, sampling Millennials and Generation Z. Data were analyzed with descriptive and inferential statistics across dimensions of generation, gender, and college grade point average in relation to standards of information literacy. Findings reported include statistically significant differences in the generational attitudes and perceptions of information literacy, as well as correlations between gender and grade point average and the students' attitudes and perceptions of information literacy.

Introduction

According to Dimock,[1] president of the Pew Research Center, the Millennial generation includes any individual born between 1981 and 1996 and Generation Z includes any individual born from 1997 to 2012. Although defining generational cutoff points is not an exact science and is debated in the literature,[2] we use Dimock's definition of Millennial and Generation Z from a Western world perspective for the purposes of this study. A notable difference between the generations, according to Dimock, is that social media, the ubiquity of high-speed internet and smartphones, and constant connectivity were always available for Generation Z, while Millennials came of age at the same time these technological changes were occurring.[3]

As the Millennial generation completes their undergraduate education, higher education instruction for Generation Z moves to the foreground. Although the Millennial generation and Generation Z students have many similarities, such as being raised in an age of media saturation and convenient access to digital technologies,[4] Generation Z has even broader access to

* *Heather A. Dalal is Instruction & Emerging Technologies Librarian at Rider University, email: hdalal@rider.edu; Arthur Taylor is Professor, Information Systems at Rider University, email: ataylor@rider.edu; Sharon Whitfield is Electronic Resources & User Access Librarian at Rider University, email: swhitfield@rider.edu.*

technologies and information.[5] Generation Z students have been raised with the Amazon business model[6] and the culture of "get-it-when-you want-it" leading to an expectation that they can find information quickly and with little effort. Therefore, their information search tool is usually an online search engine and they rarely use search tools beyond that.[7] Over two-thirds of K-12 educators believe the "get-it-when-you-want-it" culture has made it more difficult for students to critically assess whether information is accurate, valid, and reliable.[8] Generation Z students have also grown accustomed to quickly skimming through top search results and only selecting the most obvious references.[9] This research suggests that Generation Z enters higher education with limited information literacy skills.

In the past, the American Library Association defined information literacy as a "set of abilities requiring individuals to recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information."[10] More recently, the Association of College and Research Libraries defines information literacy as "encompassing the reflective discovery of information" indicating that information literacy encompasses an information search.[11] The American Library Association information literacy competency standards for higher education indicate that information literate students should: 1. know what information they need; 2. be able to access that information efficiently and effectively; 3. be able to evaluate the information critically; 4. be able to use the information they gathered; and 5. be able to accomplish all of these tasks in a manner that is ethical/legal.[12]

Although several studies have shown that contemporary teenagers have insufficient skills to critically assess the quality of their information sources,[13] examination of other dimensions of the information search process—such as generation, gender, and grade point average—is limited. A greater understanding of the variables which influence the information literacy attitudes and perceptions of students would both help librarians and educators teach these students to become more information literate and fill the current gap in the information literacy scholarship.

The study presented here examined the results of two Institutional Review Board (IRB) approved surveys of student attitudes and perceptions of information literacy at the same four-year institution, Rider University. The first survey was conducted in 2014, and the second in January of 2020, prior to the COVID-19 pandemic. Both surveys collected data on the students' information literacy search behavior, focusing on their attitudes and perceptions of information literacy. Statistical analysis of the data examined relationships and possible influences on students' attitudes and perceptions of information literacy. This information seeking behavior is directly related to the aforementioned information literacy standards.

Literature Review

Generation Z Characteristics

While higher education has been focused on Millennials, scholars have started to notice the next generation, referring to them as iGen, NextGen, MeGen, with Gen Z or Generation Z as the prevailing name.[14] Millennials are the most researched generation,[15] but now higher education needs to pay attention to the new generation. Scholars have noted that the change in this generation's behaviors, values, and attitudes is dramatic enough to warrant attention.[16] Differences between generations affect both how college students learn and how they evaluate information.

Research has indicated that the parents of Generation Z in the West, typically Gen X-er's (born 1965-1980),[17] were raised with a high degree of independence and are generally more

educated than their parents.[18] As children, Generation X had less parental micromanaging than Millennials did and, in turn, Generation X parents encouraged their own Generation Z children to be independent.[19] Generation Z is "more racially and ethnically diverse"[20] than previous generations. Some research suggests that Generation Z is more tolerant of opposing viewpoints and that they value safe spaces over free speech that would offend and, consequently, they avoid challenging viewpoints that oppose their own.[21] Swanzen indicates that Generation Z wants to *make* stuff while Millennials *share* stuff;[22] Generation Z is future-focused rather than being now-focused, as Millennials are; Generation Z is pragmatic, cautious, judiciously shares personal information, and are active volunteers, as opposed to being *slacktivists*, a term describing the limited impact of posting a message on social media.[23]

Those living in this dynamic technological era can take advantage of instantaneous answers to all questions whenever and wherever. Generation Z students see this as the norm because they have grown up relying on tools such as Google to complete their research. Seemiller and Grace describe Generation Z as problem solvers who can easily take advantage of all the resources and tools available to them,[24] making them more efficient. Generation Z has a strong work ethic and hope for their future.[25]

Evaluative Behaviors of Students

Evaluative criteria (e.g., reliability, validity, accuracy, authority, timeliness, and point of view or bias) are listed among the performance outcomes in the *Association of College and Research Libraries (ACRL) Information Literacy Standards for Higher Education* (ACRL Standards),[26] a document that ACRL sunsetted when the organization published the ACRL *Framework for Information Literacy for Higher Education* (ACRL Framework). The ACRL Framework is meant to keep information literacy current with the ever-changing information landscape, acknowledging students' roles in the creation of information and educating the new generation.[27] Most importantly, the ACRL Framework guides librarians and educators in teaching information literacy not by standards, but with a theoretical perspective. While the critical examination of sources can be found in most of the frames of the ACRL Framework (e.g., Information Creation as a Process, Information has Value), the most applicable frame for evaluating sources is "Authority is Constructed & Contextual.[28] This frame explores how sources can be authoritative, credible, and appropriate for information needs and calls for librarians to model critical examination. Librarians have found the checklist included in the ACRL Framework to be useful in educating Generation Z students.[29]

How Millennials Evaluate Information

The Millennial generation,[30] has had a similar experience to Generation Z, as they have been using the internet for most of their lives and expect instant access to information. Research has found Millennials' information research process to be problematic because they have a non-critical view of the information on the internet.[31] Studies have also shown a tendency for Millennial students to overestimate their information evaluation skills.[32]

In a study by Gross and Latham, Millennial students claimed finding information was easy and did not require any special skills.[33] A study by Walraven et al. found that instructing students on evaluating sources improved how they evaluated information, but that the instruction had no effect on how the students evaluated search engine results.[34] Other studies have also noted that students place their trust in search engine algorithms to provide credible

results.[35] Studies indicate students have a lack of concern about evaluating their sources.[36] Students will make source selections based on the information's relevance only,[37] or on how professional a website looks.[38] Students claim to evaluate their sources more than they do in reality.[39] Head and Eisenberg noted that students report they evaluate using a number of criteria, with currency being the criteria most often used.[40] Students also evaluate web content more than they evaluate library materials and often discuss sources with a friend, family member, or instructor. Taylor and Dalal found that students are not always familiar with the words librarians use to teach evaluation, words such as currency, relevance, authority, accuracy, and purpose.[41] These words reference core concepts of the CRAAP test,[42] the sunsetted *Information Literacy Standards for Higher Education,*[43] and the *Framework for Information Literacy for Higher Education*.[44] Research has also shown that students can describe evaluative criteria, but do not apply them when they research.[45]

How Generation Z Evaluates Information

The student authors of *An Insider's Guide to Generation Z and Higher Education* wrote: "Gen Z knows the internet. More than you." which is a clear example of Gen Z's overconfidence in their own ability to use the internet.[46] Generation Z believes analyzing information will be required in their future career.[47] However, the scholarly literature addressing Generation Z's information search process, specifically their evaluative skills, finds their information literacy to be lacking. In the "First Year Experience Survey: Information Literacy in Higher Education" study, librarians named students' inability to evaluate sources as their top challenge.[48] Nygren and Guath reported that over 68 percent of Generation Z high school students rated their fact-checking ability as good, yet 88 percent could not distinguish between stories and advertisements in a newspaper.[49] Other studies found that Gen Z students mostly consider looks and form, such as the professional layout or easy navigation of the site, when evaluating the credibility of a website.[50] Participants in a focus group by Salubi et al. indicated that students prefer their information to be useful instead of authoritative or credible; one participant indicated they did not know how to check the author's expertise.[51]

Compared to Millennials, Gen Z experiences an even greater abundance of information, gets much more information from social media, and is overexposed to fake news. The following literature largely includes studies of Generation Z students in higher education, with a few noted exceptions of studies focused on high school students. Bonnet and Rosenbaum explain that fake news and post-truth are not new, but there is a "recent surge in the use of (these) terms."[52] The literature reports that, even though Gen Z students have grown up exposed to more media, they are still easily fooled by hoaxes and fake news.[53] Participants in a study by Leeder could not self-assess their ability to identify a fake news story.[54] A study by McGeough and Rudick found that even though students considered many results, they still believed dubious sources to be credible, and many relied on simple questions to make their decision.[55] One study noted that the more Generation Z high school students used social media, the less likely they were to evaluate sources correctly.[56] Johnson found that Generation Z high school students often do not recognize bias (especially political) nor do they check for accuracy or authority of social media posts.[57] In a survey by Chen et al. over 67 percent of student respondents shared misinformation, and over 84 percent reported they might share misinformation in the future.[58]

Even if members of Generation Z do try to corroborate information, the task is much more difficult in the age of iterative journalism than it was in the "homogeneous news world

of the past."[59] Generation Z believes that more information is better, but they have difficulty and experience anxiety sifting through it.[60] Generation Z recognizes that information no longer needs to be obtained from formal sources, yet they frequently access dubious sources which makes evaluating sources correctly an even more important skill.[61] Generation Z also overrelies on search engines and has learned to trust them to provide credible results.[62] This becomes even more problematic when they search for information using their phones or their voice assistant (i.e., Alexa, Google, Siri) . This method often gives only a single result[63] or uses artificial intelligence tools, such as ChatGPT, which may have flawed training or provide incomplete and/or biased responses.[64]

The Role of Gender in Evaluating Information

Research shows differences between males and females in their attitudes and perceptions of information literacy. Studies report that females use library databases more and males use non-traditional sources, such as blogs and Wikipedia, with greater frequency.[65] Research also shows that females use academic sites more than males, who tend to look at entertainment sites.[66] Kim et al. found no difference between males and females in their use of social networking sites, but the study did find that males use social media platforms more frequently.[67] Chen et al. found that female students admit to sharing misinformation on social networking sites more than males.[68]

Studies show that males have more confidence in their search skills even though there is little actual difference in their abilities to search and use information.[69] Research indicates that males have both more confidence in searching and satisfaction with their results, whereas females experience more uneasiness and anxiety while researching.[70] The literature also finds that females are more risk-averse and appear to take a safer approach to research than do males.[71] Neely found that females rated the evaluation of sources as more important than males.[72] Nygren and Guath measured students' fact checking performance and found that the female participants were better at corroborating information.[73]

Grade Point Average and Library Usage

Research has shown both that use of the library is linked to student success, and that a student's grade point average (GPA) is a predictor of success in higher education. Studies show that students who use the library more tend to have a higher GPA[74] and that students who have had library instruction from a librarian have a higher GPA.[75] Bowles-Terry analyzed 4,489 academic transcripts of graduating students and found a positive correlation between students who had library instruction post-first-year and a higher GPA.[76] Similarly, Han and Cmor evaluated over 8000 student transcripts and found those who had multiple library instruction workshops had a higher GPA.[77] Gaha et al. normalized GPAs across disciplines and found higher GPAs for those students who had a library instruction session.[78] Rowe et al. had undergraduate students swipe their student ID cards to track attendance to distinguish between those students who actually attended the library instruction session and those who were either absent that day or whose instructor did not have library instruction. The study found that students who attended the library session had a 0.27 higher GPA (2.83 vs. 2.68).[79]

There is also a positive correlation between those who use the library's resources and a higher GPA.[80] Cherry et al. analyzed EZProxy transcripts and found students with higher GPAs are more likely to log in to library resources than those with lower GPAs.[81] LeMaistre et

al. found that students with a higher GPA were more likely to use the library resources, also by analyzing their EZProxy transcripts.[82] Scoulas and De Groote, in 2019 and 2021, found that a higher GPA is associated with a greater use of library resources; however, students with higher GPA had fewer in-person library visits and less library satisfaction.[83] In general, providing any instruction or intervention improves a student's ability to evaluate information.[84]

Method

As stated previously, information literacy encompasses the information search process. The purpose of this exploratory quantitative study is to examine characteristics of the information literacy skills and knowledge of students by examining various dimensions of their information literacy attitudes and perceptions. This study examines the generational differences, specifically Generation Z higher education students compared to Millennial generation higher education students, in addition to other characteristics as identified in the following research questions:

- What are the changes in students' attitudes and perceptions over time regarding information literacy?
- How do the information seeking behaviors of Generation Z differ from those of the Millennial generation?
- How do students' attitudes and perceptions about information relate to their GPA?

This study uses data from two Institutional Review Board (IRB) approved surveys, one conducted in 2014 and one conducted in 2020. Both surveys asked subjects to report various characteristics of their information seeking behavior with a focus on their attitudes and perceptions of information literacy, and both were pre-tested prior to data collection. The 2014 survey identified information seeking behaviors using the 2000 *Association of College and Research Libraries Information Literacy Competency Standards for Higher Education*.[85] The second survey, conducted in 2020, follows the same research track as the 2014 survey. Changes involved only minor modifications to the 2014 survey to provide additional clarity in the responses to several questions and to add text responses for some questions. Questions added in the 2020 survey were: "Do you believe evaluating information will be important aspect for decision making in your future career?" and "If possible, would you be interested in learning more about improving your information seeking skills?" The 2014 survey was based on the 2000 ACRL Information Literacy Standards. These standards have been broadened and restructured into a framework in the 2020 ACRL Information Literacy Framework, but the core concepts of information literacy, and the logically related attitudes and perceptions of information literacy, remain. Survey questions were based primarily on Standard 3 of the 2000 ACRL Standards which addresses how an information-literate student performs critical evaluation of information sources. Survey questions asking subjects about their use of information sources and the evaluation criteria used to choose information sources were developed (see Appendix A for a full listing of the questions and related responses used in this study).While the ACRL Standards—and the research which inform those standards—provide some face validity for the surveys, additional confirmation of face validity was developed by reviewing the set of questions with credentialed library faculty. Questions were refined based on library faculty input. A pilot survey was conducted for the 2014 survey and the results were evaluated. Where appropriate, questions were examined for internal consistency and further refined. Based on feedback from the faculty experts and the results of a pilot survey, the questions were further refined to produce the final 2014 survey instrument.

The final version of the 2014 survey consisted of twenty-seven multiple choice questions. The final version of the 2020 survey consisted of twenty multiple choice and five short answer questions. This exploratory study reports an analysis of a discrete subset of those questions from each survey. The subset of questions was chosen based on the focus of the study (i.e., variables which may influence information literacy) and the results of the preliminary analysis as detailed in the analysis section below. Results of each survey were analyzed discretely; the data were not combined.

Data Collection, Participants, and Setting

The survey was administered in an online environment using the university's instance of Qualtrics software. Responses were stored anonymously within the Qualtrics software and in compliance with the Rider University's Institutional Research Board standards where the data were collected. All responses were anonymous and contained no identifiable information.

To identify differences in information literacy attitudes and perceptions of Generation Z and Millennials, a convenience-style, volunteer sampling approach was used both in 2014 and in 2020. The sample of students was from Rider University, a private university in the State of New Jersey which, in 2020, had approximately 3,900 undergraduates comprised of approximately 38 percent minority students and 59 percent female students. Both surveys sampled the university population with only minor variations in size and demographics between 2014 and 2020.

An invitation to participate was sent via email to all students and a follow-up email was sent two weeks later to ensure a 15 percent sufficient response rate. While all university students were invited to participate, only the responses of students that comprise Generation Z (born between 1997-2012) were considered for analysis in the 2020 study.

Analysis

Data from both surveys was collected and cleaned, and incomplete surveys were eliminated. In the 2014 survey, a total of 386 responses were available for analysis after cleaning. In the 2020 survey, a total of 248 responses were available for analysis. Raw data from the two surveys, 2014 and 2020, were used in this study. Data were harmonized and where possible, comparisons in 2020 and 2014 surveys were made during analysis.

Specifically, questions relating to accuracy, authority, and selection of the number of sources were examined. The questions and respective answers were correlated to gender as well as grade point average to determine how these variables might influence students' information literacy attitudes and perceptions. The results were examined in relation to the 2014 survey to provide generational comparisons.

Analysis included descriptive statistics, using in-group percentages to mitigate the impact of sample bias, and inferential statistics which were appropriate for the nominal selection items used in the survey. Descriptive statistics are reported for all questions selected for this study and, if the correlation analysis results were statistically significant, they are also reported. Survey questions used nominal values of either mutually exclusive options or multi-select options. Because it is amenable to nominal value selections, the chi-square analysis of variance was used to examine any correlation between variables of subject characteristics (dimensions) and specific survey responses. This result is reported where the test demonstrated a statistically significant correlation at the .001 level ($p < .001$).

Limitations

The study reported here provides a limited set of information literacy attitudes and perceptions factors as identified by prior research conducted in 2014. The statistical analysis on these variables does not preclude the influence of other variables which were not identified in the specific contingency tables reported here.

The responses for this study were self-reported with the assumption that the subjects answered truthfully. The subjects for this study were recruited online and responded to the survey online. This limits responses to those familiar with technology. Since the survey questions concern the use of technology, and the study examines the inter-generational use of technology, this limitation is a logical requirement of the study (i.e., that subjects have some degree of proficiency in the use of technology, specifically internet search engines and library databases). This study did not capture information literacy instruction changes reflective of the ACRL Framework.

This research study was conducted at a private university located in the state of New Jersey in the United States. The surveys were deployed six years apart and participants may have been on the fringe of the defined generational groups.[86] Given the size of the sample (248 respondents), the results are generalizable to a limited degree to the full student body at the university; however, they are not generalizable to the population of college students in the United States. Additionally, international students were not sampled, and English as a second language results were not analyzed, so the results reported here are not generalizable to international populations although, as reported, some results are consistent with other studies in different populations. Finally, the 2020 survey had fewer participants.

Results

Generational Comparisons of Reported Information Literacy Attitudes and Perceptions

Analysis of generational comparisons used results from specific questions on the 2014 and 2020 surveys of Millennials and Generation Z students respectively. The specific questions analyzed are detailed in Table 1. Unless indicated otherwise, the options listed were mutually exclusive choices.

TABLE 1
Questions Used in Generational Comparisons

Question	Response
It is usually possible to determine whether the site is authoritative.	TRUE, FALSE, do not understand
How do you evaluate the purpose or bias of a web site?	multi-select from nominal set of choices
How would you know when you have enough sources for a paper?	multi-select from nominal set of choices

In 2014, 53 percent of the Millennial participants responded that they were able to determine whether a website was authoritative versus 61 percent for those who participated in the survey in 2020, an increase of 8 percent with the Generation Z subjects from the 2020 survey (see Table 2). However, the increase in the percentage of respondents who did not understand

TABLE 2 Question: It is usually possible to determine whether the site is authoritative			
Response	**2014**	**2020**	**Difference**
TRUE	53%	61%	8%
FALSE	24%	6%	-18%
I do not understand what is meant by authoritative	23%	33%	10%

the term "authoritative" indicates that a third of the students in the 2020 survey sample did not understand the term, which is a statistically significant increase from the 23 percent of respondents who indicated they did not understand the term in the 2014 survey sample ($X2 = 33.04$, $df = 2$, $p < .001$).

When asked about examining the bias of a site, statistically significant differences were identified based on generation ($X2 = 62.461$, $df = 6$, $p < .001$). As detailed in Table 3, a higher number of the 2020 sample of Generation Z students selected statements indicating they were evaluating the purported characteristics of a website. Conversely, these results indicate a slight decrease in the Gen Z selection of the response "I do not evaluate the purpose of a site."

TABLE 3 Question: How do you evaluate the purpose or bias of a website?			
Response	**2014**	**2020**	**Difference**
I do not understand what is meant by purpose in this question.	3%	2%	-1%
I determine whether or not the author of the page or the owner of the URL is trying to sell something.	24%	26%	2%
I examine whether or not the purpose of the site is to promote a particular opinion or point of view.	34%	36%	2%
I examine whether or not the site is a spam, hoax or joke.	26%	29%	3%
I do not evaluate the purpose of a site.	5%	1%	-4%
I do not believe it is possible to determine the purpose of a page returned by a search engine.	1%	0.2%	-0.8%
I check with someone with knowledge of the site or topic, for example, library staff or a professor.	6%	5%	-1%

In response to the question "How would you know when you have enough sources for a paper," responses provided a statistically significant difference, as detailed in Table 4 ($X2 = 8.64$, $df = 2$, $p = 0.01$). Results in this sample indicate that the 2020 Generation Z subjects self-report as identifying more quality sources to support a research effort than their Millennial counterparts in the 2014 survey.

TABLE 4 Question: How would you know when you have enough sources for a paper			
Response	**2014**	**2020**	**Difference**
Specific number (5,10,15) sources is enough for any paper.	15%	8%	-7%
I don't worry about the number of sources for a paper.	8%	4%	-3%
I try to find enough quality sources to support the information in my paper.	77%	88%	11%

Generation Z Reported Information Literacy Attitudes and Perceptions

Data collected from Generation Z subjects in the 2020 survey was analyzed across the dimensions of gender and grade point average (GPA). Descriptive statistics were generated using in-group percentages, the percentage of respondents who answered a question within the category being reported. Inferential statistical tests were applied to the question responses within a category; in addition, when a set of responses generated a statistically significant result ($p < .001$), that statistic is reported. Unless indicated otherwise, the options listed were mutually exclusive choices.

Gender Influence on Search Skill Confidence

In the 2020 survey of Generation Z students, when asked to self-report their search skills, males sampled were more likely to express confidence in their ability to find information online, with 41 percent of male reporting their search skills as "highly skilled" compared to 34 percents of females.

Females were more likely to feel their search skills were not strong, with 11 percent reporting they were "somewhat skilled" in finding information online versus 7 percent of males (see Table 5).

TABLE 5
Question: How skilled are you in finding information on the Web?

Response	Male	Female	Difference
Highly skilled	41%	34%	-7%
Moderately skilled	52%	55%	3%
Somewhat skilled	7%	11%	4%

Conversely, females in the 2020 sample indicated greater confidence in their use of library databases, with 17 percent reporting they were "highly skilled" versus 9 percent of males for that question (see Table 6).

TABLE 6
Question: How skilled are you at finding resources using the library's databases, OneSearch, or catalog?

Response	Male	Female	Difference
Highly skilled	9%	17%	8%
Moderately skilled	38%	43%	5%
Not skilled	13%	7%	-6%
Somewhat skilled	40%	33%	-7%

Results from the two questions combined reflect confidence in search based on gender. The results for correlation by gender are statistically significant ($X2 = 57.346$, $df = 5$, $p < .001$).

Grade Point Average Influence on the Information Search Process

The self-reported grade point average scores in our sample were biased towards higher grade point averages. To provide more meaningful groups the data were re-coded into groupings

TABLE 7
Question: How would you know when you have enough sources for a paper?

GPA	Response	Percent
Above 3.5	I meet the minimum that is needed for the assignment.	23%
	5 sources is enough for any paper	6%
	I try to find enough quality sources to support the information in my paper.	71%
Below 3.5	I meet the minimum that is needed for the assignment.	50%
	5 sources is enough for any paper	4%
	I try to find enough quality sources to support the information in my paper.	45%

in two bands of grade point average scores: above 3.5 and below 3.5. This analysis provided several insights into the data set.

In response to a question about the number of sources needed for a paper, there was a statistically significant variation in the selection of items ($X2 = 21.773$, $df = 2$, $p < .001$). Only 23 percent of subjects with a high grade point average indicated they "meet the minimum that is needed for the assignment," while 50 percent of those with a grade point average below 3.5 chose that option (see Table 7).

When asked whether they could determine if a site was authoritative, there was a moderate difference in selection based on grade point average, with the 63 percent of subjects with a grade point average above 3.5 indicating they could make that determination versus 60 percent of the subjects with a grade point average below 3.5 (see Table 8).

TABLE 8
Question: When viewing a website that a search engine retrieved, it is usually possible to determine whether the site is authoritative.

GPA	Response	Percent
Above 3.5	I do not understand what is meant by authoritative in this question.	31%
	False	6%
	True	63%
Below 3.5	I do not understand what is meant by authoritative in this question.	34%
	False	6%
	True	60%

When asked whether a search engine returns accurate information, there was a moderate difference in selections based on grade point average (see Table 9). Thirty-two percent of those with a grade point average above 3.5 chose TRUE versus 26 percent of those with a lower grade point average.

When asked if they were interested in learning more about information seeking skills, there was a moderate difference in selection (see Table 10). When queried about whether or not they felt information evaluation was an important life skill, one that would impact their future career, there was a more notable distinction in selection: respondents with a grade point average above 3.5 were more likely to respond with a definitive yes than those with a grade point average below 3.0, 71 percent and 62 percent, respectively (see Table 11). Other choices were also indicative of more interest in information evaluation skills relative to the student's grade point average.

TABLE 9
Question: I believe the pages listed in a search engine's results usually contains accurate information

GPA	Response	Percent
Above 3.5	False	6%
	True	32%
	Neither true nor false	63%
Below 3.5	False	2%
	True	26%
	Neither true nor false	72%

TABLE 10
Question: If possible, would you be interested in learning more about improving your information seeking skills?

GPA	Response	Percent
Above 3.5	Might or might not	35%
	Definitely yes	22%
	Probably yes	27%
	Definitely not	6%
	Probably not	11%
Below 3.5	Might or might not	32%
	Definitely yes	19%
	Probably yes	34%
	Definitely not	3%
	Probably not	12%

TABLE 11
Question: Do you believe evaluating information will be important aspect for decision-making in your future career?

GPA	Response	Percent
Above 3.5	Definitely yes	71%
	Probably yes	25%
	Might or might not	4%
	Probably not	1%
Below 3.5	Definitely yes	62%
	Probably yes	31%
	Might or might not	4%
	Probably not	3%

Findings

We identify a total of seven findings based on analysis of the data from our sample. The following three findings concern the comparisons between Millennials and Generation Z students:

1. The selections of Generation Z students in the 2020 survey sample, relative to Millennial students surveyed in 2014, suggest more attention and concern about the quality of internet sources, specifically the authoritative and accuracy qualities of the internet sources. These results were statistically significant.
2. The selections of Generation Z students in the 2020 survey sample, relative to Millennial students surveyed in 2014, suggest a change in the search behavior. The 2020 sample indicated that they are more likely to evaluate a site and showed an increase in the selection of a number of the purposive characteristics of the search process (e.g., the page owner is selling something, the author is promoting an opinion). This suggests that the 2020 sample is reporting a more nuanced evaluation of the bias or purpose of an internet source. These results were statistically significant.
3. The selections of Generation Z students in the 2020 survey sample, relative to Millennial students surveyed in 2014, suggest they are more inclined to search for and use as many sources as needed for an assignment. These results were statistically significant.

Examining the Generation Z sample data specifically, yielded the four following findings:

1. In our Generation Z sample, gender appeared to be a discriminator in the reporting of information search skills, with females making selections which suggest more caution in their reporting of information search skills online, and males more confident in their search skills online. Conversely, in this sample, females made selections which suggest more confidence in their use of library databases than their male counterparts. These results were statistically significant.
2. In our Generation Z sample, grade point average appeared to be a discriminator in the number of sources selected for a research effort, with higher-GPA Generation Z respondents more likely to report that they "find enough quality sources needed to support their research report." These results were statistically significant.
3. Respondents with a higher grade point average appeared to be more discriminating when selecting internet sources; their selections indicate that they could determine if a site is authoritative and contains accurate information.
4. Generation Z respondents with a higher grade point average were more likely to respond that they were interested in receiving additional information-seeking instruction, and were more likely to consider information evaluation an important life skill.

Findings three and four above did not meet the threshold for statistical significance; however, descriptive statistics did provide some indication of the finding reported.

Discussion

Generation Z Females Less Confident in Information Seeking

Consistent with the findings of Taylor & Dalal,[87] females in our sample appear to be less confident in their internet information search skills than males. We consider the consistency of the gender-specific characteristics across two samples six years apart to be a major finding. This lack of confidence based on gender could be a consequence of gender-specific penalization for confidence or self-promotion[88] because females receive greater recognition when they are perceived as modest.[89] More research is needed to determine the impact of gender role

socialization on information literacy attitudes and perceptions in both Millennial and Generation Z students. However, the 2020 survey did indicate the female respondents showed more confidence than males in their library database searches. As these databases are considered higher quality sources of information, relative to the internet, this could indicate that females in our sample are more focused on finding quality sources than their male counterparts.

Millennial and Generation Z comparisons

This study's comparison of Millennials and Generation Z students reveals some trends which may reflect continued information literacy efforts in higher education and K-12 schooling. For example, Generation Z students in our sample appear to be more discriminating in the areas of authority and accuracy of internet sources, as well as more interested in gathering an appropriate number of sources for a research effort. These are both positive information literacy attitudes and perceptions and generally associated with good information literacy skills. However, the Generation Z students were less likely to evaluate the bias of a site, an attitude which runs counter to good information literacy skills.

Authority and Number of Sources

The study's finding that Generation Z is more likely to try to determine the authority of information sources may indicate that previous information literacy instructional efforts in K-12 education have had an impact on this generation. There is some support for this in current literature. For example, a respondent in Head et al. commented that, as students, they were taught not to trust authority of sources (and thus try to determine sources), even the authority of their teachers.[90] Likewise, Nygren and Guath's participants stated they were taught not to trust everything and had practice in fact-checking as part of their education.[91] The literature indicates this is commonplace in education. For example, Smith found that peer teachers in each discipline were encouraged to teach students to practice evaluating information sources because internet resources are not filtered.[92] Hatlevik and Hatlevik also discuss the influence of teachers on the students' ability to evaluate information.[93] This finding is also supported by Cole et al. who found that seventy-four percent of their Generation Z respondents agreed with the statement "you should keep searching even when the first few sources on a topic seem to answer the question or help complete an assignment."[94]

Additionally, increased emphasis on teaching students how to evaluate sources is evident in recently published K-12 educational standards. The American Association of School Librarians' *Standards for Learners* includes multiple performance objectives considering the evaluation of sources.[95] Librarians are often considered the experts in information literacy; however, including information literacy skills in subject-specific standards—such as the *Next Generation Science Standards* including "Obtaining, Evaluating, and Communicating Information" as one of the eight Science and Engineering Practices[96]—will also help to bring information literacy skill to all students.[97]

Bias

Our finding that Generation Z subjects were less inclined to evaluate the bias of an internet information source than their Millennial counterparts contradicts other findings which appear to show Generation Z being more nuanced and careful in their evaluation of information sources. However, the ability to truly evaluate depends on understanding the context in which informa-

tion exists. The ACRL Standards state that an information literate student "recognizes the cultural, physical, or other context within which the information was created and understands the impact of context on interpreting the information"[98] and the ACRL Framework encourages students to be skeptical, open to new voices, and understand that biases exist; however, this is a difficult skill for students to develop since they are used to selecting sources based on relevance,[99] or the author's expertise.[100] It is also possible that students in this study's sample have been instructed to use a variety of sources and to be cognizant of the information source's purpose when they write their research papers. Research supporting this has found that students often believe a source in a library database is safe to use, and therefore do not consider any other criteria (e.g., bias), believing that library databases only include authoritative information sources.[101] In Head et al., students shared that professors tell students that library databases are guaranteed to contain acceptable sources.[102] Young and Von Holten also criticize the librarian practice of focusing on authority with peer-reviewed articles suggesting that this encourages a binary view of the evaluation of sources; the researchers further share how this view informed their pedagogy to encourage students to think of who would publish a piece of information and why.[103]

The practice of not evaluating the bias of a website is also troublesome as it runs counter to good information literacy practice. This strengthens the argument that information literacy training is needed all the way from kindergarten through to higher education so that college students will be able to apply appropriate information source evaluation criteria.

Grade Point Average and Information Literacy

Analysis of the results from this sample provide some confirmation that student grade point average is a discriminator in good information search behaviors such as selecting a good database for their search, and being more discriminating in their evaluation of sources, as indicated by their tendency to select sources other than the internet. Likewise, this sample of Generation Z students provides some indication that grade point average is a discriminator in the recognition of information literacy as an important life skill, as well as in the pursuit of an opportunity to improve their information literacy skills.

This study found that Generation Z participants who cite a higher number of sources and who are more likely to use library databases, self-report as having a higher overall grade point average. This finding is supported by the existing literature which reports that undergraduate students who use library services have a higher overall grade point average.[104] The subjects in this study who were more inclined to evaluate sources for authority also reported having a higher overall grade point average. Banik and Kumar's research study supports this finding and suggests that applying information literacy skills may increase a student's GPA by .012.[105]

However, there is also conflicting literature regarding whether students know how to evaluate for authority or apply any other information literacy skills. Lanning and Mallek suggest that even good students do not have the information literacy skills expected for higher education and that there is a need for formal information literacy skills training in higher education.[106] Thoroughly exploring the impact that student attitudes and perceptions have on their GPAs would likely require its own in-depth study.

Information Literacy Instruction

Generation Z participants in this research study appear to support and have an interest in formal information literacy skills instruction conducted by academic libraries. Generation Z

students know that information literacy is an important life skill and want library instruction to develop these skills. While library information scholarship continues to support academic initiatives to develop students' information literacy skills,[107] there has been little research on whether Generation Z students would support these initiatives and be motivated to learn and apply these skills.

Conclusion

The purpose of this quantitative exploratory study was to examine the trends of information seeking behaviors, particularly the information literacy attitudes and perceptions of Generation Z higher education students in comparison with Millennial higher education students, at a small, private university in New Jersey. Our findings indicate that, when compared with Millennial participants, Generation Z students were more attentive and concerned about the quality of internet sources, less inclined to evaluate information, more attentive to the bias of those sources, and were more inclined to search for and use sources as needed for an assignment.

Our findings included some indications of gender as an influence on information literacy skills, with females in our sample reporting less confidence in their internet information search skills than males. We consider this across two samples six years apart to be a major finding and to be indicative of a gender-specific tendency in information literacy skills that deserves further study.

Our findings also indicate other differences between Millennials and Generation Z participants, such as Generation Z female students reporting more confidence in their use of library databases. In addition, Generation Z students who self-reported a higher grade point average were more likely to indicate an interest in receiving additional information seeking instruction, and were more discriminating in their selection of internet resources. While these results did not reach the threshold for statistical significance, the descriptive statistics reported here do provide some indication of the influence of grade point average on information literacy skills, which other studies support. The sum of these findings suggest that Generation Z may be more interested in obtaining quality resources for their assignments, which may indicate that information literacy training has impacted these students. These findings also indicate that Millennial and Generation Z students are unique cohorts, and that practitioners should therefore avoid lumping the generations together.

While these findings add to the body of scholarship regarding Generation Z students and information literacy, they are not generalizable beyond the sample described previously. Therefore, more research on how Generation Z practices information literacy behaviors is needed to be able to influence librarian practitioners.

Notes

1. Michael Dimock, "Defining Generations: Where Millennials End and Generation Z Begins," Pew Research Center, 2019, https://pewrsr.ch/2szqtJz.

2. George Masnick, "Defining the Generations Redux," Joint Center for Housing Studies of Harvard University, 2017, https://www.jchs.harvard.edu/blog/defining-the-generations-redux; Samantha Raphelson, "From GIs to Gen Z (Or is it iGen?): How Generations Get Nicknames," NPR, 2014, https://www.npr.org/2014/10/06/349316543/don-t-label-me-origins-of-generational-names-and-why-we-use-them.

3. Dimock, "Defining Generations."

4. Amy Chasteen Miller and Brooklyn Mills, "'If they Don't Care, I Don't Care': Millennial and Generation Z Students and the Impact of Faculty Caring," *Journal of the Scholarship of Teaching and Learning* 19, no. 4 (2019), 78-89.

5. Sparks & Honey, "Meet Generation Z: Forget Everything You Learned about Millennials," 2014, https://www.slideshare.net/sparksandhoney/generation-z-final-june-17/10-this_is_how_Gen_Z.
6. Corey Seemiller and Meghan Grace, *Generation Z Goes to College* (John Wiley & Sons, 2016).
7. Kristen Purcell, et al., "How Teens do Research in the Digital World," Pew Research Center, 2012, https://www.pewresearch.org/internet/2012/11/01/how-teens-do-research-in-the-digital-world/.
8. Purcell et al. "How Teens do Research."
9. Ellie Margolis and Kristen Murray, "Information Literacy for the Next Generation," *Legal Writing: The Journal of the Legal Writing Institute.* 23 (2019), 11-15.
10. American Library Association, *ACRL Information Literacy Competency Standards for Higher Education*, 2000, https://alair.ala.org/handle/11213/7668.
11. American Library Association, *ACRL Framework for Information Literacy for Higher Education*, 2016, www.ala.org/acrl/standards/ilframework.
12. American Library Association, *ACRL Information Literacy Standards.*
13. Jamshid Beheshti, "Teens, Virtual Environments and Information Literacy," *Bulletin of the American Society for Information Science and Technology* 38, no. 3 (2012), 54-57; Purcell et al., "How Teens do Research."; Fiona Salisbury and Sharon Karasmanis, "Are they Ready? Exploring Student Information Literacy Skills in the Transition from Secondary to Tertiary Education," *Australian Academic & Research Libraries* 42, no. 1 (2011), 43-58; Arthur Taylor, "User Relevance Criteria Choices and the Information Search Process," *Information Processing & Management* 48, no. 1 (2012), 136-153.
14. Seemiller and Grace, *Generation Z Goes to College.*
15. Jacob Lolarga, "Millennials Vs Gen Z: Understanding Generational Preferences & their Motivations," LinkedIn, March 1, 2016, https://www.linkedin.com/pulse/millennials-vs-gen-z-understanding-generational-jacob-lolarga.
16. Vickie S. Cook, "Generation Z Engaged in the Classroom," WCET Frontiers, 2019; Jeffery J. Selingo, "The New Generation of Students: How Colleges can Recruit, Teach, and Serve Gen Z," Chronicle of Higher Education, 2018; Jean M. Twenge, *IGen: Why Today's Super-Connected Kids are Growing Up Less Rebellious, More Tolerant, Less Happy—and Completely Unprepared for Adulthood—and What That Means for the Rest of Us* (Simon and Schuster, 2017).
17. Dimock, "Defining Generations."
18. Seemiller and Grace, *Generation Z Goes to College*; Selingo, "The New Generation of Students."
19. Lolarga, "Millennials Vs Gen Z."
20. Tracy Francis and Fernanda Hoefel, "True Gen: Generation Z and its Implications for Companies," *McKinsey & Company*, 2018; Selingo, "The New Generation of Students."
21. Selingo, "The New Generation of Students."
22. Rika Swanzen, "Facing the Generation Chasm: The Parenting and Teaching of Generations Y and Z," *International Journal of Child, Youth and Family Studies* 9, no 2 (2018): 125-150.
23. Henrik Serup Christensen, "Political Activities on the Internet: Slacktivism or Political Participation By Other eans?" *First Monday*, 2011, https://journals.uic.edu/ojs/index.php/fm/article/download/3336/2767.
24. Seemiller and Grace, *Generation Z Goes to College.*
25. Cook, "Generation Z Engaged."
26. American Library Association, *ACRL Information Literacy Standards.*
27. American Library Association, *ACRL Framework.*
28. American Library Association, *ACRL Framework.*
29. Cara Berg, "Teaching Website Evaluation," *Internet@Schools* 24, no. 2 (2017): 8-10; Abbey B. Lewis, "Tips From the Experts: What Does Bad Information Look Like? Using the CRAAP Test for Evaluating Substandard Resources," *Issues in Science & Technology Librarianship* 88 (2018):1-5; Ann T. Musgrove et al., "Real or Fake? Resources for Teaching College Students how to Identify Fake News," *College & Undergraduate Libraries* 25 no. 3 (2018): 243-260; Angeleen Neely-Sardon and Mia Tignor, "Focus on the Facts: A News and Information Literacy Instructional Program," *The Reference Librarian* 59, no. 3 (2018): 108-121.
30. Dimock, "Defining Generations."
31. Taylor, "User Relevance Criteria."
32. Helen Georgas, "Google vs. the Library (Part II): Student Search Patterns and Behaviors when using Google and a Federated Search Tool," *portal: Libraries and the Academy* 14, no. 4 (2014): 503-53; Melissa Gross and Don Latham, "Undergraduate Perceptions of Information Literacy: Defining, Attaining, and Self-Assessing Skills," *College & Research Libraries* 70, no. 4 (2009): 336-350; Melissa Gross and Don Latham, "Experiences With and Perceptions of Information: A Phenomenographic Study of First-year College Students," *The Library Quarterly* 81, no 2. (2011): 161-186.

33. Gross and Latham, "Experiences With."

34. Amber Walraven et al., "Fostering Students' Evaluation Behaviour While Searching the Internet," *Instructional Science* 41, no. 1 (2013): 125-146.

35. Sarit Barzilai and Anat Zohar, "Epistemic Thinking in Action: Evaluating and Integrating Online Sources," *Cognition and Instruction* 30, no. 1 (2012): 39-85; Art Taylor and Heather Dalal, "Information Literacy Standards and the World Wide Web: Results from a Student Survey on Evaluation of Internet Information Sources," *Information Research: An International Electronic Journal* 19 no. 4 (2014).

36. Deborah J. Grimes and Carl H. Boening, "Worries with the Web: A look at student use of Web resources," College & Research Libraries 62, no. 1 (2001): 11-22; Taylor, "User Relevance Criteria."

37. Lea Currie et al., "Undergraduate Search Strategies and Evaluation Criteria: Searching for Credible Sources," *New Library World* 111, no. 3/4 (2010): 113-124.

38. Barzilai and Zohar, "Epistemic Thinking."

39. Andrew J. Flanagin and Miriam J. Metzger, "Digital Media and Youth: Unparalleled Opportunity and Unprecedented Responsibility," *Macarthur Foundation Digital Media and Learning Initiative*, 2008; Gross and Latham, "Experiences With."

40. Alison Head and Michael Eisenberg, "Truth be Told: How College Students Evaluate and Use Information in the Digital Age," *SSRN Electronic Journal*, 2010.

41. Taylor and Dalal, "Information Literacy Standards."

42. Sarah Blakeslee, "The CRAAP Test," *LOEX Quarterly* 31, no 3 (2004): 4.

43. American Library Association, *ACRL Information Literacy Standards.*

44. American Library Association, *ACRL Framework.*

45. Currie et al., "Undergraduate Search Strategies."; Georgas, "Google vs. the Library"; Amber Walraven et al., "How Students Evaluate Information and Sources When Searching the World Wide Web for Information," *Computers & Education* 52, no. 1 (2009): 234-246.

46. Jim Fong et al., *An Insider's Guide to Generation Z and Higher Education 4th Edition* (University Professional and Continuing Education Association, 2019), 64.

47. Nicole Buzzetto-Hollywood and Ayodele Alade, "An Examination of Gen Z Learners Attending a Minority University," *Interdisciplinary Journal of E-Learning & Learning Objects* 14 (2018).

48. "First Year Experience Survey: Information Literacy in Higher Education," *Library Journal*, 2017, https://s3.amazonaws.com/WebVault/research/LJ_FirstYearExperienceSurvey_Mar2017.pdf.

49. Thomas Nygren and Mona Guath, "Swedish Teenagers' Difficulties and Abilities to Determine Digital News Credibility," *Nordicom Review* 40, no. 1 (2019): 23-42.

50. Katelyn Angell and Eamon Tewell, "Teaching and Un-Teaching Source Evaluation: Questioning Authority in Information Literacy Instruction," *Communications in Information Literacy* 11, no. 1 (2017): 5.; Sarah McGrew et al., "Can Students Evaluate Online Sources? Learning from Assessments of Civic Online Reasoning," *Theory & Research in Social Education* 46, no. 2 (2018): 165-193.

51. Oghenere Gabriel Salubi et al., "Utilisation of Library Information Resources among Generation Z Students: Facts and Fiction," *Publications* 6, no. 2 (2018): 16.

52. Jennifer L. Bonnet and Judith E. Rosenbaum, "'Fake News,' Misinformation, and Political Bias: Teaching News Literacy in the 21st Century," *Communication Teacher* 34, no. 2 (2020): 103-108.

53. Katherine Haze and Emily Sarah Kingsland, "Fake or for Real? A Fake News Workshop," *Reference Services Review* 48, no. 1 (2020): 91-112; Claudia McGivney et al., "Fake News & Information Literacy: Designing Information Literacy to Empower Students," *Interdisciplinary Perspectives on Equality and Diversity* 3, no. 1 (2017).; Stanford History Education Group, "Evaluating Information: The Cornerstone of Civic Online Reasoning," 2016, https://sheg.stanford.edu/upload/V3LessonPlans/Executive%20Summary%2011.21.16.pdf.

54. Chris Leeder, "How College Students Evaluate and Share "Fake News" Stories," *Library & Information Science Research* 41, no. 3 (2019): 100967.

55. Ryan McGeough and C. Kyle Rudick, ""It Was at the Library; Therefore it must Be Credible": Mapping Patterns of Undergraduate Heuristic Decision-Making," *Communication Education* 67, no. 2 (2018): 165-184.

56. Mônica Macedo-Rouet, et al., "Are Frequent Users of Social Network Sites Good Information Evaluators? An Investigation of Adolescents' Sourcing Abilities," *Journal for the Study Of Education And Development* 43, no. 1 (2020): 101-138.

57. Nicole Johnston, "Living in the World of Fake News: High School Students' Evaluation of Information from Social Media Sites," *Journal of the Australian Library and Information Association* 69, no. 4 (2020): 430-450.

58. Xinran Chen et al., "Why Students Share Misinformation on Social Media: Motivation, Gender, and Study-Level Differences," *The Journal of Academic Librarianship* 41, no. 5 (2015): 583-592.

59. Nicole Cooke, *Fake News and Alternative Facts: Information Literacy in a Post-Truth Era* (American Library

Association, 2018), 13.

60. Ashley Cole et al., "Generation Z: Information Facts and Fictions," in *Not Just Where to Click: Teaching Students How to Think About Information*, eds. Heather Jagman and Troy A. Swanson (Association of College and Research Libraries, 2015), 107-137.

61. Cole et al., "Generation Z."

62. J. Enrique Hinostroza et al., "Browsing the Internet to Solve Information Problems: A Study of Students' Search Actions and Behaviours Using a'Think Aloud' Protocol," *Education and Information Technologies* 23, no. 5 (2018): 1933-1953; McGrew et al., "Improving University Students"; Seemiller and Grace, *Generation Z Goes to College*.

63. Yvonne Kammerer et al., "The Future of Learning by Searching the Web: Mobile, Social, and Multimodal," *Frontline Learning Research* 6 no. 2 (2018): 81-91.

64. Muneer M Alshater, "Exploring the Role of Artificial Intelligence in Enhancing Academic Performance: A Case Study of ChatGPT," *SSRN* (2022), http://dx.doi.org/10.2139/ssrn.4312358

65. Sook Lim and Nahyun Kwon, "Gender Differences in Information Behavior Concerning Wikipedia, an Unorthodox Information Source?" *Library & Information Science Research* 32, no. 3 (2010): 212-220; Jela Steinerová and Jaroslav Susol, "Users' Information Behaviour: A Gender Perspective," *Information Research* 12, no. 3 (2007): 13.

66. Ananda Mitra et al., "Exploring Web Usage and Selection Criteria among Male and Female Students," *Journal of Computer-Mediated Communication* 10, no. 3 (2005).

67. Kyung-Sun Kim et al., "Individual Differences in Social Media use for Information Seeking," *The Journal of Academic Librarianship* 40, no. 2 (2014): 171-178.

68. Chen et al., "Why Students Share Misinformation."

69. Eszter Hargittai, "Beyond Logs and Surveys: In-Depth Measures of People's Web use Skill,." *Journal of the American Society for Information Science and Technology* 53, no. 14 (2002): 1239-1244; Eszter Hargittai and Steven Shafer, "Differences in Actual and Perceived Online Skills: The Role of Gender*," *Social Science Quarterly* 87, no. 2 (2006): 432-448.; Lim and Kwon, "Gender Differences."; Ethelene Whitmire, "The Relationship Between Undergraduates' Background Characteristics and College Experiences and their Academic Library Use," *College & Research Libraries* 62, no. 6 (2001): 528-540.

70. Deborah J. Fallows, "How Women and Men use the Internet," Pew Internet & American Life Project, 2005, https://www.pewresearch.org/internet/2005/12/28/how-women-and-men-use-the-internet/Mingming Zhou, "Gender Difference in Web Search Perceptions and Behavior: Does it Vary by Task Performance?" *Computers & Education* 78, (2014): 174-184.

71. Tracey A. Burdick, "Success and Diversity in Information Seeking: Gender and the Information Search Styles Model," *School Library Media Quarterly* 25, no. 1 (1996): 19-26; Hargittai and Shafer, "Differences in Actual."; Nai Li and Gill Kirkup, "Gender and Cultural Differences in Internet Use: A Study of China and the UK," *Computers & Education* 48, no. 2 (2007): 301-317.

72. Teresa Yvonne Neely, "Aspects of Information Literacy: A Sociological and Psychological Study," PhD diss., (University of Pittsburgh, 2000).

73. Thomas Nygren and Mona Guath, "Students Evaluating and Corroborating Digital News," *Scandinavian Journal of Educational Research* 66, no. 4 (2022): 549-565.

74. DeeAnn Allison, "Measuring the Academic Impact of Libraries," *portal: Libraries and the Academy* 15, no. 1 (2015): 29-40.; Tiffany LeMaistre, "Connecting Library Use to Student Success," *portal: Libraries and the Academy* 18, no. 1 (2018): 117-140.; Elizabeth A. Sterner, "Impact of Academic Libraries on Grade Point Average (GPA): A Review," *Performance Measurement and Metric* 2 no.1 (2020): 71-85.

75. Melissa Bowles-Terry, "Library Instruction and Academic Success: A Mixed-Methods Assessment of a Library Instruction Program," *Evidence Based Library and Information Practice* 7, no. 1 (2012): 82-95; Ula Gaha, "The Academic Library's Contribution to Student Success: Library Instruction and GPA," *College & Research Libraries* 79, no. 6 (2018): 737-746; Shun Han Rebekah Wong and Dianne Cmor, "Measuring Association Between Library Instruction and Graduation GPA," *College and Research Libraries* 72 (Sept. 2011): 464-473; Jennifer Rowe et al., "The Impact of Library Instruction on Undergraduate Student Success: A Four-Year Study," *College & Research Libraries* 82, no. 1 (2021): 7-17.

76. Bowles-Terry, "Library Instruction."

77. Han and Cmor, "Measuring Association."

78. Gaha et al., "Academic Library's Contribution."

79. Rowe et al., "Impact of Library Instruction," 15.

80. Ed Cherry et al., "Proving Our Worth: The Impact of Electronic Resource Usage on Academic Achievement," *College & Undergraduate Libraries* 20, no. 3-4 (2013): 386-398; Felly Chiteng Kot and Jennifer L. Jones, "The

Impact of Library Resource Utilization on Undergraduate Students' Academic Performance: A Propensity Score Matching Design," *College & Research Libraries* 76, no. 5 (2015): 566-586; Krista M. Soria et al., "Library Use and Undergraduate Student Outcomes: New Evidence for Students' Retention and Academic Success," *portal: Libraries and the Academy 13*, no. 2 (2013): 147-164.

81. Cherry et al., "Proving Our Worth."

82. LeMaistre et al., "Connecting Library Use."

83. Jung Mi Scoulas and Sandra L. De Groote, "The Library's Impact on University Students' Academic Success and Learning," *Evidence Based Library and Information Practice* 14 no. 3 (2019): 2–27.; Jung Mi Scoulas and Sandra L. De Groote, "University Students' Library Experience and Its Impact on Their GPA During the Pandemic," *Journal of Library Administration* 61 no.7 (2021): 813-837.

84. McGrew et al., 2019, "Improving University Students."; Pérez et al., "Fostering Teenagers.'"

85. American Library Association, *ACRL Information Literacy Standards*.

86. Dimock, "Defining Generations."

87. Arthur Taylor and Heather A. Dalal, "Gender and Information Literacy: Evaluation of Gender Differences in a Student Survey of Information Sources," *College & Research Libraries* 78, no. 1 (2017): 90-112.

88. Laurie A. Rudman, "Self-Promotion as a Risk Factor for Women: The Costs and Benefits of Counterstereotypical Impression Management," *Journal of Personality and Social Psychology* 74, no. 3 (1998): 629-645.

89. Robert A. Giacalone and Catherine A. Riordan, "Effect of Self-Presentation on Perceptions and Recognition in an Organization," *The Journal of Psychology* 124, no. 1 (1990): 25-38.

90. Alison J. Head et al., "Information Literacy in the Age of Algorithms," *Project Information Literacy,* 2020, https://projectinfolit.org/pubs/algorithm-study/pil_algorithm-study_2020-01-15.pdf

91. Nygren and Guath, "Swedish Teenagers."

92. Maribeth D. Smith, "Arming Students Against Bad Information," *Phi Delta Kappan* 99, no. 3 (2017): 56-58.

93. Ida K.R. Hatlevik and Ove E. Hatlevik, "Students' Evaluation of Digital Information: The Role Teachers Play and Factors that Influence Variability in Teacher Behaviour," *Computers in Human Behavior* 83, (2018): 56-63.

94. Cole et al., "Generation Z."

95. American Association of School Librarians, *AASL Standards Framework for Learners: American Library Association*, 2018.

96. National Science Teaching Association, "Science and Engineering Practices. Next Generation Science Standards," 2014, https://ngss.nsta.org/PracticesFull.aspx

97. Heather Casey et al., "University Faculty, Media Specialists, & Teacher Leaders Support NGSS Implementation," (presented at New Jersey Science Convention, Princeton, NJ, October 23, 2018).

98. American Library Association, *ACRL Information Literacy Standards*, 11.

99. Currie et al., "Undergraduate Search Strategies."

100. McGeough and Rudick, "It Was at the Library."

101. McGeough and Rudick, "It Was at the Library."

102. Head et al., "Information Literacy in an Age."

103. Brian W. Young and Daniel Von Holten, "Student Author(ity)," in *Not Just Where to Click: Teaching Students How to Think about Information*, eds. Heather Jagman and Troy A. Swanson (Association of College and Research Libraries, 2015), 243-254.

104. Allison, "Measuring the Academic."; Bowles-Terry, "Library Instruction."; Amy Jo Catalano and Sharon Rose Phillips, "Information Literacy and Retention: A Case Study of the Value of the Library," *Evidence Based Library and Information Practice* 11, no. 4 (2016); Cherry et al., "Proving our Worth."; Kot and Jones, "The Impact of Library."; Mitchell Scott, "Interlibrary Loan Article Use and User GPA: Findings and Implications for Library Services," *Journal of Access Services* 11, no. 4 (2014): 229-238; Soria et al., "Library Use."; Shun Han Rebekah Wong and T. D. Webb, "Uncovering Meaningful Correlation between Student Academic Performance and Library Material Usage," *College & Research Libraries* 72, no. 4 (2011): 361-370.

105. Purnima Banik and Bezon Kumar, "Impact of Information Literacy Skill on Students' Academic Performance in Bangladesh," *International Journal of European Studies* 3, no. 1 (2019): 27-33.

106. Scott Lanning, and Jill Mallek, "Factors Influencing Information Literacy Competency of College Students," *The Journal of Academic Librarianship* 43, no. 5 (2017): 443-450.

107. Banik and Kumar, "Impact of Information."; Abby Kasowitz-Scheer and Michael Pasqualoni, "Information Literacy Instruction in Higher Education: Trends and Issues," *Libraries' and Librarians' Publications* 34 (2002), https://surface.syr.edu/sul/34; Lanning and Mallek, "Factors Influencing."

Student Engagement in Academic Libraries: A Conceptual Framework

Xiaohua Awa Zhu, Erin E. Whitaker, Moonhee Cho, and Mei Zhang

The concept of "student engagement" is widely discussed in academic libraries, but has not been thoroughly examined from a conceptual and theoretical perspective by scholars in the Library and Information Science (LIS) field. This paper presents the findings of a qualitative research project on student engagement in academic libraries. Through in-depth interviews conducted at four academic libraries, and utilizing a flexible coding data analysis strategy, we propose a conceptual framework with antecedents, dimensions, and outcomes. This framework sheds light on the nature of student engagement in academic libraries. The process model can guide student engagement planning, communication, and evaluation efforts in academic libraries.

Introduction

Academic libraries have used different terms to label activities related to promoting patron awareness, attracting users, and building relationships, including publicity, advertising, public relations (PR), marketing, promotion, communications, and, more recently, student engagement—likely influenced by higher education institutions' emphasis on this concept. However, student engagement has been used to describe so many different types of library activities and students' interactions with librarians that its meaning has grown less clear over time (Schlak, 2018). In fact, engagement has also been a critical concept in other disciplines in which scholars face similar conceptual challenges. Communication scholars Johnston and Taylor put it well, stating: "When the term engagement is everything, as a consequence, it is nothing" (2018, p. 1). With an underdeveloped concept at the heart of many services and activities, academic libraries' efforts to engage students may not be as productive as they could be. In particular, with today's dwindling economic resources and tightening budgets, academic libraries face higher demands for accountability of the value of library services. Having a good definition and stronger theoretical understanding would be the first step in libraries measuring "engagement" effectively.

This paper examines the concept of student engagement in academic libraries (SEAL). The concept was likely borrowed from educational research, in which researchers have described

* *Xiaohua Awa Zhu is Associate Professor in the School of Information Sciences at The University of Tennessee, Knoxville, email: awazhu@utk.edu; Erin E. Whitaker is an Assistant Professor in the UT Libraries at The University of Tennessee, Knoxville, email: ewhitak7@utk.edu; Moonhee Cho is Associate Professor in the Tombras School of Advertising and Public Relations at the University of Tennessee Knoxville, email: mcho4@utk.edu; Mei Zhang is a Postdoctoral Scholar in the School of Information Studies at Syracuse University, email: mei.zhang@simmons.edu.*

it as multiple psychological states, typically involving behavioral/social, emotional/affective, cognitive, and academic/intellectual dimensions (Fredricks et al., 2004). However, academic libraries tend to perceive SEAL differently from educational/instructional engagement. SEAL is less about students' engagement state (i.e., what can be considered as "being engaged" for an individual) and more often about activities and efforts to encourage students' usage, involvement, and participation in academic libraries. Therefore, we drew from the interpretive approach of engagement research from other disciplines, such as communication studies, to understand SEAL based on data from the field. This approach focuses on the situationality and process of engagement instead of the individual-level state of engagement (Johnston, 2018).

In this paper, we present findings from a qualitative research study on SEAL in four university libraries. We started by asking the following research question: What does engagement mean for librarians and students in academic library settings? Using interviews and the flexible coding method (Deterding & Waters, 2018), we gained a more profound knowledge of SEAL and developed a conceptual framework, including antecedents, dimensions, and outcomes of SEAL, which can serve as a valuable tool for understanding, planning, and assessing student engagement efforts in academic libraries. This paper is one of the few attempts to investigate student engagement in academic libraries from a theoretical perspective.

Literature Review

LIS Literature on Student Engagement

In the early 2010s, the concept of student engagement began to appear frequently in LIS literature. Kuh and Gonyea's (2003) paper, "The Role of the Academic Library in Promoting Student Engagement in Learning," based on the College Student Experiences Questionnaire data, was one of the earliest studies investigating the role of academic libraries in students' educational engagement. They found library experiences were valuable to students but did not contribute to learning engagement as an independent factor. According to some scholars (Díaz, 2014), though, the emphasis on library engagement started with "the engaged model" by Williams (2009), and this shift from "a collection-centered to an engagement-centered model" was driven by librarians' "collective acknowledgment" that their roles needed to change with the environment (Díaz, 2014, p. 225). No matter the origin, the term, in recent years, has replaced or been used interchangeably with terms of similar or related meanings, such as PR and marketing, which were often used from 1980s to the 2000s (e.g., Ford, 1985; Norton, 1984; Tuffield et al., 1991). Similar to the literature on academic libraries' PR and marketing that emphasizes the importance of promoting library services and introduces best practices, most engagement articles are case studies describing experiences from individual institutions (e.g., Arant & Clark, 1999; Dugan, 1994; Taylor, 2002).

Two recent literature reviews cover the field of student engagement in academic libraries. Schlak (2018) provides an in-depth analysis of the most directly relevant literature on engagement, specifically in academic libraries. This review groups library engagement literature into five categories—student learning; citizenship and service-based learning; library as engaging place and space; engagement through technology and programmatic learning experiences; and relational engagement—and connects the LIS literature with several conceptual frameworks on student engagement in the education field, including the behavior-based approach (Kuh & Gonyea, 2003), the psychological approach (Kahu, 2013), and the institutional perspective (Leach & Zepke, 2011). Similarly, Appleton's (2020) literature review starts with the concept

of student engagement in higher education and then organizes the current literature (with a UK focus) by different types of student engagement—learning, partnership and collaboration, and student voice. Clearly, most LIS literature conceptualizes engagement as activities, efforts, and interactions rather than students' states of engagement (such as behavioral, affective, cognitive, and intellectual engagement) as education researchers often do (Axelson & Flick, 2011; Zhoc et al., 2019). The review articles reveal a lack of deep, conceptual, and LIS-specific understanding of SEAL, despite considerable literature on this topic.

A thorough review of the literature on library engagement reveals that students' perspectives on engagement are absent from the two literature reviews. For example, some literature indicates that stereotypes of librarians are still prevalent and that students often do not know what librarians do, nor what their qualifications are (Datig, 2014; Fagan et al., 2021). These misconceptions can lead to students' non-use, or reluctant use, of the library because students might think that librarians are incapable of or are burdened by helping them (Datig, 2014; Fagan et al., 2021). Moreover, some studies on student engagement with libraries and librarians have focused on library anxiety and highlight that many students are still intimidated by academic libraries and librarians (Black, 2016; Jan et al., 2020; Kiilu & Otike, 2016). Overall, though, students value librarians and library workers when they engage with them (Connaway & Dickey, 2010; Datig, 2014). Many user studies show that libraries are still one of the most heavily used buildings on campuses, and students typically visit and use them frequently (Ojennus & Watts, 2017; Yoo-Lee et al., 2013). The information/user behavior literature also shows that most students are interested in the library as a "place" or "space," primarily for completing tasks such as homework and assignments, preferring to use it as a place to study or seek information, rather than a place to receive assistance (Connaway & Dickey, 2010; Datig, 2014; Lux et al., 2016; Mizrachi, 2010; Yoo-Lee et al., 2013). This may not be the type of engagement that librarians want to achieve, and academic libraries must redefine their roles and combat stereotypes (Connaway & Dickey, 2010; Delaney & Bates, 2015; Fallin, 2016; Kiilu & Otike, 2016; Sennyey et al., 2009).

Literature on Engagement in other Disciplines

The concept of engagement first emerged in education research in the 1980s (Corno & Mandinach, 1983) and in organizational behavior research in the 1990s (Kahn, 1990). It also became an important construct in several fields, including applied psychology, business, marketing, political science, communication studies, and PR, in which researchers have developed practical and theoretical knowledge. From the beginning, researchers have focused on "engagement as a state," that is, "what it means to be engaged and what an engaged state looks like" (Johnston, 2018, p. 19). For example, Corno and Mandinach (1983) examined students' cognitive engagement in classrooms, and Kahn (1990) studied the physical, cognitive, and emotional aspects of employee engagement.

More recent research employs "interpretivist and constructionist approaches" to study engagement as a socially-situated process (Johnston, 2018, p. 19). For a typical example, Dhanesh (2017) proposes a model of engagement that consists of "antecedent" (i.e., salience of issue to publics and organization), "states" (i.e., affective, cognitive, behavioral, and the whole self/group), and "consequences" (i.e., meeting respective goals of interacting publics and organizations). Similarly, Weitzl and Einwiller's (2018) customer engagement framework comprises "drivers" (e.g., customer-based factors such as personalities and goals), "engagement" (i.e., psychological and behavior engagements), and "outcomes" for different stakeholders.

Engagement researchers in various disciplines have developed different antecedent-state-consequence models to reveal the nature of domain-specific engagements (Kosiba et al., 2018; Saffer, 2018; Saks, 2006; Uysal, 2018). Such models are presented as a process, in which certain conditions or factors are considered antecedents, and certain results are considered consequences or outcomes. They often include cognitive, affective, and behavioral states as analytical dimensions, and sometimes further discuss the intensity of engagement. Most of these models and analyses focus on what Johnston (2018) described in their engagement taxonomy as individual (micro) level of engagement analysis; little has been done on the collective or social (macro) level of analysis. Johnston argues, from a system perspective, that social or collective-level engagement consists of antecedents, strategies, and outcomes, that antecedents are organizational goals, communication serves as strategies, and that the outcomes are social/collective-level engagement. When conceptualizing the dimensions and attributes of engagement in their comprehensive "multilevel model of communication engagement," Johnston still uses the common states—cognitive, behavioral, and affective (2018, pp. 29-30). However, their system perspective offers a useful approach in analyzing SEAL in its unique context.

Research Design

This research study is qualitative in nature, with data collected from in-depth interviews with librarians and students in four large research universities located in the Midwest, Northeast, South, and Southeast of the United States. We recruited and interviewed 80 participants, including 23 librarians and 57 students. The librarian participants held positions in public services, administration, and library communication. The students included 47 undergraduate students and ten graduate students from various disciplines. We used a semi-structured interview protocol (see Appendix) with open-ended questions to gather insights from both groups regarding the roles of libraries and librarians, their interactions, and the effectiveness of communication efforts.

The interviews were recorded and transcribed, and all researchers participated in the interview and coding processes. We used an innovative coding method developed by Deterding and Waters (2018) in sociology called "flexible coding:" they argued that social researchers seldom conduct research in a purely "grounded theory" way as it is unrealistic not to review the literature and have some understanding of the theories and practices of the phenomenon before beginning the study. Most research is a combination of inductive and deductive approaches conducted by multiple researchers (coders), and the flexible coding method is a reflection of this search practice (Deterding & Waters, 2018). Adapting this approach, we conducted the group coding in the following steps.

The first step was indexing and rough coding. We indexed the interviews using major questions and significant themes in the interview protocol, including perceptions of libraries/librarians, the definition of engagement, communication, ideal relationship, etc. These themes reflected the researchers' initial, intuitive understanding of SEAL. These indexes served as the broad codes that would be examined in more depth later (Deterding & Waters, 2018). We also wrote participant-level, analytical memos that recorded our overall impressions and conceptual themes, and even codes, if any. This process was similar to, but much rougher than, the open coding process in a typical grounded theory study. At the end of this step, we discussed our impressions of the data, examined the codes found in the data and identified from the literature (e.g., cognitive engagement, affective engagement, intellectual engagement,

behavioral engagement, library as space, etc.), and identified the most promising themes to explore in the next step.

In the second step, "data reduction," each of us performed coding on a few themes identified in the first step. For example, one researcher focused on librarians' definition of engagement and their perceptions of the librarian-student relationship; one focused on the theme of "library space"; another took the theme of students' usage of and feeling towards libraries; a third looked at students' perceptions of librarians and librarians' views of students. We coded each chunk of data using the codes we had developed in the first step while developing new codes through open coding before moving on to the next few themes/chunks. At the end of this step, we had developed over 150 codes, and all researchers gained more familiarity with all the interview transcripts, or at least certain parts of each transcript.

In the third step, the research team examined, discussed, and categorized all the codes. Deduplicating and defining codes was straightforward, but developing the conceptual framework to theorize engagement took intense discussions, many rounds of card sorting, and literature re-reading. We collapsed the codes into a dozen categories and began to outline a prototype of the framework. This work eventually produced the codebook, including definitions and instructions, as the framework prototype.

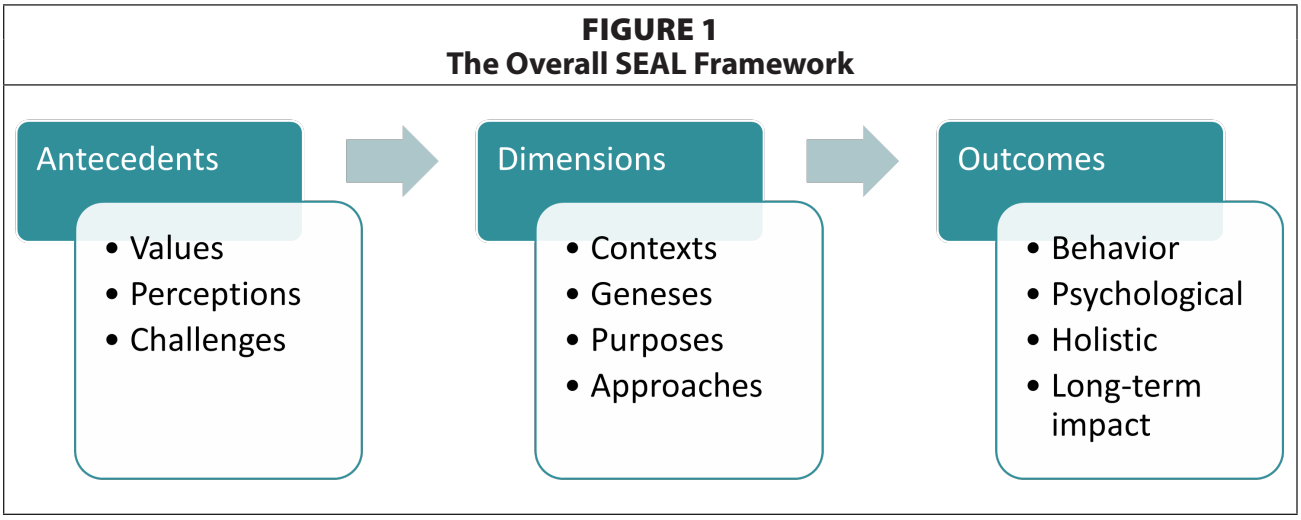
In the last step, we re-coded all the interview transcripts in a more granular manner to test and refine the prototype. This step was similar to the theoretical coding process in the grounded theory approach. We refined the codes through discussions among researchers before finalizing the analytical framework presented in the next section of this paper.

The Framework for Student Engagement in Academic Libraries (SEAL)

Overview of the Framework: Antecedents, Dimensions, and Outcomes

Drawing from engagement literature in other disciplines, especially communication studies, we conceptualize student engagement in academic libraries as an antecedents-dimensions-outcomes model shown in Figure 1. Antecedents refer to the conditions, factors, or drivers of engagement; for example, many factors have been identified as antecedents of consumer engagement, such as participation, involvement, benefits, and personalities (Brodie et al., 2011; Weitzl & Einwiller, 2018). Dimensions represent the essential conceptual components of engagement, typically encompassing the states of engagement explained in previous sections. "Outcomes" and "consequences" are used interchangeably in the literature to indicate the

FIGURE 1
The Overall SEAL Framework



results or influences of engagement, such as the "meaning making and relationship outcome" emphasized by Johnston (2018, p. 25). In our proposed model, we use "outcomes" instead of consequences because this term fits our findings as well as the terminology in the library and education settings (e.g., learning outcomes).

When analyzing engagement using a process model, studies across various domains often consider the states (e.g., cognitive, affective, etc.) or levels (e.g., low versus high) of engagement of individuals or groups as the analytical component between the antecedents and the consequences. Our interview data show, however, librarians define and perceive engagement in a unique manner. Librarians play a crucial role in student engagement and often act as the initiators and activators, while students are often passive, especially in the digital era when academic libraries' functions are less visible. As a result, librarians tend to view engagement as a process that occurs at the collective level, with librarians making efforts to engage with a greater number of students, rather than stress each student's psychological state. In other words, they envision the broader impacts on the student body on their campuses through the engagement efforts, instead of focusing on the psychological effects of such efforts on each individual, even though they do offer personalized, one-on-one services routinely. Therefore, a unique conceptual framework is needed to reflect how engagement is used in our field. Johnston's (2018) collective-level engagement perspective, with antecedents, strategies, and outcomes, is helpful because, in the process of SEAL, engagement is more about situations, methods, and actions. We argue that the state of engagement is better described as outcomes in the engagement process. This finding is consistent with Schlak's view of student engagement as "an outcome of the library's efforts" (2018).

Based on data gathered in this study, we define Student Engagement in Academic Libraries (SEAL) as a multidimensional process (with contexts, geneses, purposes, and approaches, detailed in 4.3) that involves efforts from multiple stakeholders, including librarians and students. This process is driven by the alignment of the values, actions, and perceptions of both stakeholders, with the hope of achieving various engagement outcomes. The states of engagement (i.e., what can be called "being engaged," which is often considered as dimensions or attributes of engagement in other fields) are presented as "outcomes" in this framework. "Being engaged" is defined in the study as a state *and* behavior beyond students' general usage and interaction with/in academic libraries; rather, it means being involved and being active—a combination of behavioral and psychological factors.

In this section, we describe the key components of the SEAL framework using evidence from the interview data, highlighting a few noteworthy themes or findings in each component.

Antecedents

The antecedents of SEAL are specified in Table 1. Emphasizing both stakeholders involved in SEAL, our model suggests the antecedents are the alignment of the two parties' values, perceptions, and actions. Regarding values and actions, librarians' core values have always centered on serving their academic community, and they have consistently provided a wide range of services to their patrons, particularly faculty and students. While facing increasing pressure to demonstrate their worth to the community and beyond, librarians have managed to maintain the vigor of their traditional services and values. As for university students, the antecedents of SEAL stem from their desire to succeed and thrive in the academic environment as well as their recognition of libraries as a valuable resource. Although general use or

TABLE 1
Antecedents of Student Engagement in Academic Libraries

	Students	Librarians
Values	Desire to thrive	Serving academic community
Actions	General library use	Traditional library services
Perceptions	Perceptions and misperceptions of libraries and librarians based on prior experience	Knowledge of students' needs and their perceptions and misperceptions of libraries and librarians

visitation, which most students will experience, may or may not lead to engagement, such actions can pave the way for SEAL.

Our analysis also revealed that perceptions are a key antecedent of engagement. Whether or not they use the library, students generally view academic libraries as an essential component of the university. However, their perceptions of libraries and librarians vary depending on their current and past experiences, cultural beliefs, and other factors. Librarians are well aware of outdated or incorrect perceptions, as illustrated by the following quote from one librarian:

> I know there are still people who have the stereotype of librarian as an old lady with glasses and hair up in a bun, and it's really funny because I've had students and people around town, I tell them what I do, and they say "You're a librarian?" "Yes!" "But you don't seem all buttoned up!"

> As a user-centered profession, librarians have comprehensive knowledge of students' needs, perceptions, and misperceptions. This knowledge was vital in the development of SEAL, which has emerged as a significant trend in the academic world. As such, an integral aspect of SEAL, at least at present, involves demonstrating the roles of librarians and correcting any misperceptions held by students. Without this understanding, SEAL would not have achieved its current prominence and success across so many academic libraries.

Dimensions

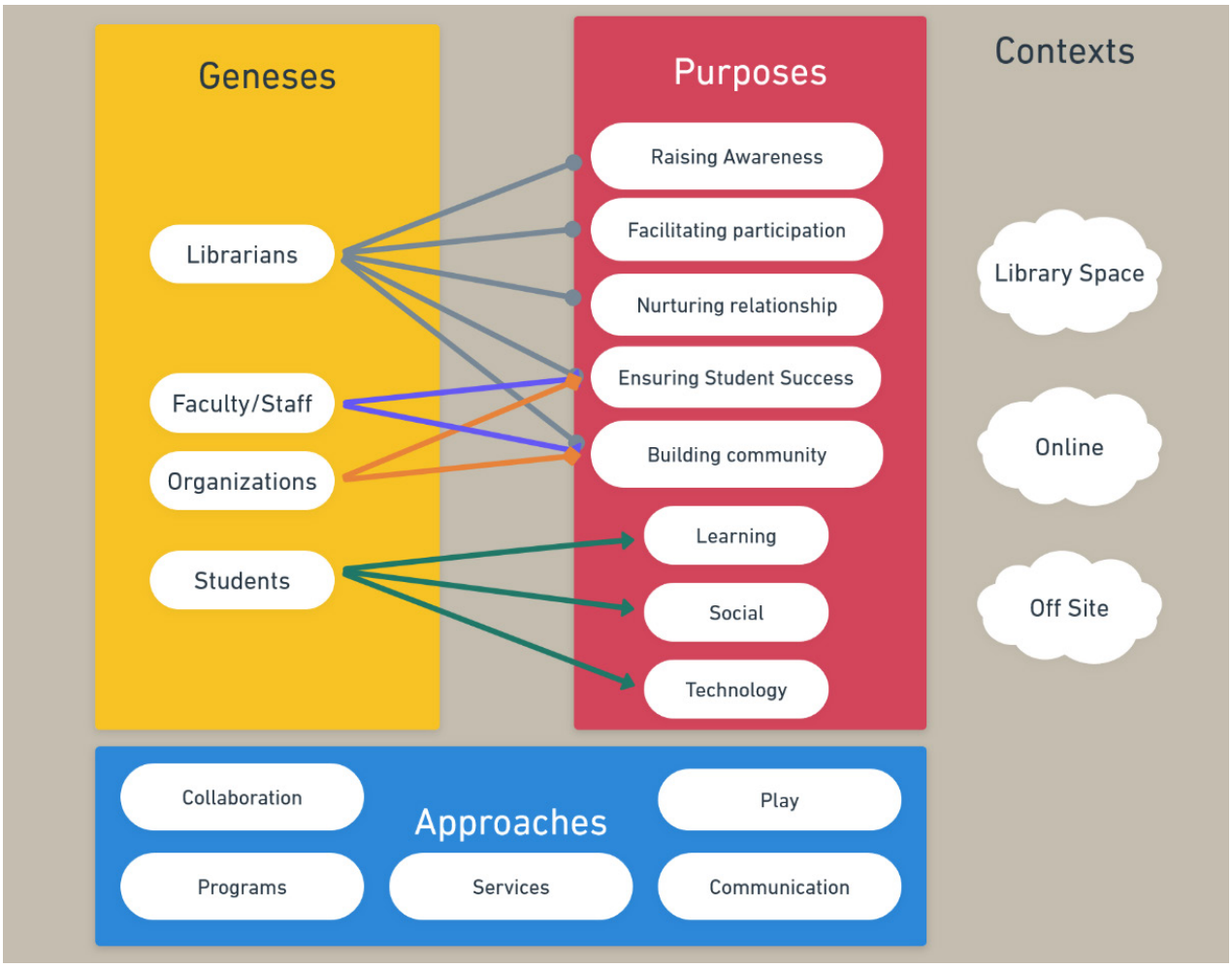
The four interrelated and interdependent dimensions of SEAL, as shown in Figure 2, were identified from interviews with librarians and students. In this section, we specify the definition of each dimension with quotes from the interview data.

Contexts

SEAL happens in various contexts, including online via the library website, in the physical library space, and offsite with librarians' involvement. SEAL typically happens during student learning, social activities, or technology usage. Context is an essential dimension in SEAL because it affects why and how students engage in academic libraries and, therefore, strategies librarians use to engage students.

Library space is a topic that nearly every participant brought up in the interview, except a few students who rarely visited libraries. Students emphasized library space as a major reason for visiting libraries. Although most students use the library space to concentrate

FIGURE 2
The SEAL Dimensions



on their studies or use technological resources—which is consistent with many library user studies—our data echo the trend that academic libraries are used increasingly as social spaces where students can relax and hang out with friends. One student said:

> The physical library serves more as a social place instead of work and study and like actually getting books. So like, the library is mainly digital for me, but the physical library is more of a social space where I can sit and hang out.

The word "library" is increasingly used as a metaphor for accessing resources, although most students, especially undergraduates, still associate libraries with physical books and knowledge.

Librarians recognized how students value the library space while noticing the limitation of this association between studying and libraries. Correspondingly, many of them have developed different strategies for "physical" engagement. On the one hand, they create innovative and inclusive spaces that support learning, social activities, and even recreational needs. These spaces allow students to experience the modern academic library's functions and explore potential engagement opportunities." One librarian said:

> I do see a shift from the old traditional idea of libraries to libraries as a space for everyone, whether you're learning or reading or studying or creating or just wanting to talk to someone and catch up. It's really a space for everyone.

On the other hand, librarians try to untangle the concepts of library and librarians with the physical space, especially during the pandemic, mainly by promoting online access to library resources and by taking services to other places on campus.

Geneses

The genesis dimension describes who initiates or makes the first move toward SEAL. In an ideal world, students would engage proactively with academic libraries. One librarian commented on the ideal, two-way relationship between students and libraries:

> I would really like to see it as a warm, positive relationship, like one that they think of the library and it's instantly a positive association. That's a safe space that I can go, it's a space for me to go learn, or study, or play, or create, or meet up with some friends. That's really the type of association that I want our patrons to have with the library.

In reality, however, librarians often "still struggle to communicate to undergraduates who we are" and "still get students that will say, oh, I've never been here before."

Through interviews, we identified five main geneses—librarians, students, faculty, staff (typically student advisors), and other campus organizations. They can be considered stakeholders in engagement efforts, but some initiators may or may not play an active role in SEAL. For example, many undergraduate students use resources in academic libraries or seek help from librarians because their professors or advisors ask them to use the library for academic purposes such as learning, writing, or research. In this case, faculty and staff are the geneses of SEAL but are not involved. In other cases, faculty members, especially those in the humanities disciplines, collaborate closely with librarians and actively engage students in the library settings. Similarly, student organizations and other campus organizations sometimes collaborate with the library to hold events and contribute to SEAL in addition to their own goals.

Librarians are often the genesis of SEAL through various programs, events, and activities, which is described in the approach dimension. Students themselves, although often passive, are also initiators of engagement. Many librarian participants shared instances where students approached them and had meaningful conversations. According to one student, "I always got [information about the library] from word of mouth from other students, you know like this is a really great place to go or talk to this person," indicating that students are initiating engagement even amongst themselves. While simple use does not always lead to deep engagement, this shows that students do take the initiative to interact with their libraries, even when they are not required to do so.

Purpose

Most students could not articulate their engagement with libraries and librarians beyond basic usage and general sentiments. Their descriptions of their relationship with libraries were usually vague and superficial—they simply had not pondered this topic. However, it is

not difficult to identify the purposes of students who engage with or intend to engage with academic libraries from the interview data. Most student participants mentioned they used or even engaged with libraries for learning, social activities, and technological needs; for example, many students came to libraries because of the "quiet and comfortable" environment or "a good place to hang out with friends." It is worth repeating that our interviews indicate that simply using libraries does not mean being engaged; rather, only frequent, prolonged, or meaningful use may lead to engagement outcomes. In addition, our conversations with students sometimes indicated a sense of community in the library space. For example, one student said:

> I don't feel left out because in a library everyone's on their own and unlike other places, um, in other places people usually sit in groups. Maybe I would feel isolated then, but in the library I don't … [T]he environment around me makes me focus on just me and my work and I don't feel isolated.

There was a sense of being "alone together"—students feeling connected through shared space while engaging in individual activities—among some of these students. Seeking a sense of community plays a vital role in students' engagement efforts.

With the mission of serving the academic community, librarians' engagement efforts have more specific purposes, though librarians are not always explicit about these purposes and expected outcomes. From the many accounts and examples of "engagement activities," we identified five interrelated purposes specified below:

Raising awareness. Lack of awareness is the main obstacle of SEAL, and librarians found it critical to capture students' attention and to communicate their roles and values to students. One librarian participant used makerspace as an example; even though "makerspace" has been a buzzword in the library field for quite a few years, the participant said: "there are a surprising number who have no idea what you mean when you say makerspace, and that's, again, another hurdle for us." Librarians understand it takes time to promote the range of services and resources their libraries offer. "The biggest challenge of student engagement," another participant commented, "is making them recognize all the things we can do for them." In particular, "students [don't] even realize the value [of electronic resources] until they graduate, and they can't access [those resources]." Raising awareness is the most frequently mentioned purpose of SEAL in our interviews.

Facilitating participation. Participation is one step further than awareness, and it involves not only informational "marketing" but promoting involvement using various strategies. It is based on librarians' observation that, once students start frequenting the library, they tend to get involved in these events and start participating in them. Although not all students would come, "when it works, it really does work—it's just a matter of getting people to those presentations," a librarian asserted.

Ensuring student success. Many engagement efforts have the direct purpose of ensuring student success. Not surprisingly, many programs are designed to advance academic knowledge. Librarians believe SEAL can promote students' overall engagement with learning and academic experiences. Meanwhile, "student success" is increasingly conceptualized holistically. The measure of success no longer hinges upon grade point average (GPA) and graduation rates; rather, aspects such as a student's career readiness, mental health, and

physical well-being are progressively incorporated into the definition of success. Library participants reported increasing numbers of programs and activities that aimed at students' personal development or well-being as part of the student success, providing "opportunities to develop their whole person, develop intellectually, emotionally, maybe even spiritually, artistically, [and] creatively."

Building community. Librarian participants often mentioned "community" in our conversations. Beyond learning and services, they are promoting the role of academic libraries as a community center, using the library space to foster dialogue among all stakeholders and building community. As one librarian put it:

> I can think more globally about the library's spaces, services, and different engagement, and really help, I don't want to say lead, but I like to think of it as facilitate kind of those conversations about engagement with students and faculty, and help faculty kind of see the place as learning and teaching space.

Nurturing relationship. Participants believe there should be a "give-and-take" and mutually trusting and beneficial relationship between students and librarians beyond customer service. Librarians see themselves as integral to campus life and believe students should come to them without hesitation; therefore, fostering these ideal relationships becomes the purpose of many engagement activities. Our data suggest that students often desire a mutually beneficial relationship with their libraries, even though many could not explicate what that looked like beyond a safe, comfortable place in which to study or access resources.

Approaches

In this study, we identified SEAL as a two-way effort from stakeholders, especially students and librarians. In terms of "how," students are often passive in this process, while librarians use multiple strategies to increase the degree of student engagement. The following five approaches used by both parties were identified from the interview data.

Services. Traditional library services are important approaches to engaging students—after all, learning is a major reason why students visit their libraries. Many librarian participants emphasized their endeavor to connect students with knowledge and resources through information literacy classes, reference services, student orientations, technology workshops, equipment checkout, special-topic lectures, and other regular services, with a mindset of "we are here to help students," and in the hope that the services would lead to more usage and meaningful engagement.

However, services are not unidirectional. The LIS literature provides examples of "citizenship and service-based learning" where students gained engagement by helping libraries (Meyer & Miller, 2008; Schlak, 2018). Our interviews also reveal several common ways in which students offer services to libraries. For example, some libraries had committees with student members, some used student liaisons to help with library projects and outreach, and others had informal mechanisms to seek student help and input. Students who have served in their libraries are among those who are most engaged and often become formal or informal library ambassadors or advocates.

Programs. Much like the literature on SEAL that reports various engagement activities, we collected a long list of library engagement programs from our interviews, including many

innovative activities based on each library's unique circumstances. For example, librarians utilized music, art, food, workout equipment, plants, seeds, service animals, and other unconventional resources to draw students into the libraries and to generate interest in libraries. Librarians created special programs, exhibits, and events, such as game nights, panels, poetry readings, writing competitions, and campaigns on current issues. Among the students we interviewed, many were unaware of those programs; however, those who were aware of them often felt intrigued by what libraries could offer, and those who participated in library programs tended to engage in various aspects of academic libraries.

Collaboration. Collaboration is the main approach the other two geneses (faculty/staff and other campus organizations) contribute to SEAL. Many librarian participants also spoke of the importance of successful collaboration with faculty members and partnership with other academic and non-academic units on campus that led to more student awareness, participation, and engagement. Many of them found it "most successful" when they could "involve professors who bring in their classes and integrate it into the curriculum." A participant said:

> I find that if faculty value the library and information literacy and robust research skill they will mention the library. If they bring the library into their class, whether it's a one shot or a series of visits, … a certain population of the students will hear that and take that to heart and then investigate on their own and see the library has workshops.

> One librarian also gave us an example of how several on- and off-campus organizations collaborated with the library to create a series of events on social justice and contributed to both students' social awareness and the local community's well-being. In such collaborative efforts, all stakeholders benefit, while SEAL is enhanced.

Play. It is no surprise that students hang out with their peers in academic libraries. Learning, playing, and socializing are common ways students engage with the library space. One creative approach that many academic libraries currently use is to engage students through unconventional methods or playful engagement (Sukovic et al., 2011). Unlike traditional academically-oriented library programming, the purpose of playful engagement is not necessarily course-related. Instead, raising awareness and building community are often the primary goals. One librarian said when they talked about a playful event, "… there's not educational motivation behind it … I guess our hidden motivation is to get them to come to the library. But during that time, there's no agenda other than let's have fun." Fun activities like gaming and stress-free interactions between librarians and students offer excellent opportunities to address students' misperceptions of libraries and librarians. Students participating in these activities are more likely to see libraries as community centers. However, some administrations have resisted this approach, and not all librarians considered it appropriate for their libraries. Nonetheless, even the more "traditional" librarian participants valued building informal relationships with students through casual interactions, which led to more proactive engagement.

Communication. Like other approaches to SEAL, communication is not one-way marketing or promotion from libraries. Some students, for instance, engaged with their librarians after an information literacy session or a successful event. Communication is crucial

for librarians in SEAL settings, considering the purposes often involve increasing students' awareness of libraries' resources and services. From their perspectives, traditional and social media communication are both challenging in the current academic environment, with many competing sources for students' attention. Most students we interviewed were unaware of libraries' emails, nor did they follow their libraries' social media accounts. Word-of-mouth is still the most frequent communication channel, and physical signs and posts are more effective because serendipitous encounters, such as "just walking by" is a common way students find library activities.

Outcomes

As mentioned, existing engagement research often treats behavioral, cognitive, and affective engagements as the dimensions of engagement, but our data indicate that these states are more often associated with outcomes. For instance, students may engage more after frequent usage and interactions with librarians, and librarians expect their efforts/activities will lead to students' engagement to various degrees. Therefore, based on the data, we identified the following broad outcomes (beyond the specific results of "purposes") in SEAL.

Behavioral Engagement

Although some library literature and some study participants define engagement as general library usage, we consider it as an antecedent. Additionally, behavioral engagement, as an outcome, is defined more narrowly here; it refers to active, meaningful, and intentional uses and interactions resulting from the awareness or appreciation of libraries' and librarians' values. For example, attending an event and passing along library information to peers may or may not constitute engagement, depending on the student's cognitive and affective state.

We found two attributes often associated with behavioral engagement—duration and frequency, based on which SEAL can be roughly categorized as transactional, transitory, occasional, frequent, and ongoing engagement. This categorization could be a starting point in examining degrees, levels, or intensity of SEAL. Due to space, this paper does not discuss these attributes.

Psychological Engagement

Cognitive engagement and affective/emotional engagement are discussed extensively in the literature. In this study, we also found ample evidence of these psychological states. Student participants often used words like appreciation, positive, love, belonging, and respect to describe their *feelings* of engagement, while librarian participants tended to focus more on *cognitive* attributes like awareness, recognition, understanding, support, and advocacy. More notably, engagement efforts (from both parties) have led to the correction of misunderstandings and stereotypes. For example, a student said:

> I always expected librarians to like, you know, like the stereotype, the older lady with glasses on so, like, knowing that they're those type of people and they're like really energetic and like really easy to talk to, they're not going be like the ladies in the movies who are like shhhhh, so it's like I don't know. It made it, made them, more … feel more welcoming. You know, like feel more welcoming.

Holistic Engagement

Some librarian participants talked about their "small group of very active students" who were highly engaged in library activities and established a bond with their librarians. Librarians view themselves as playing many roles, including teacher, counselor, therapist, and community touchstone, in the hope of achieving a high-level, holistic student engagement where academic libraries are integral to students' university experiences.

Long-Term Impact

Since our interviews with students only included current students of participating libraries, we did not gather direct evidence for the long-term impact of SEAL. However, some students mentioned their intention to give back to both their universities and libraries—a sign of a long-term outcome. Outreach librarians talked about how alums continued to contribute to and participate in library activities after graduation, which may demonstrate the outcomes of SEAL. Indeed, evaluating the impact of SEAL over time would be valuable but, as one librarian participant stated, "harder to calibrate because young people, their memories aren't as good." Nevertheless, future research on engagement and perception could demonstrate outcomes of academic libraries' collective efforts in engaging their publics.

Discussion

Academic libraries need an overall approach to and theoretical understanding of student engagement. The engagement literature in other disciplines, such as communication studies and customer research, helped us identify SEAL as a process with antecedents and outcomes rather than focusing only on psychological and behavioral states (Johnston, 2018; Weitzl & Einwiller, 2018). However SEAL has unique characteristics—most notably, the role of librarians in SEAL is prominent, which means any framework without emphasizing librarians' roles would be incomplete. The SEAL framework is grounded in interview data and reflects how engagement is perceived in the field. Since it not only zooms in on the engagement as a phenomenon but also considers both sides of the coin—librarians' and students' views—it is useful from both theoretical and practical perspectives. In addition, we borrowed the flexible coding method from sociology, which may contribute to the LIS methodology.

The LIS literature provides ample evidence of academic librarians' engagement efforts, but the various definitions may give the impression that almost all library activities can be considered engagement (Appleton, 2020; Schlak, 2018). The in-depth interviews in this study and the close examination of the data indicate that SEAL is strategic, student-focused, intentional, and outcome-oriented, without all librarians realizing it and expressing it explicitly. As a process, SEAL consists of conditions, situations, multiple dimensions, and anticipated outcomes. As a state or states, engagement is more than using library space/resources and interacting with other people in the library; it is a combination of behavioral engagement and psychological state, including cognitive and affective aspects. This conceptualization is a starting point for more theoretical research of engagement, not only for student engagement but other stakeholders such as faculty, staff, and alums, as well as research in various types of libraries, especially public libraries.

In a practical sense, several findings in this study have potential applications in academic libraries regarding planning, assessment, and marketing. Taking into consideration all four dimensions of SEAL—contexts, geneses, purposes, and approaches—librarians could make

their engagement efforts more strategic and goal-oriented to achieve specific purposes and various levels of outcomes. For instance, different contexts and purposes may require different communication strategies: playful engagement may work especially well for raising awareness and building community, whereas partnership with faculty and advisors can be effective beyond academic activities. Moreover, the process framework may help librarians design appropriate methods to assess the effects of engagement in different contexts, with purposes and outcomes more explicitly stated. Instead of simply saying, "activity X can help the library engage more students," the librarian could develop a more elaborate purpose, approach, and outcome statement. For another example, librarians should consider the specific behavioral and affective outcomes for planning and evaluation, and should assign them different weights when assessing activities with different purposes, such as facilitating participation and nurturing relationships.

The SEAL framework also provides insights into the challenges faced by academic libraries. The dimensions of the framework, such as the purposes and approaches, reveal the asymmetry of roles in the engagement process, with librarians acting as givers and students as takers. Despite persistent efforts, misperceptions of libraries and librarians still exist (Connaway & Dickey, 2010; Fagan et al., 2021) and remain a barrier to SEAL. Additionally, universities today offer a plethora of learning and social resources, while academic libraries' status as "the heart of the university" (Leupp, 1924, p. 193) becomes less apparent. As a result, students often do not prioritize library use, let alone engagement; librarians, therefore, often have to find innovative ways to "compete" with other learning/social resources on campus for students' attention. Collaboration with faculty members, for example, is widely used as a strategic way to reach students (Díaz, 2014), but it is insufficient. The gaps between the SEAL purposes of students and librarians mean there is a long way to go before SEAL can achieve overarching outcomes.

The overall process approach has its drawbacks in this study. Since the SEAL framework stresses engagement efforts and deemphasizes the individual state in outcomes, it does not include quantitative measurement of outcomes, which needs to be further explored in future research. In particular, we notice that frequency and duration are closely related to the state of engagement but do not define the level, degree, or intensity of engagement based on these aspects. Students need to be actively involved in academic libraries to be called "being engaged," but how active is "active" enough, and how involved is involved enough to be called "engagement?" Some participants hinted at the observations of different levels of engagement, yet the interviews show an overall lack of careful consideration of different attributes of engagement. Answering these questions will help librarians develop a deeper understanding and better evaluation methods. More empirical evidence is also needed to answer such questions.

Conclusion

The topic of student engagement has been a subject of much discussion in academic library literature, but it remains a somewhat ambiguous concept. This paper seeks to address this issue by examining SEAL (Student Engagement in Academic Libraries) from a conceptual and theoretical perspective. Through this research, we aim to provide valuable insights into this complex topic and lay the groundwork for further exploration and understanding of SEAL and related issues in the library field. These related issues include public perceptions of libraries, academic libraries' roles within and relationship with their parent institutions, and the

effectiveness of libraries' communications, just to name a few. As we navigate a post-COVID world, the ways in which libraries engage with students are more fluid than ever. Therefore, it is crucial to acknowledge that SEAL is an ever-changing construct, much like other services provided by academic libraries. In conclusion, this research represents a critical step forward in our understanding of student engagement in academic libraries. By providing a conceptual framework, we can more effectively plan, communicate, and evaluate our efforts to engage students and support their success.

References

Appleton, L. (2020). Academic libraries and student engagement: A literature review. *New Review of Academic Librarianship*, *26*(2–4), 189–213. https://doi.org/10.1080/13614533.2020.1784762

Arant, W., & Clark, C. K. (1999). Academic library public relations: An evangelical approach. *Texas A&M University*, *13*(2), 90–95.

Axelson, R. D., & Flick, A. (2011). Defining student engagement. *Change*, *43*(1), 38–43. https://doi.org/10.1080/00091383.2011.533096

Black, S. (2016). Psychosocial reasons why patrons avoid seeking help from librarians: A literature review. *The Reference Librarian*, *57*(1), 35–56. https://doi.org/10.1080/02763877.2015.1096227

Brodie, R. J., Hollebeek, L. D., Jurić, B., & Ilić, A. (2011). Customer engagement: Conceptual domain, fundamental propositions, and implications for research. *Journal of Service Research*, *14*(3), 252–271. https://doi.org/10.1177/1094670511411703

Connaway, L. S., & Dickey, T. J. (2010). *The digital information seeker: Report of findings from selected OCLC, RIN and JISC user behaviour projects*. https://docs.niwa.co.nz/library/public/Connaway2010.pdf

Corno, L., & Mandinach, E. B. (1983). The role of cognitive engagement in classroom learning and motivation. *Educational Psychologist*, *18*(2), 88–108.

Datig, I. (2014). What is a library?: International college students' perceptions of libraries. *The Journal of Academic Librarianship*, *40*(3), 350–356. https://doi.org/10.1016/j.acalib.2014.05.001

Delaney, G., & Bates, J. (2015). Envisioning the academic library: A reflection on roles, relevancy and relationships. *New Review of Academic Librarianship*, *21*(1), 30–51. https://doi.org/10.1080/13614533.2014.911194

Dhanesh, G. S. (2017). Putting engagement in its PRoper place: State of the field, definition and model of engagement in public relations. *Public Relations Review*, *43*(5), 925–933. https://doi.org/10.1016/j.pubrev.2017.04.001

Díaz, J. O. (2014). The roles of engagement at The Ohio State University Libraries: Thoughts from an early adopter. *Reference Librarian*, *55*(3), 224–233. https://doi.org/10.1080/02763877.2014.910741

Dugan, C. A. (1994). Virtually possible: Academic library public relations. *ACRL Public Relations in Academic Libraries Discussion Group at ALA Midwinter*, *14*, 10–12.

Fagan, J. C., Ostermiller, H., Price, E., & Sapp, L. (2021). Librarian, faculty, and student perceptions of academic librarians: Study introduction and literature review. *New Review of Academic Librarianship*, *27*(1), 38–75. https://doi.org/10.1080/13614533.2019.1691026

Fallin, L. (2016). Beyond books: The concept of the academic library as learning space. *New Library World*, *117*(5/6), 308–320. https://doi.org/10.1108/NLW-10-2015-0079

Ford, V. (1985). PR: The state of public relations in academic libraries. *College & Research Libraries*, *46*, 395–401.

Fredricks, J. A., Blumenfeld, P. C., & Paris, A. H. (2004). School engagement: Potential of the concept, state of the evidence. *Review of Educational Research*, *74*(1), 59–109. https://doi.org/10.3102/00346543074001059

Jan, S. U., Anwar, M. A., & Warraich, N. F. (2020). The relationship between emotional intelligence, library anxiety, and academic achievement among the university students. *Journal of Librarianship and Information Science*, *52*(1), 237–248. https://doi.org/10.1177/0961000618790629

Johnston, K. A. (2018). Toward a theory of social engagement. In K. A. Johnston & M. Taylor (Eds.), *The Handbook of Communication Engagement* (pp. 19–32). Wiley-Blackwell.

Johnston, K. A., & Taylor, M. (2018). Engagement as communication: Pathways, possibilities, and future directions. In K. A. Johnston & M. Taylor (Eds.), *The Handbook of Communication Engagement* (pp. 1–15). Wiley-Blackwell.

Kahn, W. A. (1990). Psychological conditions of personal engagement and disengagement at work. *Academy of Management Journal*, *33*(4), 692–724. https://www.scribd.com/document/327997881/Kahn-1990-Psychological-Conditions-of-Personal-Engagement-and-Disengagement-at-Work

Kahu, E. R. (2013). Framing student engagement in higher education. *Studies in Higher Education*, *38*(5), 758–773. https://doi.org/10.1080/03075079.2011.598505

Kiilu, P. W., & Otike, J. (2016). Non use of academic library services: A literature review. *International Journal of Library Science*, *5*(1), 7–13.

Kosiba, J. P. B., Boateng, H., Okoe Amartey, A. F., Boakye, R. O., & Hinson, R. (2018). Examining customer engagement and brand loyalty in retail banking: The trustworthiness influence. *International Journal of Retail & Distribution Management*, *46*(8), 764–779. https://doi.org/10.1108/IJRDM-08-2017-0163

Kuh, G. D., & Gonyea, R. M. (2003). The role of the academic library in promoting student engagement in learning. *College & Research Libraries*, *64*(4), 256–282. https://doi.org/10.5860/crl.64.4.256

Leach, L., & Zepke, N. (2011). Engaging students in learning: A review of a conceptual organiser. *Higher Education Research & Development*, *30*(2), 193–204. https://doi.org/10.1080/07294360.2010.509761

Lux, V., Snyder, R. J., & Boff, C. (2016). Why users come to the library: A case study of library and non-library units. *The Journal of Academic Librarianship*, *42*(2), 109–117. https://doi.org/10.1016/j.acalib.2016.01.004

Meyer, N. J., & Miller, I. R. (2008). The library as service-learning partner: A win–win collaboration with students and faculty. *College & Undergraduate Libraries*, *15*(4), 399–413. https://doi.org/10.1080/10691310802554879

Mizrachi, D. (2010). Undergraduates' academic information and library behaviors: Preliminary results. *Reference Services Review*, *38*(4), 571–580. https://doi.org/10.1108/00907321011090737

Norton, A. (1984). Library public relations: New opportunities in a growing field. *Library Trends*, *32*(3), 291–302.

Saffer, A. J. (2018). The outcomes of engagement in activism networks: A co-creational approach. In K. A. Johnston & M. Taylor (Eds.), *The Handbook of Communication Engagement* (pp. 285–300). Wiley-Blackwell.

Saks, A. M. (2006). Antecedents and consequences of employee engagement. *Journal of Managerial Psychology*, *21*(7), 600–619. https://doi.org/10.1108/02683940610690169

Schlak, T. (2018). Academic libraries and engagement: A critical contextualization of the library discourse on engagement. *The Journal of Academic Librarianship*, *44*(1), 133–139. https://doi.org/10.1016/j.acalib.2017.09.005

Sennyey, P., Ross, L., & Mills, C. (2009). Exploring the future of academic libraries: A definitional approach. *The Journal of Academic Librarianship*, *35*(3), 252–259. https://doi.org/10.1016/j.acalib.2009.03.003

Sukovic, S., Litting, D., & England, A. (2011). Playing with the future: Library engagement and change. *Australian Academic & Research Libraries*, *42*(2), 70–87. https://doi.org/10.1080/00048623.2011.10722215

Taylor, S. (2002). Public relations and the academic library. *Public Services Quarterly*, *1*(3), 1–4.

Tuffield, J. (1991). *Marketing for libraries and information centres: A selective annotated bibliography*. Department of Library and Information Studies, Victoria University of Wellington.

Uysal, N. (2018). Engaging shareholder activists: Antecedents, processes, and outcomes. In K. A. Johnston & M. Taylor (Eds.), *The Handbook of Communication Engagement* (pp. 149–168). Wiley-Blackwell.

Weitzl, W., & Einwiller, S. (2018). Consumer engagement in the digital era: Its nature, drivers, and outcomes. In K. A. Johnston & M. Taylor (Eds.), *The Handbook of Communication Engagement* (pp. 453–473). Wiley-Blackwell.

Williams, K. (2009). A framework for articulating new library roles. *Research Library Issues*, *265*, 3–8. https://doi.org/10.29242/rli.265.2

Yoo-Lee, E., Lee, T. H., & Velez, L. (2013). Planning library spaces and services for Millennials: An evidence-based approach. *Library Management*, *34*(6/7), 498–511.

Zhoc, K. C. H., Webster, B. J., King, R. B., Li, J. C. H., & Chung, T. S. H. (2019). Higher education student engagement scale (HESES): Development and psychometric evidence. *Research in Higher Education*, *60*(2), 219–244. https://doi.org/10.1007/s11162-018-9510-6

Appendix: Semi-Structured Interview Protocol

Questions for Librarians

- Hospitals would call people who come in as patients; what do you call people who come to libraries? What words would you use to describe them?
- What does student engagement mean to you?
- What efforts do you make to engage students?
- How effective have those efforts been? How do you evaluate the outcome or effectiveness?
- In your opinion, what is the most important service/part the library provides students? Why?
- To what extent do you think students value the idea/concept of "student engagement?
- What are the challenges you have encountered in engaging students?
- Can you take a guess, what the students think about the university library? How do they think about the librarians?
- Do you think the university library is doing a good job with communications? Especially communications with the students?
- How do you view the relationship between the university library and the students?
- How do you view your own relationship with the students?
- What's the ideal relationship between library/librarians and students? What are the key factors/elements/aspects for such an ideal relationship?
- To what extent do you think the library-students relationship here matches the ideal relationship you previously mentioned?
- To what extent do you think the library listens to students' voices, needs, suggestions, or complaints?
- Do you think the library meets the needs and expectations of students?

Questions for Students

- When you hear the word "library," what are the words/things/images that come to your mind first?
- Could you recall your last few visits or other usages (e.g., website, databases, online chat) of the library? Did you have to go/use or want to go/use? Do you feel engaged? How so? (And follow up with specific questions about these visits and usages, especially the engagement aspect.)
- How do you feel when you are in the library? / How do you feel when you use library resources?
- What words would you use to describe the relationship between you and your libraries/ librarians? Why?
- Have you interacted with librarians? How often? What made you interact/ not interact with them?
- What do you think librarians do for their work?
- How much do you think the librarians value you as part of the university community?
- How important do you think the library is to your success?
- Do you follow/friend any library social media? Websites? Why/why not?
- Have you participated in library workshops, exhibits, or other events/activities? If not, why?

- How would you evaluate the library's engagement efforts?
- Do you think the library meets the needs and expectations of students, including yourself?
- Any comments for the library to improve students' engagement and experience? Or other comments?

Ongoing Changes in Virtual Reference and Online Instruction in Academic Libraries

Caterina Reed, Paria Aria, Guinsly Mondésir, and Harvey Long

This research seeks to find the new trends in virtual reference and online learning by looking at the impact of COVID-19 on academic libraries, and by identifying gaps in professional development for academic librarians, particularly in reference and instruction. Responses from the surveyed academic librarians indicate that many services transitioned to online formats and that librarians primarily relied on self-education to learn and adapt to different platforms. This trend shows an opportunity for library associations and sections to offer more professional development to assist librarians with emerging needs.

Introduction

The purpose of this research is to identify changes and trends related to virtual reference and online learning in academic libraries and professional development opportunities that academic librarians find helpful. The pandemic affected reference and instruction services in academic libraries and these changes remained and have become new trends. As part of a 2022 American Library Association (ALA) Emerging Leaders project, the Distance and Online Learning Section (DOLS) and University Libraries Section (ULS) of the Association of College and Research Libraries (ACRL) tasked the authors to work together to examine online reference and instruction by creating a survey and identifying gaps in the literature.[1] To identify the trends, the project team sent an anonymous survey to ACRL-DOLS and ULS members to determine these trends and changes and to discover potential opportunities for future professional development.

For this project, we define *online learning* as a way in which virtual tools and resources support library users, especially online learning modules, synchronous and asynchronous one-shot information literacy sessions, and online tutorials. To define *virtual reference*, we employ the digital reference definition as provided in the *Online Dictionary for Library and Information Science*: "reference services requested and provided over the Internet, usually via e-mail, [chat], or Web-based submission forms, usually answered by librarians in the reference department of a library."[2] The research presented in this article discusses key findings and provides sugges-

*Caterina Reed is an Academic Engagement Librarian at Stony Brook University Libraries, email: caterina.reed@stonybrook.edu; Paria Aria is an Assistant Professor at the School of Library and Information Studies, Texas Woman's University, email: paria@twu.edu; Guinsly Mondésir is Virtual Reference Librarian, Scholars Portal, at the Ontario Council of University Libraries, email: guinsly@scholarsportal.info; Harvey Long is Student Success Librarian at North Carolina Agricultural and Technical State University, email: hdlong@ncat.edu.

tions for professional development that could be beneficial for academic librarians engaged in work involving virtual reference and online learning.

Literature Review

An early survey in March 2020 by Hinchliffe and Wolff-Eisenberg found that some academic libraries were "pivoting to online/phone only" during the pandemic, while many libraries continued traditionally-conducted reference services.[3] A series of case studies emerged as campuses shifted to remote learning and library staff worked from home. In Spring 2020, the University of Toronto Libraries increased staffing and service hours to respond to a 50 percent surge in their Ask Chat with a Librarian service.[4] While some libraries modified existing services to meet student, staff and faculty needs, some libraries implemented new technologies and services. For example, at the Southern Illinois University School of Medicine, librarians created instructional videos to address online learning needs.[5] Librarians also discussed strategies for promoting student engagement during online learning, including use of interactive tools such as Poll Everywhere and Padlet.[6] Some libraries took advantage of virtual technologies to increase online outreach opportunities for students. For instance, the University of Louisville used virtual networking opportunities with the College of Business to engage more with their users.[7] The pandemic also created an "urgent priority for electronic access and a greater focus on copyright and open access issues."[8]

Emergence of New Trends in Virtual Reference and Online Learning

A body of literature has emerged related to academic libraries' transition to online learning and virtual reference during COVID-19. The pandemic forced academic libraries to rethink most services, including virtual reference and online learning. Academic libraries offered online instruction and virtual reference services before COVID-19, but had to adjust their online services to match new needs when most institutions closed down in March 2020 and became fully virtual. Librarians quickly transitioned and pivoted from offering in-person to online one-shot information literacy sessions and one-on-one research consultations to support teaching and learning.

The immediate shutdown of universities, and the quick transition to online services, created some uncertainties about services usually available in-person for users. These uncertainties, in turn, affected users' overall feelings about services. Chat sessions conducted during and after COVID-19 reflected users' frustration and negative feelings.[9] Librarians also reported that patrons were more irritable as they would leave the chat abruptly or become more "demanding" than in face-to-face interactions.[10] Differences in user behavior was not the only change: libraries also had to alter the services they offered.

As online communications became the main communication method between libraries and patrons, many institutions experienced an increase in their number of online reference questions and chat usage.[11] Academic libraries also acquired new tools and technologies to meet the growing demand for virtual reference and online learning. For example, reference desk calls were answered remotely.[12] Some libraries used the "proactive chat" feature in Springshare's LibChat as a strategy to improve their chat usage.[13] By way of pop-up widgets, "proactive chat" encourages users to use the chat function, rather than waiting for users to look for the chat feature.[14] However, chat is not often conducive to answering more in-depth questions. For instance, Adams (2022) found that librarians were at times unfamiliar with

particular databases and would need to refer users to another librarian with the appropriate expertise.[15]

Since most reference consultations were held in-person prior to COVID-19, libraries had to re-evaluate their appointment systems. For example, Springshare's LibCal system was used by University Central Florida Libraries as "an online calendar for faculty and students to schedule one-on-one appointments."[16] Additionally, while the total number of students using the library services at the University of Illinois Chicago decreased during the pandemic, the number of visits to LibGuides increased.[17] Another change can be seen in the nature of questions asked by library users. At Georgia State University Library, questions about accessing and picking up physical items through curbside service and "website troubleshooting increased."[18] Although universities have resumed in-person classes and services, the trends that started due to the pandemic have remained.

Professional Development

Continuing professional development is critical and benefits not only librarians, but all whom librarians serve.[19] The pandemic highlighted and affirmed the need for professional development in the libraries. The transition to fully remote learning created a significant shift in instruction for librarians and students. The need to rapidly learn and utilize technology to provide online instructional support and distance learning could be challenging for instructors unfamiliar with these methods. On the other hand, students had to familiarize themselves with new learning strategies and online resources.[20] These new adjustments have presented both opportunities and challenges for libraries in their instructional and reference services, requiring librarians to find professional development opportunities to address these needs.

Professional growth and keeping up to date with the new trends are necessary aspects of every profession. ALA offers various professional development opportunities to its members through different divisions, sections, committees, and round tables. Professional development opportunities to discuss pedagogy and teaching in general can be helpful since many librarians, particularly instruction librarians, do not enter the profession with prior teaching experience.[21] Librarians engaged in teaching and instruction can benefit from "teaching circles" where they reflect on the ACRL framework and learn to better align learning outcomes.[22] Ongoing professional development supporting instruction assessment can combat library faculty wariness of assessment.[23] Librarians may also benefit from professional development focused on team-based learning and cloud-based assisted instruction.[24] Skills learned from colleagues at work through unofficial training is another form of professional development. These trainings are often best at targeting the needs of the library and institution while providing highly needed skills. California State University Libraries, East Bay provided a "peer-led database training program" that cross-trained and increased the confidence of librarians in using available databases.[25]

Aligning outcomes and reflecting on teaching experiences are not the only professional development opportunities librarians should invest in. Movement towards anti-racist pedagogy and addressing white supremacy is critical to personal and professional development. Culturally Responsive Teaching has been highlighted as a pedagogical approach that librarians should learn to integrate into their teaching practices, including one-shot sessions.[26] In addition to changes in the classroom, librarians have also been called upon to take an active

role in addressing anti-Blackness and how systemic oppression specifically affects Black library workers.[27]

Methodology

To discover the trends in virtual reference and identify the gaps in professional development, the researchers administered a fourteen-question survey to academic librarians. Survey questions included a mix of demographic/background and open-ended questions. The demographic/background questions asked about participants' job title, size of institution, and years of experience, while the open-ended questions asked participants about their experiences and professional development needs related to virtual reference and online information literacy instruction. Questions were created by reviewing the literature and were later revised to match the needs of our study. Our survey was also informed by the structure and content of an internal ACRL DOLS 2021-2022 survey. The authors used Google Forms to create the survey and gather the data (see Appendix A).

This survey was distributed on March 21, 2022 to all members subscribed to the DOLS and ULS ALA Connect communities. The survey was open for a period of ten days, with fifty-one responses received. According to ALA Connect as of April 2022, ACRL DOLS had more than 2,200 members registered, and ACRL ULS had 4,800 members registered for a combined total of 7,000 members.[28] However, it is not possible to know how many members successfully received the survey.

Once the survey closed, the authors each coded a selected response as a pilot test and compared their coding to create a list of unified codes. Afterwards, all responses were coded and patterns and themes emerged from the analysis. This research received Institutional Review Board exemption from Texas A&M University (IRB 2022-1459M).

Results and Discussion

In this study, all respondents worked at an academic library. With respect to institutional size, a third (33.3 percent) of the respondents specified that they worked at a large institution (15,000-30,000 students), as indicated in Table 1. Following closely behind, just over a quarter (25.5 percent) of respondents worked at a medium-sized institution (5,000–15,000), and nearly a third (31.4 percent) worked at small institutions. Only 9.8 percent of respondents worked at a huge institution (over 30,000 students).

TABLE 1
Respondents' Institution Size

Institution Size (n = 51)	Count	Percent
Huge (over 30,000 students)	5	9.8%
Large (15,000–30,000 students)	17	33.3%
Medium (5,000–15,000 students)	13	25.5%
Small (fewer than 5,000 students)	16	31.4%

A third (33.3 percent) of our respondents worked in reference, research, or instruction librarian roles and 27.4 percent reported that they were library administrators such as deans, directors, department heads, or coordinators, as outlined in Table 2. Some respondents only provided their titles (assistant librarian or associate librarian) and we also had several responses from library professional staff.

TABLE 2
Respondents' Job Title

Job Title (n = 51)	Count	Percent
Reference, Research, Instruction, or Learning Librarian	17	33.3%
Library Administrator (Dean, Director, Associate Director, Department Head)	14	27.5%
Online Learning or E-Learning or Distance Librarian	7	13.7%
Liaison Librarian	5	9.8%
Assistant/Associate/Full Librarian	5	9.8%
Other	3	5.9%

As shown in Table 3, almost 50 percent of respondents indicated that they were relatively new to their position (zero to five years). This number was closely followed by those who have six to fifteen years of experience working in libraries (41 percent). Almost 10 percent of respondents were experienced librarians with over sixteen years of experience.

TABLE 3
Respondents' Years of Experience

Years of experience (n = 51)	Count	Percent
0-5 (less experience)	25	49%
6-15	21	41.2%
16-40 (more experience)	5	9.8%

Our results show varied responses to the changes in virtual reference and online learning. Most of the respondents who mentioned that the pandemic did not affect their library already provided online instruction or reference services. One respondent replied that their library was already promoting their online service before the pandemic to meet the needs of their distance education students. Another respondent mentioned that they had virtual reference protocols established before COVID-19. These findings are discussed in more detail in the following sections.

Changes in Virtual Reference

COVID-19 had an undeniable effect on the services provided by the academic libraries surveyed. Although some respondents mentioned that the effect was small or none, others talked about the change in their services or new services that they implemented during the pandemic. Chat reference became prominent as the hours for chat were expanded and hours of in-person reference services at the reference desk decreased. Many of the in-person consultations with librarians moved to on-line consultations through various web conferencing applications, including Zoom or Skype. This trend seems to be a long-term impact of COVID-19, as several respondents mentioned that the number of online consultations in their library is still higher than in-person consultations. Respondents also mentioned changes in workload. Librarians must now monitor both virtual and in-person reference questions in their library. However, this workload seemed to vary. Several academic libraries have now moved away from in-person reference desks at all, instead requiring librarians to be on-call while they physically remain in their offices.

The pandemic disrupted the sense of normalcy, and at the same time it brought about positive changes for some libraries. For instance, one survey respondent was finally successful with implementing virtual reference, saying: "COVID-19 allowed me to convince our then director that we needed to enter the world of chat reference." Before the pandemic, the library administration was not supportive of a chat reference service. Modifications made to virtual reference and online learning in academic libraries are more than holdovers from COVID-19. Several libraries decided to keep these changes to meet students' new expectations and preferences. "Even now that we are back to offering in-person consultations, many students prefer to meet over Zoom for convenience," one librarian reported. While most libraries offered some form of virtual reference before COVID-19, all reported an increase in chat usage during the pandemic. This surge led to the creation of new positions. An Online Learning and Instruction Librarian stated, "It essentially led to the creation of the position that I currently hold." In addition to changes related to virtual reference, respondents also reported a shift in library user behavior, with one respondent noting: "Patrons are more receptive to using virtual reference."

New Trends in Online Learning

COVID-19 significantly impacted online learning in academic libraries as library instruction also transitioned online. As a result, librarians used screencasting for asynchronous classes and developed more online tutorials. Librarians also reported increased demand for embeddable content for use in an LMS, such as modules, PDF handouts, and short videos. Respondents described the importance of purchasing eBooks, streaming videos, and additional digital content to meet the increased need to support online instruction. "We are making more contact and with larger groups than in the past," one librarian mentioned.

COVID-19 also had some positive impacts on online library instruction. As instructional services pivoted online and institutions started delivering synchronous online classes, students, staff and faculty became more comfortable with using online tools. According to some respondents, more faculty are now open to including instruction through a learning management system (LMS) and many librarians are now experts in making tutorials and online learning material. Online learning in academic libraries is here to stay. One respondent declared: "I see online learning as becoming a focus of all librarians, not just one or two with "online learning" in their title. Today many students learn online even if they aren't distance students."

Professional Development

Nearly two-thirds (62.7 percent, n = 32) of respondents reported that they had participated in professional development opportunities offered by ACRL and its sections, while 37.3 percent (n = 19) indicated that they had not participated, as outlined in Table 4. However, the number of those who participated in professional development (62 percent) is significantly higher than those who did not attend any professional development opportunities.

TABLE 4
Professional Development Involvement

Participation in professional development opportunities offered by ACRL and its sections (n = 51)	Count	Percent
Yes	32	62.7%
No	19	37.3%

Respondents also indicated two main areas of interest regarding professional development. The topics of most interest for future professional development programming were

accessibility, equity, diversity, and inclusion, and serving non-traditional students. The full list of professional development topics is outlined in Table 5.

TABLE 5
Professional Development Topics*

Professional development topics of interest for future professional development programming (n = 51)	Count	Percent
Accessibility	32	62.7%
Equity, diversity, and inclusion	28	54.9%
Serving non-traditional students	28	54.9%
Serving graduate students	26	50.9%
Serving first-year students	25	49.0%
Gamification/digital badges/m-learning	22	43.1%
Embedded librarianship	22	43.1%

*Respondents were allowed to select more than one topic of interest.

Of the nineteen respondents who indicated not attending any professional development in the past, 52.6 percent (n = 10) were new librarians and only 15.8 percent (n = 3) were librarians with over sixteen years of experience. With respect to participation in professional development opportunities, the data in Table 6 reveals that 46.9 percent of attendees were new librarians, 46.9 percent were mid-career librarians, and only 6.3 percent were more experienced librarians.

TABLE 6
Relationship Between Years of Experience and Attending Professional Development

Years of experience	Did not attend professional development (n = 19)	Attended professional development (n = 32)
0-5 (less experience)	52.6% (10)	46.9% (15)
6-15 (mid-career)	31.6% (6)	46.9% (15)
16-40 (more experience)	15.8% (3)	6.3% (2)

Table 7 illustrates the webinar topics preferred by librarians who did not participate in professional development. Out of the librarians who had not participated in professional development opportunities offered by ACRL or its sections, most showed interest in the topics of assessment and accessibility. Gamification, embedded librarianship, and serving graduate students were also topics preferred by respondents.

TABLE 7
Preferred Topics for Future Professional Development*

Professional development (n = 19)	Count	Percent
Assessment	12	63.2%
Accessibility	12	63.2%
Gamification/digital badges/m-learning	8	42.1%
Embedded librarianship	8	42.1%
Serving graduate students	8	42.1%
Serving first-year students	9	47.4%
Equity, diversity, inclusion	7	36.8%
Serving non-traditional students	7	36.8%

*Respondents were allowed to select more than one topic of interest.

In the survey, respondents indicated being members of the following sections of ALA/ACRL: College Libraries Section (CLS), Community and Junior College Libraries Section (CJCLS), Distance and Online Learning Section (DOLS), Digital Scholarship Section (DSS), Instruction Section (IS), and University Libraries Section (ULS). Respondents also mentioned being members of Core, LOEX, New England Library Instruction Group (NELIG), and Reference & User Services Association (RUSA). Webinars and conferences hosted by the aforementioned groups were listed as helpful professional development opportunities. Other courses and training listed by respondents, included: Quality Matters; Articulate 360; and ALA coursework (e.g., Creating Online Tutorials Easily and Effectively, Instructional Design for Online Teaching and Learning). Professional development opportunities related to diversity, equity, inclusion, and accessibility (DEIA) remain important to librarians.

Most of the librarians responding to the survey were new to the field of librarianship and many of them had not attended professional development. In fact, out of the respondents who mentioned not attending any professional development, 52.6 percent were new librarians. This high number could be due to the fact of being new to the field and a lack of awareness of the opportunities available to librarians through different sections of ALA/ACRL. Library associations could engage more with the new professionals to offer more webinars with relevant content and could help MLIS students and early-career librarians better prepare for the profession.

To attract more participants to their webinars, ALA/ACRL sections can tailor their webinars to the needs of librarians. Out of the respondents who mentioned not attending professional development, most of them were interested in assessment, accessibility, gamification, embedded librarianship, and serving graduate students. Offering more webinars around such topics not only helps librarians, but also helps library associations and committees with improving their outreach and connecting better with their members.

Limitations and Future Research

This study surveyed fifty-one academic librarians. With a limited sample size and focus on only academic libraries, the results are not generalizable and may not be applicable to all types of libraries. The findings suggest that new virtual reference and online learning trends, along with new professional development opportunities, have emerged and warrant further exploration. While the results may not be applicable to all libraries, more research can be conducted in this area such as identifying the barriers for librarians who do not participate in professional development and addressing their needs. Future research can also be focused on a specific topic, such as the impact of emerging and innovative technologies (e.g., AI and Machine Learning) on library services. The results of this study can help libraries plan for the future of their virtual services and provide ideas for professional development.

Conclusion

Library services have undergone countless changes in the past few years. The COVID-19 pandemic and campus closures in 2020 brought forth additional changes. This research identified new developments related to virtual reference services and online instruction and the professional development opportunities that could help prepare librarians for these services. Our results indicate that while the pandemic has had long-term effects for some libraries, others only experienced short-term changes. In some cases, the impact of COVID-19 on libraries al-

lowed for the enhancement and implementation of virtual services. Many librarians gained new expertise in creating online tutorials or delivering online instructional sessions. Although the pandemic briefly changed the services for these libraries, some have reverted their services, such as virtual reference services, back to previous levels.

As we learned from this study, librarians with varying job responsibilities are engaging with virtual reference and/or online learning more now than they did prior to COVID-19. More investment must be placed in professional development to enhance the skills and knowledge of librarians who facilitate virtual reference and online learning services.

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Appendix A

Survey Questions

This survey is a part of the 2022 ALA Emerging Leaders Program project. In collaboration with ACRL-DOLS and ULS, we are interested in identifying trends in online learning and virtual reference in academic libraries. Your participation is voluntary and individual responses will be kept anonymous. A summary of the results will be shared during the 2022 ALA Annual Conference.

The survey is intended for respondents working in academic libraries. It will take approximately 10-15 minutes to complete. Please complete by Wednesday, March 30. Thank you for taking the time to answer our survey.

*Required

1. What is your library type? *
    - □ Academic
    - □ Public
    - □ School
    - □ Special
    - □ Other:
2. What is your student population (FTE)? *

FTE/institution size based on Carnegie Classifications and CollegeData.com

- □ Small (fewer than 5,000 students)
- □ Medium (5,000–15,000 students)
- □ Large (15,000–30,000 students)
- □ Huge (over 30,000 students)
- □ Other:

3. What is your job title? *
4. How many years have you been in this position? *

Please provide a numerical response.

Virtual Reference

Defined as reference services performed via chat, email, and text (most often in real-time).

5. Has the COVID-19 pandemic affected virtual reference at your library? How? *
6. What trends and changes have you noticed in virtual reference over the past couple of years? *

Online Learning

Examples include providing asynchronous or synchronous online instruction; creating web-based tutorials and digital learning objects; integrating library modules within LMS.

7. Has the COVID-19 pandemic affected online learning at your library? How? *
8. What trends and changes have you noticed in online learning over the past couple of years? *

Professional Development

9. Which ALA/ACRL sections/committees/working groups are you a part of that relate to virtual reference or online learning? *

10. Have you attended professional development opportunities offered by these sections/committees you specified above? * Yes/No

[If Yes, must answer questions #11 & 12; If No, skip logic to "Additional Feedback"]

11. What professional development (e.g., courses, workshops) relating to virtual reference and online learning have been useful to you in the past? *
12. How did you find out about these opportunities? *
    - □ ALA Connect
    - □ Email
    - □ Colleagues
    - □ Social media
    - □ Online learning resource (e.g., LinkedIn Learning)
    - □ Search engine (e.g., Google)
    - □ Other:

Additional Feedback

13. What topics relating to virtual reference and online learning would you like to learn more about? *
    - □ Accessibility
    - □ Assessment
    - □ Embedded librarianship
    - □ Equity, diversity, inclusion
    - □ Gamification/digital badges/m-learning
    - □ Serving first-year students
    - □ Serving graduate students
    - □ Serving non-traditional students
    - □ Other:
14. Do you have any feedback and/or is there anything else you would like us to know about virtual reference or online learning?

Appendix B

Message sent via ALA Connect (ULS & DOLS)

Posting on behalf of ACRL DOLS and ULS Emerging Leaders Project Team:

The ACRL-DOLS and ULS Emerging Leader Project Team is interested in identifying trends in online learning and virtual reference in academic libraries. We invite you to complete this voluntary and anonymous survey. A summary of trends and changes will be shared during the 2022 ALA Annual Conference. The survey will take approximately 10-15 minutes to complete. The survey will close at 5 pm EST on Wednesday, March 30, 2022.

Link to survey

Thank you!

Harvey Long, Guinsly Mondesir, Caterina Reed, and Paria Tajallipour

Notes

1. The original Emerging Leaders report that the authors derived this work from is now available on ALA's Website: https://www.ala.org/sites/default/files/educationcareers/content/leadership/emergingleaders/ALA-EL-TeamG%20Project%20Report%20.pdf.

2. Joan M. Reitz, "Digital Reference," In *Online Dictionary for Library and Information Science*, (Libraries Unlimited, 2014), http://products.abc-clio.com/ODLIS/odlis_d#digitalref.

3. Lisa Janicke Hinchliffe and Christine Wolff-Eisenberg, "Academic Library Response to COVID19: The First 24 Hours of Survey Data," *Ithaka S+R*, 2020, https://sr.ithaka.org/blog/academic-library-response-to-covid19/.

4. Benjamin Walsh and Harjinder Rana, "Continuity of Academic Library Services During the Pandemic: The University of Toronto Libraries' Response," *Journal of Scholarly Publishing* 51, no. 4 (2020): 237–45, https://doi.org/10.3138/jsp.51.4.04.

5. Lydia Howes et al., "Adapting to Remote Library Services during COVID-19," *Medical Reference Services Quarterly* 40, no. 1 (2021): 35–47, https://doi.org/10.1080/02763869.2021.1873616.

6. Christina Norton, et al., "Survive and Sustain": Adaptive and Innovative Library Instruction in the Time of COVID-19," *Internet Reference Services Quarterly* 27, no. 2 (2023): 55–82, https://doi.org/10.1080/10875301.2022.2163021.

7. Alexandra Howard, "Rework the Network: Implementing Virtual Outreach Methods in the COVID Era," *Endnotes: The Journal of the New Members Round Table* 10, no. 1 (2021): 21–30, https://journals.ala.org/index.php/endnotes/article/view/7659/10615.

8. Marie L. Radford et al., "Surging Virtual Reference Services: COVID-19 a Game Changer," *College & Research Libraries News* 82, no. 3 (2021): 106–113, https://doi.org/10.5860/crln.82.3.106, 113.

9. Sheeji Kathuria, "Library Support in Times of Crisis: An Analysis of Chat Transcripts During COVID," *Internet Reference Services Quarterly* 25, no. 3 (2021): 107–119, https://doi.org/10.1080/10875301.2021.1960669.

10. Sara Cohn and Rebecca Hyams, "Our Year of Remote Reference: COVID 19's Impact on Reference Services and Librarians," *Internet Reference Services Quarterly* 25, no. 4 (2021): 127–144, https://doi.org/10.1080/10875301.2021.1978031, 137.

11. Sandy Hervieux, "Is the Library Open? How the Pandemic has Changed the Provision of Virtual Reference Services," *Reference Services Review* 49, no. 3/4 (2021): 267–280, https://doi.org/10.1108/RSR-04-2021-0014; Cohn and Hyams, "Our Year of Remote Reference;" Laura Costello et al., "Reference in COVID-19: Supporting Users in an Unprecedented Time," ACRL 2021 [Lightning talk], https://docs.google.com/presentation/d/1nhJtbYu6SlnhKftM3aQZS1px6Q6RGbDqEAy1CJbskNU/edit#slide=id.gc910f76724_0_10551.

12. Julie A. Murphy and Joshua Newport, "Reflecting on Pandemics and Technology in Libraries," *Serials Review* 47, no. 1 (2021): 37–42, https://doi.org/10.1080/00987913.2021.1879622; Mahnaz Dar, "Ramping Up Remote Reference During COVID-19 Campus Shutdowns," *Library Journal* (2020), https://www.libraryjournal.com/story/

ramping-up-remote-reference.

13. Parker Fruehan and Diana Hellyar, "Expanding and Improving Our Library's Virtual Chat Service," *Information Technology and Libraries* 40, no. 3 (2021): 1–9, https://doi.org/10.6017/ital.v40i3.13117.

14. Springshare, "LibChat: Proactively Prompt Users to Start a Chat," https://ask.springshare.com/libanswers/faq/1781.

15. Annis L. Adams, "A Peer-Led Database Training Program to Improve Reference Service," *The Reference Librarian* 63, no. 1–2 (2021): 29–42, https://doi.org/10.1080/02763877.2021.2009956.

16. Linda K. Colding and Rich Gause, "Reimagining Services for the University Community During a Pandemic: A Tale of Two Florida Academic Libraries," *Elsevier Connect*, (2021), https://www.elsevier.com/connect/library-connect/reimagining-services-for-the-university-community-during-a-pandemic-a-tale-of-two-florida-academic-libraries.

17. Sandra De Groote and Jung M. Scoulas, "Impact of COVID-19 on the Use of the Academic Library," *Reference Services Review* 49, no. 3/4 (2021): 281–301, https://doi.org/10.1108/RSR-07-2021-0043.

18. Kathuria, "Library Support in Times of Crisis," 112–113.

19. Jennifer Campbell-Meier and Anne Goulding, "Evaluating Librarian Continuing Professional Development: Merging Guskey's Framework and Vygotsky Space to Explore Transfer of Learning," *Library & Information Science Research* 43, no. 4 (2021): 101119, https://doi.org/10.1016/j.lisr.2021.101119.

20. Heriyanto, et al., "Distance Learning Information Literacy: Undergraduate Students Experience Distance Learning During the COVID-19 Setting," *Information Development* 37, no. 3 (2021): 458–466, https://doi.org/10.1177/02666669211018248.

21. Lisa Becksford, "Teacher, Librarian, or Both? A Quantitative Investigation of Instruction Librarians' Teacher Identity," *College & Research Libraries* 83, no. 3 (2022): 372–392, https://doi.org/10.5860/crl.83.3.372.

22. Cara Berg, "Updating Learning Outcomes and Engaging Library Faculty with the ACRL Framework," *The Journal of Academic Librarianship* 46, no. 2 (2020): 102040, https://doi.org/10.1016/j.acalib.2019.05.008.

23. Lyda. F. McCartin et al., "The Impact of Professional Development on Library Faculty Attitudes, Practices, and Knowledge of Student Learning Assessment," *Public Services Quarterly* 14, no. 3 (2018): 214–230, https://doi.org/10.1080/15228959.2017.1394955.

24. Ritanjali Panigrahi et al., "Online Learning: Adoption, Continuance, and Learning Outcome—A Review of Literature," *International Journal of Information Management* 43, (2018): 1–14, https://doi.org/10.1016/j.ijinfomgt.2018.05.005.

25. Adams, "A Peer-Led Database Training."

26. Chapel Cowden et al., "Teaching with Intent: Applying Culturally Responsive Teaching to Library Instruction," *portal: Libraries and the Academy* 21, no. 2 (2021): 231–251, https://doi.org/10.1353/pla.2021.0014.

27. Peace Ossom-Williamson et al., "Starting with I: Combating Anti-Blackness in Libraries," *Medical Reference Services Quarterly* 40, no. 2 (2021): 139–150, https://doi.org/10.1080/02763869.2021.1903276.

28. These numbers were accurate as of April 2022, but as of March 2023 membership has increased to over 8,000, combined. Retrieved from ACRL DOLS ALA Connect Community, https://connect.ala.org/acrl/communities/community-home?communitykey=fa65a293-ce05-48ae-914a-4764740686a6; ACRL ULS ALA Connect Community, https://connect.ala.org/acrl/communities/community-home?CommunityKey=d76cb509-3982-46e3-8b13-9add91c99cea.

Speaking the Same Language: A Phenomenological Study Investigating Librarian and Writing Instructor Shared Frameworks in First-Year Writing Courses

Amy C. Rice, Dennis D. Cartwright, Lauren Hays, and Grace Veach

First-year college writing is often a venue for librarians and writing instructors to collaborate in teaching information literacy; however, they must navigate differences in their disciplinary languages. One method to help librarians and writing instructors bridge the gap is sharing disciplinary frameworks, such as the ACRL Framework, WPA Framework, and WPA Outcomes. In this qualitative, phenomenological study, the researchers interviewed seven librarians and seven writing instructors. Some writing instructors were unfamiliar with the WPA frameworks; however, when they reviewed the frameworks side by side, they observed common themes that could help them collaborate with librarians in teaching information literacy.

Introduction

Student performance in first-year college writing has been found to be a predictor of student persistence and success throughout the student's undergraduate career (Garrett et al., 2017). Because many first-year college writing courses include information literacy components taught by librarians (Nicholes & Reimer, 2020), collaboration between librarians and writing instructors is a necessary element to promote student success. Although writing instructors and librarians have overlapping goals and strategies, they represent separate disciplines with different priorities and languages (Carter & Aldridge, 2016; Veach, 2012b).

One way to improve collaboration may be to enhance communication and understanding using complementary disciplinary frameworks: The Association of College and Research Libraries Framework for Information Literacy for Higher Education (ACRL Framework), the Writing Program Administrators Framework for Success in Postsecondary Writing (WPA Framework), and the Writing Program Administrators Outcomes Statement for First-Year Composition (WPA Outcomes). These frameworks contain overlapping values such as critical thinking, careful

* *Amy C. Rice is Library Director in the John E. Riley Library, at Northwest Nazarene University, email: arice@nnu.edu; Dennis D. Cartwright is at the College of Education, Northwest Nazarene University, email: dcartwright46@gmail.com; Lauren Hays is in the Department of Educational Technology and Library Science at the University of Central Missouri, email: lauhays@ucmo.edu; Grace Veach is at Southeastern University, email: gveach@seu.edu.*

reading and understanding of texts, inquiry or source research, and communication (American Library Association, 2015; Council of Writing Program Administrators, 2014; Council of Writing Program Administrators et al., 2011; Grettano & Witek, 2016; Kazan et al., 2021).

Literature Review

This study explored writing and information literacy instructor collaborations to understand how instructors in two related disciplines found better communication methods and opportunities for collaboration through shared frameworks and vocabularies. Jackson (2017) conducted a quantitative survey that explored library and writing center partnerships in which participants identified a gap in communication between the two disciplines. Jackson (2017) provided a benchmark for further studies on collaboration and communication. More prevalent types of research about collaboration were articles, presentations, and book chapters describing the results of collaborative efforts, such as lesson plans, student perceptions, or pre- and post-test results (Belzowski & Robison, 2019; D'Angelo et al., 2017; Murphy, 2019; Saunders & Corning, 2020). Studies also attempted to demonstrate how information literacy and writing connected to student success measures, retention, and persistence; few of these focused on both information literacy and writing (Croxton & Moore, 2020; Garrett et al., 2017; O'Kelly et al., 2023; Onyango, 2023). In other book chapters, librarians and writing instructors participated in dialogue about their collaboration (Anderson et al., 2018; Gregory & McCall, 2016; Johnson & McCracken, 2018). Calls for mutual understanding of each discipline's language and frameworks have been a consistent aspect of the literature (Artman & Frisicaro-Pawlowski, 2018; Friedman & Miller, 2018; Grettano & Witek, 2016; Guth et al., 2018; Hensley, 2015; Insua et al., 2018a; Murphy, 2019; Napier et al., 2018).

A review of the literature demonstrated collaborations have been happening. Some writing instructors and librarians used one or more of their disciplinary frameworks to inform their teaching (Friedman & Miller, 2018; McClure, 2016; Veach, 2018). Few comparable qualitative studies outside the case study genre addressed writing instructors and librarians using shared frameworks (Díaz & Mandernach, 2017; Matacio & Closser, 2017; Simons, 2017). Although some authors described librarian and writing instructors' common goals in general terms such as student learning or preparation for academic and post-graduation life (Anderson et al., 2018; Baer, 2016; Refaei & Wahman, 2016), other researchers' goals fell into categories related to students finding, critically evaluating, and using information (Baer, 2016; Napier et al., 2018; Rapchak & Stinnett, 2018; Scheidt et al., 2018; Walsh et al., 2018).

A Need for Common Goals and Language

Although common goals often begin a collaborative conversation, full collaboration requires more than a common aim; at minimum, a shared document is necessary (Norgaard & Sinkinson, 2016), and shared training and understanding of each other's curriculum are useful practices (Grettano & Witek, 2016; Napier et al., 2018). However, if the goal is deep collaboration, librarians and writing instructors need to do more than share goals, documents, and training (Junisbai et al., 2016). They need a shared understanding of their disciplinary terms, particularly when the terms are so similar that students cannot distinguish their meaning (Carter & Aldridge, 2016; Refaei et al., 2017). For instance, in one study, librarians used the term *attributive tag*, and writing instructors used the term *signal phrase* to describe the way a writer introduced a source in their writing (Refaei et al., 2017). Schaub et al. (2017) found a

single information literacy concept could be described in five different ways. Other vocabulary differences involved the ways in which instructors in different disciplines describe the types of sources required for assignments, including what they consider to be a primary source (Pickard & Sterling, 2020; Refaei et al., 2017; Scheidt et al., 2018). When a course instructor uses the term academic source, librarians need to inquire about instructors' definition of academic sources. An academic source could mean anything that was published in a professional journal or by a university press; however, the course instructor may have something more specific in mind, such as a peer-reviewed article (Pickard & Sterling, 2020). A common vocabulary may help students transfer knowledge from a first-year writing course to their second-year courses and to make connections between writing and information literacy (Lancaster et al., 2016; Refaei et al., 2017). Although many researchers suggested a shared vocabulary was appropriate, others argued that a shared vocabulary was not necessary if librarians and writing instructors understood and appreciated each other's disciplinary perspectives and could help students understand the commonalities and differences between them (Carter & Aldridge, 2016; Veach, 2012a).

Complementary Frameworks

Since the ratification of the Association of College and Research Libraries Framework for Information Literacy for Higher Education (ACRL Framework) (American Library Association, 2015), librarians and writing instructors have focused on shared frameworks (Artman & Frisicaro-Pawlowski, 2018; Auten & Thomas, 2016), in part because the ACRL Framework shares similarities with the Writing Program Administrators Framework for Success in Postsecondary Writing (WPA Framework) (Council of Writing Program Administrators, 2014), the Writing Program Administrators Outcomes Statement for First-Year Composition (WPA Outcomes) (Council of Writing Program Administrators, 2014), and with *Naming What We Know: Threshold Concepts of Writing Studies* (Adler-Kassner & Wardle, 2015). These frameworks and guiding texts are not exactly the same, but they have complementary elements (Anderson et al., 2018; D'Angelo et al., 2017). The overlapping concepts in the frameworks could be especially useful for new writing instructors (Murphy, 2019; Norgaard, 2003; Norgaard et al., 2004). Two researchers observed that complementary language reduced the amount of *code switching* (i.e., navigating between librarian and writing instructor vocabularies) instructors in each discipline had to engage in, which reduced friction in the collaborative process (Anders & Hemstrom, 2016, p. 80).

Some researchers discussed the ways writing and information literacy documents complement each other (Johnson & McCracken, 2016; Refaei & Wahman, 2016). Anderson et al. (2018) suggested one way to facilitate a collaborative process was to ask what writers do and what researchers do, then find elements of the frameworks that matched those concepts.

The Research Study

Researchers found effective collaboration led to improved teaching and assignment design, which in turn promoted student success (Insua et al., 2018a, 2018b; Margolin & Hayden, 2015; Whearty et al., 2017). Therefore, the purpose of this qualitative phenomenological study was to explore the lived experiences of librarians and writing instructors using shared language or frameworks to facilitate collaboration in first-year college writing courses at four-year institutions (Creswell, 2016; Marshall & Rossman, 2016; *Size & Setting Classification*, n.d.).

Sample and Research Context

The study's sample included seven librarians and seven writing instructors from seven different four-year institutions across the United States (American Council on Education, n.d.). Eligibility criteria for these individuals included being employed as a librarian or writing instructor at four-year institutions, teaching in first-year college writing courses in some capacity, and having worked with their institutional counterpart (e.g., a librarian and writing instructor from same institution have collaborated together). Participants reported collaborations that were still beginning, collaborations in one-shot sessions, and collaborations that included two or more sessions and expanded into other content areas. Table 1 shows the participant pseudonyms, roles, and experience categories.

TABLE 1
Participant Names, Roles, and Experience Length

Pseudonym	Role	Experience Length
Librarians		
Alex	Non-faculty librarian	1-5 years
Chris	Faculty librarian	1-5 years
Ellis	Library administrator	11-20 years
Leslie	Faculty librarian	11-20 years
Quinn	Faculty librarian	11-20 years
Riley	Faculty librarian	6-10 years
Sam	Faculty librarian	11-20 years
Writing Instructors		
Blake	Writing instructor	1-5 years
Brook	Writing instructor	11-20 years
Gracen	Writing program administrator	20+ years
Jordan	Writing instructor	11-20 years
Kai	Writing instructor*	6-10 years
Peyton	Writing instructor	6-10 years
Taylor	Writing instructor	20+ years
*Participant is a graduate student who is also the instructor of record in a first-year college writing course		

Recruitment

Before beginning data collection, the researcher received approval from the Institutional Review Board (IRB). The researcher used purposive criterion sampling (Creswell & Guetterman, 2019) to recruit participants for this study. The researcher posted an invitation with a screening survey to three different listservs (one for librarians, one for library directors, and one for writing studies). The screening survey asked prospective participants to identify and provide information for a collaborative partner from their institution whom the researcher could invite as a participant. To ensure variation of experiences in participants, the sample size was fourteen participants consisting of seven librarians and seven writing instructors. Eligibility criteria for participants included employment as a librarian or writing instructor at a four-year institution, teaching in some capacity in first-year college writing courses, and

working with their institutional counterpart (e.g., a librarian and writing instructor from the same institution who have collaborated).

Data Collection

The researcher conducted two sixty-minute semi-structured, video-recorded interviews with each participant (fourteen first-round interviews and fourteen second-round interviews) (see Appendix A for interview protocol). The informed consent document included permission for video recording. Participants were assured that interview transcripts would not be shared with their institutional collaborator, although the researcher cautioned that participants might be able to deduce which participant was from their institution. After the first interview, the researcher sent participants a composite list of the themes that emerged from the first round of interviews and sought member-checking feedback. The researcher also sent information literacy and writing framework documents (i.e., ACRL Framework for Information Literacy for Higher Education, WPA Outcomes Statement for First-Year Composition, WPA Framework for Success in Postsecondary Writing) and asked participants to review the documents as a frame of reference during the second interview. The second interview allowed participants and the researcher to build upon rapport, for participants to reflect on the first interview—including thoughts on the frameworks—and to add any clarifying thoughts based on their reflection (Josselson, 2013). Finally, the researcher sent final composite theme document to participants for member checking after all data had been collected and interpreted. Because the researcher is reporting findings from a larger study, only one theme pertains to the content of this article.

Data Interpretation

Van Manen (1990) provided a general "methodical structure" (pp. 30-31) for phenomenological investigations consisting of six principles: determining a phenomenon to study, focusing on lived experience, discovering the essential themes, *iterative writing*—"writing and rewriting"—to describe the phenomenon, and maintaining the Heideggerian practice of "balancing the research context by considering parts and whole," often referenced as the hermeneutic circle (van Manen, 1990, p. 31). Keeping in mind the methodical structure of van Manen (1990), the researcher also used four of the five phases of analysis suggested by Ajjawi and Higgs (2007)—immersion, understanding, abstraction, and synthesis—to develop codes and themes. After the interviews had been transcribed verbatim and read several times while making general notes (Creswell & Guetterman, 2019), the researcher conducted first stage in vivo coding to capture the exact words of the participants (Saldaña, 2015). After in vivo coding, the investigator began determining "first order constructs" (Ajjawi & Higgs, 2007, p. 624). The researcher used first order constructs and initial themes to develop second order constructs and secondary themes. Keeping in mind the hermeneutic circle, the researcher switched back and forth between individual participant statements and the themes they illustrated. The researcher investigated differences in participant constructs based on their disciplines to take note of experiences that did not fit with the themes.

All phases of research required the researcher to be aware of biases and presuppositions that hindered an appropriate interpretation of the participants' lived experiences and the essential themes. Therefore, the researcher wrote journal entries describing the ways the data connected with the researcher's own experience of the phenomenon.

Limitations

One limitation of this study is its intentional focus on first-year research writing in four-year institutions. Although community colleges may also have first-year writing programs, community college participants were not included in the study. Additionally, participant eligibility was limited to librarians and writing instructors teaching in first-year college writing courses. Prospective participants who served dual librarian and writing instructor roles were ineligible. Other curricular models, such as second-year research writing courses, were not included in this study. When recruiting volunteers, those most likely to volunteer to participate were also likely to be supportive of the topic and may have been less candid about negative or unsuccessful aspects of the topic. Further, the recruitment process may have deterred prospective participants who were still developing their collaborations and did not yet have a formal program. The focus on a phenomenological qualitative methodology entailed both a small sample size and an intentional emphasis on lived experiences of participants. Therefore, findings were not generalizable to a population or type of institution.

Findings

The overarching theme that emerged from data interpretation was "The Potential of Shared Frameworks." The researcher discovered that sharing of frameworks was less common than assumed or expected. Additionally, organic sharing of disciplinary frameworks often occurred in small increments and on a "need to know" basis. Participants from two institutions reported exploring each other's frameworks as part of an application process for a grant or award. These participants demonstrated how sharing frameworks enriched their approaches to teaching students in first-year college writing courses. Regardless of their prior knowledge of either the librarian framework (ACRL Framework) or the writing frameworks (WPA Framework and WPA Outcomes), participants noticed the common elements among them when they had a chance to review the documents. Before the second interview, the researcher emailed three documents for each participant to review: The Association of College & Research Libraries Framework for Information Literacy for Higher Education (ACRL Framework), the Writing Program Administrators Framework for Success in Postsecondary Writing (WPA Framework) and the Writing Program Administrators Outcomes Statement for First-Year Composition (WPA Outcomes). Participants who reviewed the ACRL Framework and the WPA Framework and WPA Outcomes found common themes to use for discussion about information literacy and writing in the first-year college writing classroom. Table 2 shows a cross-referenced list of the concepts among the three documents that participants identified as connected or overlapping. Grettano and Witek (2016) created a similar comparison chart.

Participants from two institutions demonstrated a clear understanding of each other's frameworks and vocabularies. In each of these cases, participants sought opportunities to share knowledge, one through an internal grant application process and the other through a professional organization.

Sam (L), in reviewing the Writing Program Administrators Framework (WPA Framework) and Writing Program Administrators Outcomes (WPA Outcomes), noted the common elements and shared goals of writing instructors and librarians, saying: "that whole middle section—the critical thinking, reading, and composing—just feel like [librarians and writing instructors are] completely on the same page there of learning objectives for students." Sam (L) also observed that librarian knowledge of writing instructor frameworks enabled librarians to

TABLE 2
Comparison of Common Elements of Frameworks and Participant References

ACRL Framework	WPA Framework	WPA Outcomes	Participant references/roles
Research as inquiry	Reading, Writing, Critical Analysis	Critical Thinking, Reading, Composing	Ellis (L), Jordan (WI), Quinn (L)
Information creation as a process	Curiosity; Openness; Creativity; Persistence; Flexibility; Developing flexible writing processes	Processes	Jordan (WI), Kai (WI), Leslie (L), Quinn (L)
Scholarship as conversation	Rhetorical; Critical thinking	Critical thinking, Reading, Composing (not explicit)	Alex (L), Ellis (L), Jordan (WI), Kai (WI), Leslie (L)
	Critical thinking; Knowledge of conventions (genre & context)	Critical thinking; Knowledge of conventions (genre & context)	Jordan (WI), Leslie (L), Peyton (WI), Sam (L)
Authority is constructed & contextual (rhetorical influences)	Credibility (under Critical thinking); Rhetorical	Credibility (under Critical thinking); Rhetorical	Ellis (L), Jordan (WI), Kai (WI), Leslie (L)
Introduction	Metacognition	Metacognition	Jordan (WI)
Searching as strategic exploration			Kai (WI), Brook (WI)

Note: Participant mentions and role (L for librarian, WI for Writing Instructor)

"speak their language and address them in terms that they're already familiar with." Similarly, Blake (WI) noticed common goals and purpose when reviewing the ACRL Framework: "At least looking at the ACRL Framework… Oh my gosh, they're all like, this is all relevant for what we're talking about." Blake (WI) also commented about the content of first-year college writing classes and its relationship to librarians and information literacy:

> Mostly what I do is the research and writing process…and when [the librarian] comes in [and says]… "Research is recursive, and it's cyclical and…you start here and you go back," I mean, it's the exact same thing I'm telling them about the writing process.

Kai (WI) noted improved student work as a benefit of framing writing and research as a recursive approach, saying, "[students] are automatically doing both processes [writing and finding sources] better, more nuanced, when they're more integrated."

Working on a grant-funded information literacy project also helped Kai fully understand the overlapping goals of librarians and writing instructors: "When we were doing this info literacy project, we found that many of the sort of goals that the libraries had around information literacy were also really good articulations of… what we're trying to teach in our classes." Kai further described those overlapping goals:

> I think the whole idea of … writing as a conversation … comes up all the time [as a] metaphor in comp as a field. But it's also one that I think is really compatible with information literacy in terms of, you know, thinking about who gets a seat at the table or … who we want to have in a conversation. Lately, I've been thinking a little bit more about … asking my students to … curate the conversation or think about what voices they want to privilege, things like that as we're trying to think about … what types of knowledge we value, what things we might overlook, whether there are certain perspectives that we might actually actively make a choice to exclude from the conversation for different reasons.

More important than merely recognizing the connections between what librarians do and what writing instructors do, Kai (WI) discussed how this might help improve teaching:

> And when I first saw this, I was like, "Wow, these—especially the big questions and frames—were really valuable and that they helped give me as a teacher language for some things that I'd been … working on in my classes with my students around information literacy. But because … I don't read as much scholarship about information literacy, I don't think I had [a] link for it because more of the scholarship that I read is around writing pedagogy. But this was like, really intuitive feeling language that it could adopt, which was really cool.

Kai (WI) went on to describe how understanding of ACRL Framework changed the way Kai (WI) thought about developing assignments:

> [The ACRL frames are] really useful to me in thinking about … how to craft an assignment or … even what to do in an individual … class period. So, if my goal is for my students to exhibit curiosity, then that says some things about how I'm gonna lay out their research project, right? Or if my goal is for them to view research as a process, then I'd better not just have one research day and expect all their research to be done after that, right? … There needs to be multiple stages, just like I would for writing.

In a similar theme, Brook (WI) reflected on the value of a librarian demonstrating a database search strategy that was complicated, noting that if students only saw the librarian conducting a carefully constructed search, they became frustrated when their own searches were more complicated. Though Brook (WI) did not explicitly reference the ACRL Frame of Searching as Strategic Exploration, the anecdote was a good example of the iterative nature of searching for information. A librarian conducting a database search in which there is some degree of trial and error could connect this concept to the ACRL frame as well as the concepts of process in the WPA documents. The researcher talked about the ways she used unsuccessful searches to help illustrate the ways similar search terms can produce different results, along with tips on how to find better sources.

Kai (WI) also discussed the work the writing instructors and librarians did together during the grant-funded project:

> We clustered around … outcomes which were hybrids of the [ACRL and WPA] frameworks. One was the idea of like, authority being constructed and contextual [from the ACRL Framework] and I think we tied that a little bit into ideas of like social justice and whose voices are heard things like that in different communities or … who might have the right to speak on certain issues [ACRL Framework, WPA Framework, WPA Outcomes]. And then the other one, we looked at was the citing as communication [ACRL Framework] and … citation as a conversation too [ACRL Framework].

Leslie (L) listed the goals librarians and writing instructors have in common: developing critical/savvy information users and citizens [ACRL Framework, WPA Framework, WPA Outcomes], developing curiosity [WPA Framework], and scholarship as conversation [ACRL Framework, WPA Framework, WPA Outcomes]. Despite these common goals, the language of writing and the language of librarians is still different. Leslie (L) described a scenario in which a writing instructor helped Leslie (L) relate better to students through language:

> [I] had the language of … Authority is Constructed and Contextual [from the ACRL Framework] in my mind, I think, so I kept referring in class, as I was talking with students … to authority, authority, authority … and the writing instructor was like, "I think, you know, try credibility," like she was sensing that … [the concept of authority] was just not resonating with students and so I was like, "Okay, that's interesting." … So yeah trying to … pay attention … and to learn from [writing instructors] on the language that they're using … with their students that they think resonates the most … is something that I think about, too.

At two institutions, knowledge of a framework was mostly one-sided. Brook (WI) and Alex (L) both referenced the BEAM method (Background, Evidence, Argument, Method) (Bizup, 2008) of teaching research writing. Alex (L) noted a common element in writing instruction and information literacy instruction, which BEAM helps illustrate: "different types of sources can accomplish different things," and added that "the skills [librarians] were trying to pass on to students are in line with … [writing instructors'] priorities." Brook (WI) said, "BEAM works nicely, particularly in terms of … situating yourself in the conversation and then with the application of the disciplinary lens" to help students understand that sources may be used for different purposes, and sources vary from discipline to discipline. The researcher and Brook (WI) talked about the benefit of BEAM as a bridge between writing and information literacy. The researcher has also been part of conversations between a writing instructor and her librarian colleagues to consider using BEAM as part of an assignment in the first-year college writing course to help students better understand and evaluate sources. Riley (L) focused primarily on the ACRL Framework and on making the ACRL frames more understandable and memorable for both students and course instructors:

> Basically what I did was I just rewrote the [ACRL Framework] in the sense of … I just gave each one of the frames and a new title and it's a custom word … All that was based on the fact that if I really want to make sure that this is … what I

> base everything on and this is what I'm telling other teaching faculty, that this is what we're doing, I need them to be able to have it stuck in their head.

Librarian participants were more likely than their writing instructor counterparts to be familiar with their disciplinary framework (the ACRL Framework) prior to the second interview, and in many cases they incorporated elements of the ACRL Framework into their documents and practice. Riley (L) and Ellis (L) noted that the ACRL Framework is the "national standard" for information literacy. Ellis (L) said the ACRL Framework concepts were written into the institution's internal guiding documents for the first-year writing program, and Ellis (L) "[brought] portions of the [ACRL Framework] to some of [the first-year writing program meetings] to just talk to the faculty about [the ACRL Frameworks]" and their meaning. Ellis (L) believed talking about the ACRL Framework was important "just to be sure that people know something about where things are going in this field, and where some of the suggestions that we in the library are making, are coming from." Ellis (L) also advocated for continued conversation between librarians and writing instructors: "I mean, not just informal conversation and collaboration, which is always wonderful, but conversation about actual national standards and documents and outcomes and sharing those across the fields, just that it's reinforced that it's important and valuable, right?" Although the guiding documents are influenced by the ACRL Framework and available for anyone to read, Quinn (L) viewed the documents as "more for [librarians] on our end." Similarly, Chris (L) used concepts from the ACRL Framework, such as Scholarship as Conversation and Research as Inquiry, but reworded them because the ACRL Framework was "very narrow disciplinary verbiage" that could impede both student understanding and collaboration with course instructors. Jordan (WI) said, "I was introduced to [the ACRL Framework] before by our librarians. So just an understanding of [the ACRL Framework] was really interesting because there's a definite overlap between the disciplines."

Writing instructors also referenced information literacy concepts without necessarily identifying them as information literacy, and Chris (L), Ellis (L), and Riley (L) talked about the varied definitions and interpretations of information literacy. The researcher has encountered various course instructors who said they did not really understand the concept, even as they may have been teaching the basic principles in their courses. Riley (L) said of a writing instructor: "the [writing instructor] might not have used [information literacy], but that was certainly evident in how [the writing instructor] spoke to our students and what she wanted to see from them." Jordan (WI) described information literacy as "critical thinking … in action." The varying perspectives and comfort regarding the term information literacy has been discussed in the literature (Baird & Soares, 2020; Becker et al., 2022; Whearty et al., 2017).

Writing instructors were likely to relate to the general concepts of the Writing Program Administrators Framework and Outcomes (WPA Framework and WPA Outcomes), even if they had not used the WPA Framework or WPA Outcomes before. Taylor (WI) and Gracen (WI) discussed using the latest scholarship and learning writing concepts at conferences, though neither referenced any sort of framework or standard. Two participants named specific textbooks they use in writing courses. Gracen (WI) said, "We mainly have used the *St. Martin's Handbook*." Kai (WI) said, "We were teaching off of *They Say / I Say* … a pretty common comp textbook." Although neither mentioning a standard nor a textbook, Taylor (WI) summarized the goals of a first-year writing class in this way: "[students] argue their own

thesis and engage with the scholars, be able to represent them fairly and be able to put them in conversation with one another," concepts that are used in both ACRL and WPA Frameworks. Other writing instructors who have 11-20 or 20+ years of experience in the field started their careers as writing instructors before the WPA Framework and Outcomes were released, so they were less likely to be aware of them. However, the principles in the WPA Framework and Outcomes are not unique; similar principles may be found in other writing instruction texts. Therefore, writing instructors with 11-20 and 20+ years of experience recognized and often used the same principles as the WPA documents in their teaching.

Librarians noted the ways the disciplinary language must be translated for others outside the discipline to understand and embrace it. Ellis (L) suggested that, instead of starting by talking about the ACRL Framework, librarians should start by referring to the WPA Framework and WPA Outcomes, saying, "[The ACRL Framework is] another slightly different way of framing … [information literacy and writing] concept[s]. So maybe borrowing some of that language from the composition documents to help talk to [writing instructors], to give some context" would help bridge that disciplinary gap. Quinn (L) said the librarians developed a guiding document with the ACRL Framework in mind, "But at the same time, we wanted things that were kind of more tangibly taught than some of the [ACRL] Framework, how they're written." Alex (L) said, "I was just talking to somebody and they were like, basically [librarians] need the actual [ACRL] Framework," whereas faculty needed a translated version of the ACRL Framework, adding:

> [an ACRL frame] I feel that people can grab onto really quickly is the Scholarship as Conversation … So I use that one more than anything just because … it's a quick grab and you can make that connection and they'll be like, "Oh yeah, we do the same thing."

Alex (L) also expressed frustration that the ACRL Framework must be translated: "I think that's what's frustrating for me is like any time I feel like I have to translate something for someone else, I wish it had been that way in the first place."

Jordan (WI) noted the connections between skills librarians teach and the habits of mind that the WPA Framework lists:

> reading the [WPA Framework] habits of mind and I really liked it. … I put down the topic selection and creativity with keywords, persistence with researching … [for example] go past the first page of Google results. But when you're researching, [you have] got to be a bit more patient.

Jordan (WI) further explained how the librarians and writing instructors made these connections:

> So, the Research as Inquiry framework, you know, Scholarship as Conversation, those couple, I think, were referenced in the session that the librarians put, and that was part of our professional development series that I … facilitate … it's interesting to see if that sort of overlap, I mean, the dispositions in the framework

> for post-secondary writing especially. I was kind of curious to see because I hadn't seen those before. But there are a lot of those habits of mind dispositions that really align with what I was just saying … curiosity, openness … metacognition.

Jordan (WI) connected the concept of critical thinking present in both the WPA Framework and Outcomes, to the ACRL Framework. Although the ACRL Framework does not specifically mention critical thinking in its primary frames, there is a footnote that links critical thinking to metaliteracy. Jordan (WI) noted that 'a big part of that critical thinking involves searching, searching for things … to develop your own ideas and then to be able to evaluate those kinds of things." Jordan (WI) continued, "I see those parts [information literacy and critical thinking] very much overlapping because I know that our instructional librarians are interested in those things, too."

Jordan (WI) went on to say:

> I was introduced to [the ACRL Framework] because … one of the key information literacy objectives for the first course in our first-year writing class is about … [students] using sources not to confirm what [they] already have concluded, but to try to come to a new understanding and to gain some sort of new alternative ways of thinking about [a topic].

Jordan (WI) also made the connection between the ACRL Framework and the rhetorical language in both WPA documents: "I think the rhetorical emphasis in the writing side is really reflected in the … Authority is Constructed and Contextual framework."

As they reviewed and compared the ACRL Framework, the WPA Framework, and the WPA Outcomes, participants demonstrated the potential of understanding each other's disciplinary motivations, negotiating vocabulary differences, and asking for clarification when something in one of the documents was confusing. The researcher was familiar with the ACRL Framework but learned about the WPA Framework and Outcomes from a writing instructor colleague. The researcher's librarian colleague and the writing instructor learned from each other when they reviewed the frameworks. Each party better understood the other's perspective after reviewing their disciplinary documents. Because of this experience, the researcher was surprised that fewer writing instructors were familiar with the WPA Framework and WPA Outcomes. However, disciplinary differences and the varied paths that lead to writing instruction, may help provide some context. The researcher chose the WPA Framework and Outcomes because writing and information literacy articles and books have referenced them and demonstrated their compatibility with the ACRL Frameworks. However, based on participant responses and the researcher's experience, sharing these frameworks would entail conversation between instructors in the two disciplines to negotiate and contextualize the nuances of vocabulary in the ACRL Framework, the WPA Framework, and the WPA Outcomes.

Discussion

One surprising result emerging from participant responses was the wide variety in how much or how little they shared disciplinary frameworks. Although librarians were familiar enough with the ACRL Framework, writing instructors did not have the same universal familiarity with either the WPA Framework or the WPA Outcomes. Factors in this disparity between the two

disciplines' familiarity with frameworks may have to do with the varied pathways one might take to become a writing instructor and the number of professional associations writing instructors can join. There is no single accrediting body that governs writing instructor education. Writing instructors can go several different directions in their careers, including earning a doctorate in literature, although it may not include writing instruction training. Some participants noted their degree in literature necessitated teaching writing. Another direction is earning a degree that is more focused on writing centers or writing tutoring. Each of these sub-specialties have their own professional organizations, which may issue their own guidance on best practices, standards, frameworks, or positions. Therefore, there is no single framework that writing instructors share. In contrast, Dodson (2020) found there were only 62 library science programs accredited by the American Library Association, and an ALA-accredited degree (or equivalent) is the minimum requirement for academic librarians. The ACRL Framework was developed by the higher education arm of the ALA. There are very few other competing frameworks for librarians.

Although writing instructors had less familiarity with the WPA Framework and Outcomes, participants at two institutions reported learning about the common elements of the ACRL and WPA documents because doing so was a required element of an application process (i.e., a grant and an award). Sharing at these institutions was intentional and participants described the benefits of shared frameworks in their teaching and collaboration.

Recommendations for practice

Literature, researcher experience, and participant responses suggest that writing instructors and librarians might benefit from expanding their reading and learning base to include their collaborative partner's disciplinary conversations. The researcher has benefited from a practice of sharing relevant information with a writing instructor, and the writing instructor has done the same. However, the researcher could also look for disciplinary journals that each partner could read to foster understanding and conversation. Librarians could ask about or look for other frameworks that writing instructors are using to guide their teaching and look for connections between them and the ACRL Framework. When an opportunity arises, librarians will be able to use the writing documents to find common ground with the writing instructor. When deciding where to present and publish, librarians and writing instructors should attempt to disseminate their scholarship in the other discipline's venues (e.g., a librarian and writing instructor publish in a writing journal, or vice versa).

Recommendations for further research

An expanded qualitative study involving more investigators and participants may enable researchers to draw more conclusions. Another direction to take the research could be focusing on a specific type of institution characteristic, such as size or location. One of the limitations of the researcher's choice of methodology is its small sample size, not uncommon in the area of qualitative phenomenological research involving in-depth interviews. The small size allowed for rich descriptions and rich data about participants' lived experiences in specific settings. Findings suggest general characteristics that could apply to collaborations in a variety of different settings. However, the data limits how extensively the researcher can generalize across all collaborations and institutions.

The researcher suggests that further research could be done in the following areas. Some of the participants did not have experience with the WPA documents before the interview,

limiting their ability to talk about complementary frameworks. Because the researcher found the WPA documents had not been universally adopted by writing instructors, another study could explore writing instructors' use of other types of documents, either specific to writing instruction or documents addressing general education as a whole, to guide their philosophy and pedagogy.

Some participants mentioned internal documents of various types; discourse analysis may be an appropriate method to investigate the documents as artifacts. Researchers could also request documents and interview participants about their documents.

References

Adler-Kassner, L., & Wardle, E. A. (Eds.). (2015). *Naming what we know: Threshold concepts of writing studies*. Utah State University Press.

Ajjawi, R., & Higgs, J. (2007). Using hermeneutic phenomenology to investigate how experienced practitioners learn to communicate clinical reasoning. *The Qualitative Report*, *12*(4), 612–638. https://doi.org/10.46743/2160-3715/2007.1616

American Council on Education. (n.d.). *Size and setting classification*. The Carnegie classification of institutions of higher education. Retrieved March 26, 2023, from https://carnegieclassifications.acenet.edu/carnegie-classification/classification-methodology/size-setting-classification/

American Library Association. (2015, February 9). *Framework for information literacy for higher education*. Association of College & Research Libraries (ACRL). https://www.ala.org/acrl/standards/ilframework

Anders, K. C., & Hemstrom, C. (2016). In a research-writing frame of mind. In R. McClure (Ed.), *Rewired: Research-writing partnerships within the frameworks* (pp. 65–82). American Library Association.

Anderson, J., Blalock, G., Louis, L., & Murphy, S. W. (2018). Collaborations as conversations: When writing studies and the library use the same conceptual lenses. In G. Veach (Ed.), *Teaching information literacy and writing studies: Volume 1, first-year composition courses* (pp. 3–18). Purdue University Press.

Artman, M., & Frisicaro-Pawlowski, E. (2018). Knowledge processes and program practices: Using the WPA Outcomes Statement and the ACRL Framework for Information Literacy for curricular renewal. In G. Veach (Ed.), *Teaching information literacy and writing studies: Volume 1, first-year composition courses* (pp. 19–29). Purdue University Press.

Auten, J. G., & Thomas, A. B. (2016). Impacting information literacy through alignment, resources, and assessment. In R. McClure & J. P. Purdy (Eds.), *The future scholar: Researching and teaching the frameworks for writing and information literacy* (pp. 131–153). Information Today.

Baer, A. (2016). *Information literacy and writing studies in conversation: Reenvisioning library-writing program connections*. Library Juice Press.

Baird, C., & Soares, T. (2020). Faculty perceptions of students' IL learning in first-year writing. *portal: Libraries and the Academy*, *20*(3), 509–532. https://doi.org/10.1353/pla.2020.0028

Becker, J., Simmons, S. B., Fox, N., Back, A., & Reyes, B. (2022). Incentivizing information literacy integration: A case study on faculty–librarian collaboration. *Communications in Information Literacy*, *16*(2), 167–181. https://doi.org/10.15760/comminfolit.2022.16.2.5

Belzowski, N., & Robison, M. (2019). Kill the one-shot: Using a collaborative rubric to liberate the librarian–instructor partnership. *Journal of Library Administration*, *59*(3), 282–297. https://doi.org/10.1080/01930826.2019.1583018

Bizup, J. (2008). BEAM: A rhetorical vocabulary for teaching research-based writing. *Rhetoric Review*, *27*(1), 72–86.

Carter, T., & Aldridge, T. (2016). The collision of two lexicons: Librarians, composition instructors and the vocabulary of source evaluation. *Evidence Based Library and Information Practice*, *11*(1), 23–39. https://doi.org/10.18438/B89K8F

Council of Writing Program Administrators. (2014, July 17). *WPA outcomes statement for first-year composition*. https://wpacouncil.org/aws/CWPA/pt/sd/news_article/243055/_PARENT/layout_details/false

Council of Writing Program Administrators, National Council of Teachers of English, & National Writing Project. (2011, January). *Framework for success in postsecondary writing*. https://www.wpacouncil.org/aws/CWPA/pt/sd/news_article/242845/_PARENT/layout_details/false

Creswell, J. W. (2016). *30 essential skills for the qualitative researcher*. SAGE.

Creswell, J. W., & Guetterman, T. C. (2019). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research* (6th ed.). Pearson.

Croxton, R. A., & Moore, A. C. (2020). Quantifying library engagement: Aligning library, institutional, and stu-

dent success data. *College & Research Libraries*, *81*(3), 399–434. https://doi.org/10.5860/crl.81.3.399

D'Angelo, B., Grettano, T., Albert, M., & Sinkinson, C. (2017, March 16). *Cultivating collaboration between information literacy & writing instruction*. Conference on College Composition & Communication Convention, Portland, OR. https://docs.google.com/presentation/d/1Ce8gkdrzWqGg1lf2ixUr0ONwPy4o9AqJuoDF4hY63Jw

Díaz, J. O., & Mandernach, M. A. (2017). Relationship building one step at a time: Case studies of successful faculty- librarian partnerships. *portal: Libraries and the Academy*, *17*(2), 273–282. https://doi.org/10.1353/pla.2017.0016

Dodson, M. (2020). On target or missing the mark? Instruction courses in LIS graduate programs. *Public Services Quarterly*, *16*(2), 83–94. https://doi.org/10.1080/15228959.2020.1745131

Friedman, S., & Miller, R. (2018). "Give all thoughts a chance": Writing about writing and the ACRL Framework for Information Literacy. *WPA: Writing Program Administration–Journal of the Council of Writing Program Administrators*, *42*(1), 72–88.

Garrett, N., Bridgewater, M., & Feinstein, B. (2017). How student performance in first-year composition predicts retention and overall student success. In T. Ruecker, D. Shepherd, H. Estrem, & B. Brunk-Chavez (Eds.), *Retention, Persistence, and Writing Programs* (1st ed., pp. 93–113). Utah State University Press.

Gregory, A. S., & McCall, B. L. (2016). Building critical researchers and writers incrementally: Vital partnerships between faculty and librarians. In B. J. D'Angelo, S. Jamieson, B. Maid, & J. R. Walker (Eds.), *Information literacy: Research and collaboration across disciplines* (pp. 371–386). The WAC Clearinghouse; University Press of Colorado. https://doi.org/10.37514/PER-B.2016.0834.2.18

Grettano, T., & Witek, D. (2016). The frameworks, comparative analyses, and sharing responsibility for learning and assessment. In R. McClure (Ed.), *Rewired: Research-writing partnerships within the frameworks* (pp. 188–219). American Library Association.

Guth, L. F., Arnold, J. M., Bielat, V. E., Perez-Stable, M. A., & Meer, P. F. V. (2018). Faculty voices on the Framework: Implications for instruction and dialogue. *portal: Libraries and the Academy*, *18*(4), 693–718. https://doi.org/10.1353/pla.2018.0041

Hensley, M. K. (2015). Improving LIS education in teaching librarians to teach. In *Creating sustainable communities: ACRL 2015 conference proceedings* (pp. 315–322). Association of College and Research Libraries. https://alair.ala.org/handle/11213/17864

Insua, G. M., Lantz, C., & Armstrong, A. (2018a). In their own words: Using first-year student research journals to guide information literacy instruction. *portal: Libraries and the Academy*, *18*(1), 141–161. https://doi.org/10.1353/pla.2018.0007

Insua, G. M., Lantz, C., & Armstrong, A. (2018b). Navigating roadblocks: First-year writing challenges through the lens of the ACRL Framework. *Communications in Information Literacy*, *12*(2), 86–106. https://doi.org/10.15760/comminfolit.2018.12.2.3

Jackson, H. A. (2017). Collaborating for student success: An e-mail survey of U.S. libraries and writing centers. *The Journal of Academic Librarianship*, *43*(4), 281–296. https://doi.org/10.1016/j.acalib.2017.04.005

Johnson, B., & McCracken, I. M. (2018). Writing with the library: Using threshold concepts to collaboratively teach multisession information literacy experiences in first-year writing. In G. Veach (Ed.), *Teaching information literacy and writing studies: Volume 1, first-year composition courses* (pp. 31–46). Purdue University Press.

Josselson, R. (2013). *Interviewing for qualitative inquiry: A relational approach* (1st edition). The Guilford Press.

Junisbai, B., Lowe, M., & Tagge, N. (2016). A pragmatic and flexible approach to information literacy: Findings from a three-year study of faculty-librarian collaboration. *The Journal of Academic Librarianship*, *42*(5), 604–611. https://doi.org/10.1016/j.acalib.2016.07.001

Kazan, T. S., Behm, N. N., & Cook, P. (2021). Writing faculty and librarians collaborate: Mapping successful writing, reading, and information literacy practices for students in a post-truth era. *Pedagogy*, *21*(2), 311–328. https://doi.org/10.1215/15314200-8811500

Lancaster, A., Callender, D., & Heinz, L. (2016). Bridging the gap: New thresholds and opportunities for collaboration. In R. McClure (Ed.), *Rewired: Research-writing partnerships within the frameworks* (pp. 85–101). American Library Association.

Margolin, S., & Hayden, W. (2015). Beyond mechanics: Reframing the pedagogy and development of information literacy teaching tools. *The Journal of Academic Librarianship*, *41*(5), 602–612. https://doi.org/10.1016/j.acalib.2015.07.001

Marshall, A., & Rossman, G. B. (2016). *Designing qualitative research* (6th ed.). SAGE.

Matacio, L., & Closser, B. (2017). Transforming information literacy through librarian/course instructor collaboration: A case study. *Journal of Adventist Libraries and Archives*, *2*(1). https://dx.doi.org/10.32597/jala/vol2/iss1/1

McClure, R. (Ed.). (2016). *Rewired: Research-writing partnerships within the frameworks*. American Library Association.

Murphy, M. (2019). On the same page: Collaborative research assignment design with graduate teaching assistants. *Reference Services Review*, *47*(3), 343–358. https://doi.org/10.1108/RSR-04-2019-0027

Napier, T., Parrott, J., Presley, E., & Valley, L. (2018). A collaborative, trilateral approach to bridging the information literacy gap in student writing. *College & Research Libraries*, *79*(1), 120–145. https://doi.org/10.5860/crl.79.1.120

Nicholes, J., & Reimer, C. (2020). Evaluating the impact of first-year writing course grades on college-student persistence. *Studies in Educational Evaluation*, *64*, 100841. https://doi.org/10.1016/j.stueduc.2020.100841

Norgaard, R. (2003). Writing information literacy: Contributions to a concept. *Reference & User Services Quarterly*, *43*(2), 124–130.

Norgaard, R., Arp, L., & Woodard, B. S. (2004). Writing information literacy in the classroom. *Reference & User Services Quarterly*, *43*(3), 220–226.

Norgaard, R., & Sinkinson, C. (2016). Writing information literacy: A retrospective and a look ahead. In B. J. D'Angelo, S. Jamieson, B. Maid, & J. R. Walker (Eds.), *Information literacy: Research and collaboration across disciplines* (pp. 15–36). The WAC Clearinghouse; University Press of Colorado. https://doi.org/10.37514/PER-B.2016.0834.2.01

O'Kelly, M. K., Jeffryes, J., Hobscheid, M., & Passarelli, R. (2023). Correlation between library instruction and student retention: Methods and implications. *College & Research Libraries*, *84*(1), 85–99. https://doi.org/10.5860/crl.84.1.85

Onyango, P. A. (2023). Enabler factors for the successful adjustment of first-year students. In P. J. Aloka & K. R. Mukuna (Eds.), *Handbook of research on coping mechanisms for first-year students transitioning to higher education*. IGI Global. https://doi.org/10.4018/978-1-6684-6961-3.ch007

Pickard, E., & Sterling, S. (2020). What we talk about when we talk about quality: A librarian and instructor compare how they assess students' sources. *Collaborative Librarianship*, *12*(1), 80–101.

Rapchak, M., & Stinnett, J. (2018). Teaching for transfer? Nonexperts teaching linked information literacy and writing classes. In G. Veach (Ed.), *Teaching information literacy and writing studies: Volume 1, first-year composition courses* (pp. 281–291). Purdue University Press.

Refaei, B., Kumar, R., Wahman, M. L., & Peplow, A. B. (2017). Supporting source integration in student writing. *International Journal of Teaching & Learning in Higher Education*, *29*(3), 534–544.

Saldaña, J. (2015). *The coding manual for qualitative researchers* (3rd edition). SAGE.

Saunders, L., & Corning, S. (2020). From cooperation to collaboration: Toward a framework for deepening library partnerships. *Journal of Library Administration*, *60*(5), 453–469. https://doi.org/10.1080/01930826.2020.1729623

Schaub, G., Cadena, C., Bravender, P., & Kierkus, C. (2017). The language of information literacy: Do students understand? *College & Research Libraries*, *78*(3), 283–296. https://doi.org/10.5860/crl.78.3.283

Scheidt, D., Carpenter, W., Middleton, H., & Shields, K. (2018). Addressing the symptoms: Deep collaboration for interrogating differences in professional assumptions. In G. Veach (Ed.), *Teaching information literacy and writing studies: Volume 1, first-year composition courses* (pp. 293–302). Purdue University Press.

Simons, A. C. (2017). Librarians, faculty, and the writing center partnering to build an interdisciplinary course: A case study at the University of Houston, USA. *New Review of Academic Librarianship*, *23*(1), 28–41. https://doi.org/10.1080/13614533.2016.1185020

van Manen, M. (1990). *Researching lived experience: Human science for an action sensitive pedagogy*. State University of New York Press.

Veach, G. (2012a). At the intersection: Librarianship, writing studies, and sources as topoi. *Journal of Literacy and Technology*, *13*(1), 102–129.

Veach, G. (2012b). *Tracing boundaries, effacing boundaries: Information literacy as an academic discipline* [Doctoral dissertation, University of South Florida]. https://scholarcommons.usf.edu/etd/4413

Veach, G. (Ed.). (2018). *Teaching information literacy and writing studies: Volume 1, first-year composition courses*. Purdue University Press.

Walsh, L., Zytkoskee, A. M., Ragains, P., Slater, H., & Rachal, M. (2018). The Burkean Parlor as boundary object: A collaboration between first-year writing and the library. *Composition Studies*, *46*(1), 102–123, 193–194.

Whearty, B., Brunner, M., Johnston, C., & Turnator, E. (2017). Creating contact zones in a "post-truth" era: Perspectives on librarian–faculty collaboration in information literacy instruction. *A Splendid Torch: Learning and Teaching in Today's Academic Libraries*. https://www.clir.org/wp-content/uploads/sites/6/2017/10/pub174.pdf

Appendix A. Interview Protocol

Introduction

To facilitate note-taking and accurate representation of what you discuss today, I am going to record our interview. For your information, only I and my dissertation chair will be privy to the recordings. In compliance with the Federalwide Assurance Code, the recordings will be destroyed after three years. In addition, you signed a form devised to meet our human subject requirements. Permission to be videorecorded was a separate signed line in the Informed Consent that you signed. The informed consent also highlighted the following: (1) all information will be confidential. The dissertation will use a pseudonym in place of your name and a number in place of the name of your institution, (2) your participation is voluntary and you may stop at any time if you feel uncomfortable, and (3) we do not intend to inflict any harm. Thank you for agreeing to participate in this study.

The interview is scheduled for a duration of 60 minutes. During this time, I have several questions I would like to cover. If we run out of time, we may resume any unfinished questions during the second 60-minute interview.

You have been selected as participants in this study because you meet the criteria of the study: you are a librarian or writing instructor involved in first-year college research writing and you have experience collaborating with your librarian/writing instructor partner. This research project focuses on the ways librarians and writing instructors collaborate in the first-year college research writing context. I am particularly interested in the use of librarian and writing frameworks that include but are not limited to, the ACRL Framework for Information Literacy for Higher Education and the WPA Frameworks/Outcomes for writing.

A. Interviewee Background

1. What is your name? (This is for the researcher's records only; you will be assigned a pseudonym)
2. Where do you work?
3. What is your current job title?
4. How long have you been at this institution?
5. How long have you been in your discipline?
6. Tell me about how you came to choose your career path

B. Main Interview Questions

7. Think back to your first experience as an academic librarian/writing instructor. What shaped your experiences with instruction/teaching?
    - Follow-up: please describe a moment in which you began to feel comfortable in your instruction/teaching.
8. **For librarians:** please describe your approach to collaborating with writing instructors in a teaching setting
   For writing instructors: please describe your approach to collaborating with librarians in a teaching setting
9. Possible follow-up: how did this collaboration [from previous question] originally develop? (e.g., organically? Strategically/structurally?)
    - Follow-up: thinking about where your discipline is situated within your institution,

what are the boundaries? Can you describe a situation in which the boundaries helped or hindered collaboration?

10. Please describe how your collaborations changed over time
11. Thinking back to the first time you had an interaction with another instructor (librarian or writing instructor) in the context of first-year research writing, what do you recall about that experience?
12. Tell me about an experience of collaboration [with your interview counterpart] in the first-year college research writing context that was particularly successful.
13. How long did it take to get to the level of "successful"?
14. Tell me about an experience of collaboration in the first-year college research writing context that seemed less successful or didn't go as planned.
    - Follow-up: what actions did you or your collaboration partner take to salvage the unsuccessful collaboration?
15. In what ways has your education or professional development contributed to or improved collaboration with your partner?
16. In what ways have your education/professional development hindered your understanding of how to/ways of collaborating with other disciplines?
17. Please describe an experience in which you learned from a colleague about improving teaching in the first-year research writing context
18. Please describe a situation in which you have shared your disciplinary knowledge with your collaboration partner. And vice versa?
19. Describe a situation in which you and your collaborative partner (in first-year college research writing) dialogued about disciplinary frameworks (e.g. ACRL Framework, WPA Framework/Outcomes) to foster mutual understanding about each other's discipline.
20. What are some common elements of your discipline's framework and your partner's discipline's framework?
21. What elements [of the frameworks?] make collaboration more difficult?
22. How have you tried to overcome that barrier?
23. Any additional comments/things we missed?

Assessing the Impact of Consultations with Librarians on Faculty Research: An Explanatory Sequential Mixed Methods Study

Rachel A. Koenig and John W. Cyrus

Research consultations are a standard service in academic libraries and consume significant library resources. There is a lack of scholarship evaluating the impact of this service on faculty. This paper describes the impact of librarian consultations on faculty and their role in the research process. Data was collected from a survey of sixty-seven faculty and focus groups with twelve faculty members. Findings from the survey and focus groups indicate that research consultations provide valued contributions to the faculty research process. Still, librarians must communicate transparently about their work with a diverse audience and define a specific value of the service.

Introduction

Research consultations, which are defined for this study as a service that provides "in-depth, personalized instructional research sessions for its patrons," are a standard service in academic libraries which consumes considerable library resources.[1] Despite the historical lack of attention given to research consultations, there is a growing body of literature examining their utility.[2] The majority of these studies assess usage statistics associated with the consultations including number, time, patron demographics, satisfaction and perception of the service. Few studies examine metrics that extend beyond reaction of the service to assess concrete measures of research consultation impact.

Additionally, most of this literature evaluates student populations, not faculty, regarding the use by and impact of research consultation services.[3] In fact, a 2015 scoping review noted that only four of the twenty reviewed studies included faculty members as a part of the sample. No studies focused exclusively on faculty.[4] This disparity was echoed in a 2020 scoping review of forty-three studies that found only a single study focusing on faculty research consultations.[5] Furthermore, studies that included faculty did not come to the same conclusions regarding faculty beliefs/impact/use/utility of consultations. In two studies, faculty affirmed the importance of the library and the role of the librarian, whereas faculty in a third study expressed that they were unaware of the research consultation service, including its scope and the expertise librarians could offer.[6] The lack of literature investigating research consultations among the faculty

* *Rachel A. Koenig, former Research & Education Librarian at Virginia Commonwealth University, is Senior Medical Librarian at Arthrex, Inc., email: rachel.koenig@arthrex.com.edu; John W. Cyrus is Research and Education Librarian at Virginia Commonwealth University, email: cyrusjw@vcu.edu.*

population is in many ways understandable as students often comprise the largest single user group at most libraries. Nonetheless, faculty are an important user group that may serve as library gatekeepers for students and who have the potential to link library services directly to research and scholarship. In the ACRL report "The Value of Academic Libraries," Oakleaf notes that understanding how the library contributes to faculty research productivity, including publications and funding, is a central question that remains unanswered.[7] Demonstrating that librarians are not only educational partners but collaborative equals to faculty, especially concerning research and scholarship, may bolster the library's status on campus.

Local Context

The health sciences library uses liaison librarians to serve campus user groups. Six librarians serve the schools and departments on the health sciences campus: one librarian for each of the Schools of Dentistry, Medicine, Nursing, Pharmacy, and the College of Health Professions and one librarian focusing on the basic sciences across all health sciences campus programs. There are approximately 1,200 faculty and 4,000 students enrolled at the five schools on the health sciences campus.

Research is prioritized across the health sciences campus; however, each school has a different focus. For instance, the School of Dentistry places a high priority on developing and delivering clinical care. Often, faculty in this school spend much of their time in practice and devote less time to research purposes. On the other hand, the School of Medicine has a robust clinical and basic research enterprise. The liaison for each school is involved in research to a different extent, with some liaisons performing more research and research consultations than others. Furthermore, the duration of the relationships with certain schools on campus affects the local context of librarian consultations. For example, there are long-standing relationships in the School of Nursing and School of Medicine because of the tenure of librarians serving in those areas. In contrast, librarians serving the Schools of Pharmacy and Dentistry and the College of Health Professions have not been at the institution as long and relationships within the schools are still developing.

Study Aims

The current study investigates how health sciences faculty perceive research consultations with librarians at a R1 doctoral university and how these consultations impact faculty research productivity and dissemination. The goal of this work is to build upon recent scholarship that examines the values of librarian services.[8] Specifically, this study explores faculty perceptions of research consultation services through the following questions:

a. What personal factors influence faculty usage of the research consultation service?
b. How do research consultations impact faculty scholarly products?
c. What is the role of the research consultation in the faculty research process?

Methodology

This study, supported by the Mid-Atlantic Chapter of the Medical Library Association's Research & Assessment Grant, utilized an explanatory sequential mixed methods design to describe the impact of research consultations between librarians and faculty. This study was reviewed by the Institutional Review Board (IRB) (HM20016354) and was deemed not to require IRB approval. The study applied a two-part assessment: 1. a survey of all faculty

known to have used the consultation service; and 2. a series of follow-up focus groups with self-selected faculty who participated in the survey.

Survey

An online survey was constructed in QuestionPro and sent to 129 faculty members on the health sciences campus. The researchers utilized an internal assessment database to determine which faculty to survey. To be included as a potential participant, faculty must have met with a librarian within a specific six- to nine-month period (January 2019 to November 2019).

In the spring of 2019, the researchers developed an initial set of questions which were internally reviewed by other librarians in the same department. The questions were piloted among known library users within the Schools of Dentistry, Nursing, Medicine, and Pharmacy and the College of Health Professions. Internal input, as well as feedback from the pilot study, was incorporated into the survey.

The survey first asked participants demographic questions, such as school or college affiliation, number of years as full-time faculty at the institution, and the percentage of time reserved for research or scholarship according to their work plan or contract. The survey then asked reactionary questions, such as satisfaction level concerning the research consultation service and if the consultation achieved the desired purpose. Faculty were also asked to comment on any tangibles that resulted from the consultation with a librarian, including any scholarly products (i.e., journal article, book or book chapter, grant application, funded grant, technical report or white paper, academic poster, or scholarly presentation). The next question collected information about whether the consultation contributed to the faculty member's research product or process (i.e., if the consultation related to the collection of background information for research, reference management, journal selection, methodology for a review article, research personnel training, or copyright or re-use permissions). The survey also asked whether the faculty member intended to include the librarian as a co-author or acknowledgement in their research product. Finally, the survey asked behavior-oriented questions, including whether the faculty member would return to the library for their next project, or if they would refer students, faculty, or other learners to the library or librarian (Appendix A). Participant consent was obtained at the beginning of the survey, with confidentiality and anonymity of survey responses assured for all participants. The survey was disseminated in November 2019 to the four schools and one college, and the survey was closed in mid-December 2019.

Descriptive statistical analyses were used to describe sample characteristics using frequencies and percentages for categorical data. All statistical analyses were conducted using Microsoft Excel, R (Version 3.4.4, R Foundation for Statistical Computing, Vienna, Austria), and QuestionPro.

Focus Groups

The final survey question asked participants about their willingness to participate in a focus group as a follow up to the survey. Fifty-one faculty participants initially volunteered, with twelve participants ultimately scheduled to attend one of three forty-five-minute focus groups in June and July 2020. The focus groups were hosted and recorded via Zoom.

During the focus groups, participants were asked to reflect on what influenced them to reach out to a librarian for a research consultation, what went well and what could have been improved concerning the consultation, and how their interaction with the librarian helped (or

did not help) them achieve the goals associated with their research or scholarship. The focus groups additionally asked participants to address factors determining whether they engage with a librarian on research projects, both past and present, and whether the faculty member referred the service to others and, if so, what influenced this decision. The last question asked participants a theoretical prompt about what they might say to their Department Chair or Dean if they had one minute to discuss the merits or effectiveness of the consultation service (Appendix B).

Focus groups were transcribed using the transcription service Verbit.[9] Thematic analysis of the transcripts was completed in HyperRESEARCH, a qualitative data analysis software.[10] Two researchers conducted initial coding of a single focus group transcript, and then met to discuss and refine the initial codes. Next, the researchers coded all transcripts using this initial codebook. New codes were added as necessary throughout the process. The researchers met again to consolidate and refine codes prior to identifying emergent themes. Final themes were agreed upon by consensus with reference to examples from the transcripts to provide context.

Findings

Survey Results

Sixty-seven faculty members completed the online survey (52 percent response rate), with responses representing each school or college on the health sciences campus. Demographic information is reported in Table 1. The majority of responses came from the School of Medicine (41.8 percent) and the School of Nursing (31.34 percent). Approximately half of the respondents had been at the institution for zero to five years (47.76 percent). Almost three-quarters of participants reported that 19 percent or less of their contracted time was dedicated to research and scholarship (73.13 percent).

TABLE 1
Descriptive Statistics of Participant Characteristics (n=67)

Participant characteristic	n	%
School or College		
College of Health Professions	7	10.45
School of Dentistry	6	8.96
School of Medicine	28	41.8
School of Nursing	21	31.34
School of Pharmacy	4	5.97
Other	1	1.49
Time at institution (in years)		
0-5 years	32	47.76
5-10 years	18	26.87
10-15 years	7	10.45
15-20 years	4	5.97
20+years	6	8.96
Time dedicated to scholarship (% FTE)		
0-19%	43	73.13
20-39%	9	13.43
40-59%	5	7.46
60-79%	7	10.45
80-89%	3	4.48

As noted in Table 2, satisfaction with research consultations was high, with 100 percent of respondents reporting that the research consultation achieved its desired purpose. Furthermore, roughly 97 percent of faculty were satisfied or very satisfied with their latest research consultation. When asked if faculty would or did return for another research project, or refer others to the service, most indicated that they would either return for a subsequent project or refer others to the librarian. Fully 91.04 percent of respondents indicated that they would refer students or other learners to the library. Only one respondent indicated that they would not refer to the service or return for subsequent projects. All faculty who had been at the institution for five to ten years indicated that they would return for their next project as well as

TABLE 2
Distribution of Response by Survey Question (n=67)

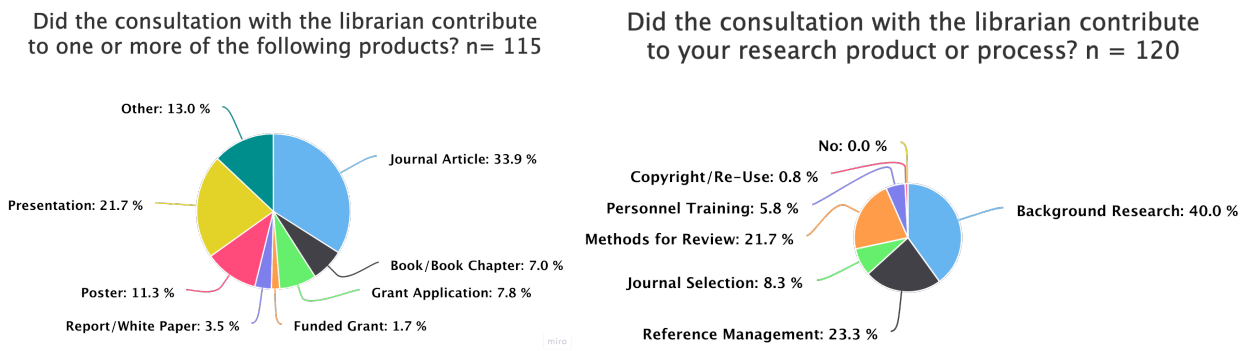
Survey Question	n	%
The research consultation with the librarian achieved your desired purpose.		
Agree	67	100
Disagree	0	0
How satisfied were you with your latest one-on-one research interaction (e.g., research consultation, search strategy development) with the librarian?		
Very Satisfied	51	76.12
Satisfied	14	20.9
Neutral	2	29.85
Did you or would you do any of the following as a result of your interaction with the librarian? (Please select all that apply) (n = 174)		
Return for your next project	56	83.58
Refer students/other learners to library/librarian	61	91.04
Refer other faculty to library/librarian	57	85.07
Did you or do you plan to include the librarian as a co-author or in the acknowledgements of a publication or research product? (Please select all that apply) (n=71)		
Yes, authorship	23	34.33
Yes, acknowledgement	22	32.84
No, neither	26	38.81

refer the library's services to other faculty, students, and learners (Appendix C). Faculty with 20-39 percent scholarship commitment, as well as those with 80-89 percent commitment stated that they would return and refer library services (Appendix C).

Faculty were also asked whether they included the librarian as a co-author or in their acknowledgements within scholarly products connected to a previous consultation (Table 2). Almost 39 percent of respondents said they had not or did not plan to do either. Of those who did give attribution to the librarian, the results were evenly divided with 34.33 percent providing the librarian with co-authorship and 32.84 percent with an acknowledgement. There was some variation in responses between schools and colleges; however, the data concerning faculty broken down by their percentage of scholarship commitment was more interesting (Appendix C). Approximately half (48.84 percent) of faculty with less than 19 percent research commitment did not or did not plan to give the librarian authorship or an acknowledgement in their scholarly product(s), while faculty with the highest percentage of scholarship commitment, 80-89 percent of their job contract, were the most likely to give authorship credit or an acknowledgement to the librarian (with 66.67% stating that they had done both). Finally, those with 40-59 percent scholarship commitment were the most likely to provide librarians with an authorship credit. Eighty percent stated that they had done so, with only one participant stating they had not provided authorship or an acknowledgement.

The online survey asked faculty if any of their scholarly products (e.g., journal articles, books or book chapters, grants, posters, presentations) or research processes (e.g., background for research, copyright or re-use permissions, journal selection) were influenced by the content covered during their consultation with a librarian (see Figure 1). Journal articles (33.91

FIGURE 1
Distribution of participant responses for librarian consultation contributions to research products and processes. Questions asked respondents to "select all that apply."



percent) and presentations (21.74 percent) were the most common scholarly products that resulted from a research consultation. The same results occur when analyzed by school, years at the institution, and time dedicated to scholarship; however, contributions to grant applications (66.67 percent) were higher among faculty in the highest bracket of time dedicated to scholarship (Appendix C).

As noted in Figure 1, faculty respondents used research consultations to discuss background research (40 percent), to seek reference management assistance (23.33 percent), or to get help with review methodologies for systematic, scoping, or narrative reviews (21.67 percent). Consultations with librarians did not contribute much to research personnel training (5.83 percent), nor copyright or re-use permissions (0.83 percent). Those most likely to reach out for assistance with reference management were faculty employed by the institution for more than twenty years (66.67 percent), as well as faculty with 20-39 percent of their contractual time dedicated to scholarship (66.67 percent). Faculty who had been at the institution for over fifteen years were also more interested in discussing review methodologies (50 percent of both populations), as were those with 20-39 percent (44.44 percent) and 60-79 percent (71.43 percent) scholarship commitment (Appendix C).

Focus Group Results

Twelve faculty members, representing four of the five health sciences schools, participated in one of three forty-five-minute focus groups. Thematic analysis identified six themes with subthemes that describe various aspects of the consultative services (see Table 3). Themes included awareness of consultative services, value of librarian consultations, librarian expertise, librarian roles, barriers and facilitators, and faculty qualities.

Awareness of Consultative Services

Faculty who discussed awareness of consultative services described varied levels of understanding of the existence of the service, the scope of services offered, and what requests are reasonable to make of librarians. Participants who mentioned awareness of consultative services described a lack of awareness of potential services as well as a general uncertainty over how to interact with a librarian. Participants attributed general lack of awareness of library services either to previous training, which may have lacked interaction with librarians or emphasized reliance on individual resources or research, or an essential lack of realization

TABLE 3
Themes and subthemes from the focus groups

Themes	Subthemes	Representative statements*
Awareness of Consultative Services	Expectations	"I remember being unsure as to how to engage [the librarian] in the conversation … because I'd never been trained that way. I don't know that I ever had that connection with … librarians as a research resource." "I don't really know … what I should be able to ask for, you know. I don't want to ask for something that's unreasonable … I don't know whether it's appropriate for me to ask."
	Previous institutions	"I came from [another university] where we had a lot of … research support, and so I'm used to accessing folks and to … outsourcing work … it was a natural fit."
Value of Librarian Consultations	n/a	"For those of us that are early academic clinicians, I think having early guidance from a librarian is extremely helpful because we are building on potential future grants, collecting pilot data, trying to fine-tune our skills. So early engagement, in my mind, should lead to more grants, potentially leading to promotion and tenure."
Librarian Expertise	n/a	"I've been really pleasantly impressed … with the level of expertise and the ability to kind of speak my language because sometimes I come in there with weird stuff and [librarian] just makes sense of all my ramblings and I think that that ability to make sense of where my head is at has been really helpful and … to help me frame my questions."
Librarian Roles	n/a	"I worked on a scoping review, which wasn't something I've done before, and you really sort of shepherd us through that project. That included, I think, five other faculty and several of them were very junior, so that was a great process. I also think that there's an organizational aspect to doing the work that was really helpful [and] even more than I expected … I would get from a librarian." "… librarians are catalysts for scholarship."
Barriers & Facilitators	Proximity	"[The librarian] had an office that she kept right across from mine, so I think there was a … natural alignment there, where it was just easy to access her."
	Time	"When I have a time crunch, I'm much more likely to do it myself than to ask for help. Because if I do it myself, I know I can get it done at 2:00 AM when I need it done as opposed to waiting for forty-eight hours for someone to help me."
	Early contact	"Early consultation with the librarian helps drive grants and efficient ideas … if done early in the planning process, it helps lay a foundation for a manuscript outline, a background investigation, perhaps even some assistance with generating pilot data."
	Academic culture	"There is a bit of an ego checking that has to happen when you collaborate with people who are outside of your school or your discipline and I think sometimes acknowledging that can be challenging for some folks."

TABLE 3
Themes and subthemes from the focus groups

Themes	Subthemes	Representative statements*
Faculty	Clinical vs. research	"I'm a clinician and not much of a researcher … I don't feel like I'm very good at accessing stuff. I feel like I'm a bit of a dinosaur because I've been a clinician for thirty years, but I've not been a researcher. And so sometimes I feel like I don't know how to find information." "… and I would make the argument that most medical faculty, certainly the clinicians, are not trained researchers. And so the pairing of a librarian with a clinician who's seeing patients and got their questions and ideas about things they want to do can be really powerful for developing scholarship and then lead to eventual dissemination."
	Early career vs. new to institution	"I think that for those of us that are early academic clinicians, having early guidance from a librarian is extremely helpful because we are building on potential future grants, collecting pilot data, trying to fine-tune our skills. Early engagement, in my mind, should lead to more grants, potentially leading to promotion and tenure. For interested, motivated, early career academic professionals, I think the librarian serves a very valuable role."

*Note: participant statements have been lightly edited for concision and readability.

that librarians and library services to support research were available. The idea of uncertainty about how to approach a librarian and what is fair to ask of a librarian was often cited as an initial barrier to engagement.

Other faculty shared expectations of library services based on their experiences at previous institutions. This was most often expressed as expectations of a high level of research support available at a prior institution. Additionally, participants cited previous experience working with a librarian at another institution as establishing the expectation of available services at their current institution.

Value of Librarian Consultations

The benefits of consultations with a librarian that faculty members noted included the perceived value of the interaction, explicit statements about librarian efficiency, and comments regarding how the librarian's work contributed to the overall quality of a project. Some faculty saw the value of librarian consultations in terms of what was added to their work by librarians connecting them with library and institutional resources, and by building skills related to finding and using information. Other participants cited the potential of librarians to increase the quality of projects through methodologic knowledge, technical skills, outside perspective, or increased efficiency. Specifically, faculty who described the value of librarian consultations as stemming from an outside perspective indicated that an interdisciplinary point of view aided in brainstorming processes. Faculty describing a perceived increase in efficiency most often couched this in terms of time and effort savings attributed to the specific expertise of librarians.

Librarian Expertise

Faculty often characterized librarian expertise as the possession of disciplinary knowledge and the ability to handle complex requests. They cited this expertise as assisting them in developing research ideas, advising on methodologies, and undertaking complex projects. Faculty members frequently cited the disciplinary knowledge of librarians not only as a hallmark of their expertise but also of their utility to faculty. Based on the librarian's existing knowledge of a field of research, participants specifically felt that librarians were able to quickly contextualize questions or ideas, give useful feedback, or reduce time spent explaining the context by the faculty member.

Other faculty members cited the technical expertise of librarians as allowing them to contribute in various ways to complex projects. This expression of the complex nature of requests handled by librarians during consultations extended from the ability to meet unexpressed needs, to translating information requests across multiple disciplines and resources, and exhibiting leadership in the execution of complicated projects, such as systematic reviews.

Librarian Roles

Faculty often referred to the role the librarian played in past consultations. These ranged from more transactional roles, such as that of an instructor leading a guest lecture, to more participatory roles, such as that of a collaborator or facilitator of faculty work.

Several faculty members referred to the role of librarians outside of consultations or resulting from consultations as guest lecturers in their classes, especially for graduate and professional students. This was often in the context of supporting the development of student research skills and also occurred when faculty members referred students to a librarian for consultation on various assignments and projects related to acquiring research skills.

Similarly, faculty cited librarians as key collaborators on teams for research and evidence synthesis projects. In the case of evidence synthesis projects, librarians were described both as an essential element of the methods and as shepherding a team through the process. Three participants discussed collaboration as the longitudinal development of a relationship with the librarian to the point where recurring consultations become the standard for how some projects were conducted. Further, two faculty members described the role of librarian as that of a facilitator or catalyst of research in terms of building new connections, solidifying teams, and identifying available research support across the institution.

Barriers and Facilitators

Faculty identified factors that may positively or negatively influence the consultation process and/or their decision to seek assistance from librarians. Librarians and faculty members both contributed to barriers and to facilitation. For example, one focus group participant indicated that physical proximity was enough to facilitate access and to provide a reminder of the availability of library services. In contrast to other faculty members who discussed time in terms of efficiency when seeking assistance from a librarian, one participant indicated that time could also be a deterrent. This faculty member felt that, in cases of a time crunch, they were more likely to attempt the task themself rather than reach out to a librarian either because they didn't want to impose an unreasonable deadline on someone else, or because they felt the task could not be delayed.

Several faculty cited early contact with a librarian, either in their career or in their time at an institution, as facilitating future consultations. Participants described early orientation and connections to research support services, as well as research question development as specific benefits of early contact with librarians. Faculty members who repeatedly consulted with a librarian cited the value of continuity or consistency in having a single individual to support their research across projects and years.

Interestingly, multiple participants in the focus groups identified academic culture as a barrier to scheduling or participating fully in librarian consultations. One faculty member described it as "ego checking," that is, leaving behind the assumptions of one's academic discipline to collaborate with an interdisciplinary professional. Another faculty member described a similar phenomenon in terms of stepping outside of the disciplinary norms into which they had been trained to engage with a librarian.

Faculty Qualities

Faculty expressed inherent differences in how their roles and experiences at the university influenced their interactions with librarians. Faculty described their orientation to research based on their role as either clinical or research faculty. Faculty members expressed that clinicians, who typically have undergone little formal research training or may be far removed from any baseline research training due to clinical responsibilities, may greatly benefit from the support of librarians. Further, one participant described a feeling of being overlooked in favor of PhD-trained researchers when it comes to research support. Research faculty, on the other hand, described librarian consultative services as a time-saver for them, or as a training opportunity for their students to establish good habits around finding and organizing information early on in their careers.

Focus group participants also noted that their experiences with the library may have been influenced by their identity as a new-career academic or as a seasoned faculty member new to the institution. Both early-career and new-to-the-institution faculty members noted that meeting with a librarian as part of a consultation was essential in orienting them to library resources and research support services within the wider university. Early career faculty, or those reflecting on their early career, described early consultation with a librarian as essential to skill-building and ideation around research goals, as well as to orienting them to research support and information resources. Two participants preferred that contact with a librarian occur earlier in their time at the institution and/or as part of the orientation and on-boarding process.

Discussion

The present study examined the ways in which health sciences faculty perceive research consultations with librarians as well as how these consultations impact faculty research productivity and dissemination. Qualitative data from faculty focus groups contributed to a more detailed understanding of survey results. The focus groups comprised a similarly uneven distribution of faculty members from the schools compared to the survey sample. The School of Medicine was overrepresented in both the survey and focus groups, and there was no representation from the School of Dentistry in the focus groups. The following discussion of results incorporates findings from both sets of data. The results of this study should be considered in light of the goal of assessment and program evaluation and should be considered neither research nor generalizable.

The results of this study provide the local institution with a better understanding of consultative services and a clearer picture of heavy consultation users. Librarians are predominantly consulting with new faculty, including those who have been at the institution for zero to five years, as well as those who have a lower contractual commitment to produce scholarship. Librarian consultations contribute to traditional research products (i.e., journal articles and presentations) and research processes (i.e., background research, reference management, and review methodologies). In addition, the data suggests that faculty return to consultative services or refer consultative services to students and other faculty. These results may give librarians a greater appreciation for the importance of explicitly educating faculty on the wide range of services typically performed by librarians as a way to lower perceived thresholds for engaging with a librarian. Additionally, these findings illuminate factors that may encourage or discourage faculty utilization of librarian consultative services, including the value of outside expertise or perspective to research and the idiosyncrasies of academic culture.

One of the main themes that emerged from the focus groups was a lack of awareness amongst faculty concerning librarian expertise, the extent of library services, and the role librarians play in the research process. Almost 50 percent of survey respondents had been at the institution for fewer than five years, which indicates that new faculty are finding library services. However, focus group discussions made it clear that participants' discovery of library services was often happenstance, and that more should be done during faculty onboarding to explicitly state how a librarian can and does interact with faculty. Librarians need to do more than show up and present at new faculty orientations, however. In particular, proximity to faculty was mentioned in the focus groups as a way for librarians to be physically present. Existing literature on embedded librarianship suggests that co-locating librarians with their users increases the visibility of librarians as well as their understanding of the discipline in which they are embedded, and encourages faculty to not view librarians as outsiders.[11] Echoing these findings, research on collaboration has found that physical proximity reduces barriers based on professional boundaries and can assist in developing collaboration.[12] The results of this study, compounded with additional results from the literature, indicate that librarians need to be more transparent about the scope of services offered, and to communicate clearly what is and is not within the bounds of librarian work.[13]

Transparency is key because new faculty arrive at an institution with a wide range of experiences. Some arrive fresh out of graduate or professional school, others enter with years of experience in a clinical or community setting; their level of research experience varies, as do their experiences working with librarians at previous institutions. In this study, focus group participants ran the gamut concerning their research and library experiences before arriving at the institution. A few participants indicated that, upon arrival, they did not know the correct way to reach out for help, were worried about "bothering" librarians, or were worried about being judged (e.g., "I don't want them to think I don't know what I'm doing"). These findings agree with those from a survey conducted at James Madison University, which found that faculty respondents expressed emotional distress, a shyness, or a lack of confidence when asking questions of librarians.[14] Others in the focus groups indicated that working with a librarian was "a natural fit" because they had come from another university "where we had a lot of … research support." Ultimately, these findings and the research literature suggest that faculty perceptions of librarians, including their awareness of librarian services and skills, are primarily informed by past experiences.[15] Librarians must therefore consider this context

when meeting with new faculty and should strive to learn about these prior experiences.

Learning about a faculty member's past experiences and expressly communicating their service offerings may create additional work for individual librarians; however, this initial investment of time and effort will likely have several benefits. For example, survey and focus group results indicate that building relationships with faculty members has, over time, led to increased collaborative opportunities. In addition, this work builds trust between librarians and returning faculty, as indicated by the high survey numbers associated with returns and referrals. Faculty explicitly stated that "a lot of us work with [the librarian] and that's kind of the norm, we encourage each other to do it."

While this study did not examine librarian perceptions of their work with faculty, the literature shows how increased collaboration may contribute to a librarian's work performance. For instance, a 2017 study by Bedi and Walde concluded that librarians who became ingrained as equal members on research teams often felt more engaged in their own personal research as well as the overall library profession. Librarians perceived they had established "more meaningful and lasting relationships'' with faculty and that their collaborative opportunities had led to "a total transformation of their everyday work as librarians."[16] In this current study, results indicated that lack of awareness may contribute to lower librarian co-authorship and acknowledgement credits. The survey showed that new faculty were the least likely to include librarians as co-authors or provide them with an acknowledgement in a scholarly product. It is possible that new faculty not only lack the awareness of the extent that librarians can help but that, once new faculty receive that help, that they do not know that they can or should give credit to librarians in the form of an acknowledgment or co-authorship. It has been proven, however, that this understanding among faculty can be enhanced over time. In a 2020 study, Borrego and Pinfield found that some faculty who published with librarian co-authors in journals outside library and information science had always granted co-authorship, but in other cases "initial partnerships were just acknowledged or received no recognition until, progressively, librarians became part of the authorial team."[17] Ultimately, these findings, combined with the results of the current study, indicate that relationships between librarians and faculty grow as faculty become aware and experience the benefits of librarian contributions. Therefore, taking the time to be explicit about the services librarians offer, as well as having conversations early on about co-authorship or acknowledgement expectations, is important and may lead to opportunities for librarians to build professional experience and to grow as scholars.

The importance of communicating clearly about library services emerged as a theme in the focus groups specifically regarding the differences between research and clinical faculty about their research needs and their perceptions of library services. Researchers in the basic sciences, for example, have been shown to use library resources heavily as part of their research process without relying on traditional services, such as consultations with librarians.[18] Faculty with primarily clinical responsibilities on the other hand, while often interested in pursuing research, face a number of barriers to both building research skills and conducting research projects.[19] In addition, clinicians and researchers often have very different approaches to research and to using the library due to the years of siloed training and experience required to fulfill their primary role.[20] Taken on the whole, these findings suggest that librarians need to tailor their messages to researchers as a broad group. They should invest additional effort into assessing the specific needs of special populations of researchers to appropriately speak to a diverse population.

Another key finding from this project is the importance faculty placed on the expertise of the librarian. This study found that faculty are referring their colleagues as well as their students to librarian consultative services. Faculty are also returning for consecutive projects; one focus group respondent even stated that they "can't remember the last project [they] did that [they] didn't meet [with the librarian]." Such referrals and repeat collaborations may prove faculty recognition of librarian expertise, as faculty would not return or refer others to a librarian if they did not value the librarian's services themselves.

Viewing the use of consultative services as recognition of librarian expertise may give insight into why some populations use traditional services while others do not. As one focus group participant noted, consulting with a librarian as a professional outside of their discipline required "ego checking." This ability to put aside professional identity or ego has been cited as an antecedent of interdisciplinary collaboration as it demonstrates a respect for and trust in other professionals.[21] Other research suggests that a willingness or predisposition to collaborate may be informed by organizational culture, in this case that of academia. Librarians interact with faculty members rooted in strong disciplinary or professional identity. The educational systems that train these faculty spend considerable time developing the identity of the faculty member as a researcher, clinician, or academic within their own field often to the detriment of training on the skills and roles of other professionals.[22] Further, cultures that prize autonomy tend to promote individualism rather than collaboration, suggesting that training and practice in a field of individuals may inhibit collaborative behavior, including consulting with librarians.[23]

However, this is not where the significance of this finding ends. Not only did faculty believe librarian expertise was important, they also acknowledged the specifics of that expertise. As mentioned in the results, focus group participants identified librarian expertise as the possession of disciplinary knowledge and the ability to handle complex requests. Survey results indicated that many faculty understood librarians to be experts in research methodologies, especially concerning systematic, scoping, and literature reviews, and set up consultations specifically to address faculty lapse in knowledge of this topic. These findings are especially important considering the recent literature demonstrating that faculty and students acknowledge librarians' expertise but struggle to explain what that expertise encompasses.[24] This project indicates that faculty can indeed describe the particulars of librarian expertise and that librarians may not be as misunderstood as previously thought.

Limitations

Several limitations are present in this study of faculty and their perceptions of research consultations with librarians. Concerning the methods, there are threats to the transferability or generalizability of this work. Participants were collected from a sample of known users of the research consultation service. Furthermore, participants self-selected; therefore, only participants who chose to respond to the survey or volunteered to participate in a focus group were included in the final sample. Application of the findings to the entire population of faculty at the institution, and to faculty members in academia more generally, is not possible.

Next, survey responses were unbalanced between the schools on the health sciences campus. The School of Medicine was over-represented in aggregate results; therefore, it is important to examine the results of each question by school or college (Appendix C). In the focus groups, representation across the schools and college on the health sciences campus

were similarly unbalanced. Additionally, as the participants self-selected, it was impossible to shape the mix of demographics factors, such as time at the university or status as primarily a researcher or clinician, represented in the focus groups. These imbalances have the potential to skew the results heavily towards a single group. Also, the authors, who conducted the focus groups, are liaisons to two of the schools and work with a few of the faculty who participated. Serving as both moderator and liaison creates the possibility of bias being introduced in the facilitation of the focus groups, responses of focus group participants with whom the authors had existing relationships, and analysis of the transcripts.

Conclusion

This project examined research consultations with librarians by engaging with health sciences faculty to better understand their perception of the interaction and its potential impact on their research processes. While there are some limitations to the approach employed in this study, the findings could be useful to librarians and library administrators hoping to better understand their own consultation services. The data collected from surveys and focus groups demonstrated that librarians need to remain focused on building trust and creating meaningful relationships with faculty by being explicit and transparent about the work librarians do. Librarians also need to acknowledge that there can be significant diversity within user groups which necessitates targeted communication to facilitate research. While this project was designed as an institutional program evaluation effort, there are several implications for areas of future research including: examining non-users' perceptions of research consultations with librarians, defining the value of a research consultation, determining how value may translate to referrals to a librarian, and understanding usage patterns across specific demographic groups among faculty.

Appendix A.

Survey Questions

1. The research consultation with the librarian achieved your desired purpose.
   Agree / Disagree
2. How satisfied were you with your latest one-on-one research interaction (e.g., research consultation, search strategy development) with the librarian?
   Very Unsatisfied / Unsatisfied / Neutral / Satisfied / Very Satisfied
3. Did the consultation with the librarian contribute to one or more of the following products? (Please select all that apply)
   - □ Journal article
   - □ Book or book chapter
   - □ Grant application
   - □ Funded grant
   - □ Technical report or white paper
   - □ Academic poster
   - □ Scholarly presentation
   - □ Other
4. Did the consultation with the librarian contribute to your research product or process in one or more of the following ways? (Please select all that apply)
   - □ Background for research
   - □ Reference management
   - □ Journal selection
   - □ Methodology for review article (e.g., scoping, systematic, narrative, etc.)
   - □ Research personnel training
   - □ Copyright or re-use permissions (e.g., for images, tables, or figures)
   - □ No
   - □ Other
5. Did you or do you plan to include the librarian as a co-author or in the acknowledgements of a publication or research product? (Please select all that apply)
   - □ Yes, authorship
   - □ Yes, acknowledgement
   - □ No, neither
6. Did you or would you do any of the following as a result of your interaction with the librarian? (Please select all that apply)Return for your next project
   - □ Refer students or other learners to the library or librarian
   - □ Refer other faculty to the library or librarian
   - □ Other

Appendix B.

Focus Group Questions

1. What influenced you to / made you want to reach out to a librarian for a research consultation? What sparked the initial consultation?

2. What is your experience with librarian research consultations?

    a. What could have been improved?

    b. What went particularly well?

3. How did your interaction with the librarian help you achieve the goal of your research / scholarship / project?

4. When you have similar projects, do / would you contact a librarian again for a consultation?

    a. When you don't, why not?

5. What factors determine whether or not you engage with a librarian on future projects?

6. Have you referred a librarian's services to others? If so, what influenced your decision to refer to others?

7. (Cut if necessary) Suppose you had one minute to talk to your Dean/Department Chair/ colleague about the merits/effectiveness of the consultation service. What would you say?

8. Exit—Is there anything else you would like to say about your experiences consulting with librarians?

Appendix C.

Additional Tables

Survey Question: **Did you or would you do any of the following as a result of your interaction with the librarian? (Please select all that apply)**			
School Results:	Return for your next project	Refer students/ other learners to library/librarian	Refer other faculty to library/ librarian
CHP (n=7)	5 (71.43%)	7 (100%)	5 (71.43%)
Dentistry (n=6)	4 (66.66%)	5 (83.33%)	4 (66.66%)
Medicine (n=28)	25 (89.29%)	24 (85.71%)	26 (92.86%)
Nursing (n=21)	18 (85.71%)	21 (100%)	18 (85.71%)
Pharmacy (n=4)	4 (100%)	4 (100%)	4 (100%)
Time at the institution (years)	Return for your next project	Refer students/ other learners to library/librarian	Refer other faculty to library/ librarian
0-5 (n=32)	26 (81.25%)	31 (96.88%)	27 (84.38%)
5-10 (n=18)	18 (100%)	18 (100%)	18 (100%)
10-15 (n=7)	5 (71.43%)	4 (57.14%)	5 (71.43%)
15-20 (n=4)	4 (100%)	3 (75%)	3 75%)
20+ (n=6)	3 (50%)	5 (83.33%)	4 (66.67%)
Time dedicated to scholarship (% FTE)	Return for your next project	Refer students/ other learners to library/librarian	Refer other faculty to library/ librarian
0-19% (n=43)	35 (81.4%)	38 (88.37%)	35 (81.4%)
20-39% (n=9)	9 (100%)	9 (100%)	9 (100%)
40-59% (n=5)	4 (80%)	4 (80%)	4 (80%)
60-79% (n=7)	5 (71.42%)	7 (100%)	6 (85.71%)
80-89% (n=3)	3 (100%)	3 (100%)	3 (100%)

Survey Question: **Did you or do you plan to include the librarian as a co-author or in the acknowledgements of a publication or research product? (Please select all that apply)**			
School	Yes, authorship	Yes, acknowledgement	No, neither
CHP (n=7)	3 (42.86%)	4 (57.14%)	2 (28.57%)
Dentistry (n=6)	1 (16.67%)	2 (33.33%)	4 (66.67%)
Medicine (n=28)	9 (32.13%)	7 (25%)	13 (46.43%)
Nursing (n=21)	7 (33.33%)	8 (38.1%)	6 (28.58%)
Pharmacy (n=4)	3 (75%)	1 (25%)	0 (0%)
Time at the institution (years)	Yes, authorship	Yes, acknowledgement	No, neither
0-5 (n=32)	9 (28.13%)	11 (34.38%)	14 (43.75%)
5-10 (n=18)	7 (38.89%)	7 (38.89%)	4 (22.22%)
10-15 (n=7)	2 (28.57%)	1 (14.29%)	4 (57.14%)
15-20 (n=4)	3 (75%)	1 (25%)	1 (25%)
20+ (n=6)	2 (33.33%)	2 (33.33%)	3 (50%)
Time dedicated to scholarship (% FTE)	Yes, authorship	Yes, acknowledgement	No, neither
0-19% (n=43)	10 (23.26%)	12 (27.91%)	21 (48.84%)
20-39% (n=9)	3 (33.33%)	6 (66.67%)	1 (11.11%)
40-59% (n=5)	4 (80%)	2 (40%)	1 (20%)
60-79% (n=7)	4 (57.14%)	0 (0%)	3 (42.86%)
80-89% (n=3)	2 (66.67%)	2 (66.67%)	0 (0%)

Survey question: **Did the consultation with the librarian contribute to one or more of the following products? (Please select all that apply)**							
School	Journal Article	Book/ Book Chapter	Grant Application	Funded Grant	Report/ White Paper	Poster	Presentation
CHP (n=7)	4 (57.14%)	1 (8.16%)	0 (0%)	0 (0%)	2 (28.75%)	2 (28.75%)	4 (57.14%)
Dentistry (n=6)	3 (50%)	1 (16.67%)	0 (0%)	0 (0%)	1 (16.67%)	2 (33.33%)	0 (0%)
Medicine (n=28)	14 (50%)	5 (17.89%)	6 (21.43%)	2 (7.14%)	0 (0%)	4 (14.29%)	11 (39.29%)
Nursing (n=21)	15 (71.43%)	1 (4.76%)	2 (9.52%)	0 (0%)	1 (4.76%)	3 (14.29%)	9 (42.86%)
Pharmacy (n=4)	3 (75%)	0 (0%)	1 (25%)	0 (0%)	0 (0%)	2 (50%)	1 (25%)
Time at the institution (years)	Journal Article	Book/ Book Chapter	Grant Application	Funded Grant	Report/ White Paper	Poster	Presentation
0-5 (n=32)	17 (53.13%)	3 (9.38%)	4 (12.5%)	1 (3.13%)	1 (3.13%)	4 (12.5%)	7 (21.88%)
5-10 (n=18)	12 (66.67%)	2 (11.11%)	3 (16.67%)	0 (0%)	1 (5.56%)	5 (27.78%)	12 (66.67%)
10-15 (n=7)	5 (71.43%)	1 (14.29%)	1 (14.29%)	0 (0%)	0 (0%)	2 (28.57%)	4 (57.14%)
15-20 (n=4)	2 (50%)	0 (0%)	0 (0%)	0 (0%)	1 (25%)	1 (25%)	1 (25%)
20+ (n=6)	3 (50%)	2 (33.33%)	1 (16.67%)	1 (16.67%)	1 (16.67%)	1 (16.67%)	1 (16.67%)
Time dedicated to scholarship (% FTE)	Journal Article	Book/ Book Chapter	Grant Application	Funded Grant	Report/ White Paper	Poster	Presentation
0-19% (n=43)	22 (51.16%)	4 (9.3%)	4 (9.3%)	1 (2.33%)	2 (4.65%)	9 (20.93%)	17 (39.53%)
20-39% (n=9)	7 (77.78%)	4 (44.44%)	1 (11.11%)	0 (0%)	1 (11.11%)	2 (22.22%)	4 (44.44%)
40-59% (n=5)	3 (60%)	0 (0%)	0 (0%)	0 (0%)	1 (20%)	1 (20%)	2 (40%)
60-79% (n=7)	5 (71.43%)	0 (0%)	2 (28.57%)	0 (0%)	0 (0%)	1 (14.29%)	1 (14.29%)
80-89% (n=3)	2 (66.67%)	0 (0%)	2 (66.67%)	1 (33.33%)	0 (0%)	0 (0%)	1 (33.33%)

Survey Question: **Did the consultation with the librarian contribute to your research product or process in one or more of the following ways? (Please select all that apply)**							
School	Back-ground Research	Reference Management	Journal Selection	Methods for Review	Research personnel training	Copyright/ Re-Use	No
CHP (n=7)	4 (57.14%)	2 (28.75%)	2 (28.75%)	4 (57.14%)	2 (28.75%)	0 (0%)	0 (0%)
Dentistry (n=6)	2 (33.33%)	2 (33.33%)	3 (50%)	2 (33.33%)	0 (0%)	0 (0%)	0 (0%)
Medicine (n=28)	23 (82.14%)	16 (57.14%)	1 (3.57%)	11 (39.29%)	3 (10.71%)	1 (3.57%)	0 (0%)
Nursing (n=21)	16 (76.19%)	6 (28.57%)	4 (19.05%)	6 (28.57%)	0 (0%)	0 (0%)	0 (0%)
Pharmacy (n=4)	2 (50%)	2 (50%)	0 (0%)	3 (75%)	2 (50%)	0 (0%)	0 (0%)
Time at the institution (years)	Back-ground Research	Reference Management	Journal Selection	Methods for Review	Research personnel training	Copyright/ Re-Use	No
0-5 (n=32)	21 (65.63%)	13 (40.63%)	5 (15.63%)	12 (37.5%)	1 (3.13%)	0 (0%)	0 (0%)
5-10 (n=18)	17 (94.44%)	6 (33.33%)	3 (16.67%)	7 (38.89%)	3 (16.67%)	1 (5.56%)	0 (0%)
10-15 (n=7)	3 (42.86%)	2 (28.57%)	1 (14.29%)	2 (28.57%)	2 (28.57%)	0 (0%)	0 (0%)
15-20 (n=4)	4 (100%)	3 (75%)	0 (0%)	2 (50%)	0 (0%)	0 (0%)	0 (0%)
20+ (n=6)	3 (50%)	4 (66.67%)	1 (16.67%)	3 (50%)	1 (16.67%)	0 (0%)	0 (0%)
Time dedicated to scholarship (% FTE)	Back-ground Research	Reference Management	Journal Selection	Methods for Review	Research personnel training	Copyright/ Re-Use	No
0-19% (n=43)	31 (72.09%)	16 (37.21%)	8 (18.6%)	12 (27.91%)	5 (11.63%)	1 (2.33%)	0 (0%)
20-39% (n=9)	8 (88.89%)	6 (66.67%)	1 (11.11%)	4 (44.44%)	0 (0%)	0 (0%)	0 (0%)
40-59% (n=5)	4 (80%)	2 (40%)	0 (0%)	4 (80%)	0 (0%)	0 (0%)	0 (0%)
60-79% (n=7)	3 (42.86%)	3 (42.86%)	1 (14.29%)	5 (71.43%)	2 (28.57%)	0 (0%)	0 (0%)
80-89% (n=3)	2 (66.67%)	1 (33.33%)	0 (0%)	1 (33.33%)	0 (0%)	0 (0%)	0 (0%)

Notes

1. Crystal D. Gale and Betty S. Evans, "Face-to-Face: The Implementation and Analysis of a Research Consultation Service," *College & Undergraduate Libraries* 14, no. 3 (December 18, 2007): 85–101, https://doi.org/10.1300/J106v14n03_06.

2. Devin Savage, "Not Counting What Counts: The Perplexing Inattention to Research Consultations in Library Assessment Activities" (presentation, Association of College and Research Libraries, Portland, OR, 2015), 577–84.

3. Catherine Cardwell, Katherine Furlong, and Julie O'Keeffe, "My Librarian: Personalized Research Clinics and the Academic Library," *Research Strategies* 18, no. 2 (April 1, 2001): 97–111, https://doi.org/10.1016/S0734-3310(02)00072-1; Susan Avery, Jim Hahn, and Melissa Zilic, "Beyond Consultation: A New Model for Librarian's Office Hours," *Public Services Quarterly* 4, no. 3 (September 18, 2008): 187–206, https://doi.org/10.1080/15228950802096719; Karine Fournier and Lindsey Sikora, "Individualized Research Consultations in Academic Libraries: A Scoping Review of Practice and Evaluation Methods," *Evidence Based Library and Information Practice* 10, no. 4 (December 17, 2015): 247–67, https://doi.org/10.18438/B8ZC7W; Jackie Stapleton, Caitlin Carter, and Laura Bredahl, "Research Consultations in the Academic Library: A Scoping Review on Current Themes in Instruction, Assessment and Technology," *The Journal of Academic Librarianship* 46, no. 4 (2020): 102156.

4. Fournier and Sikora, "Individualized Research Consultations in Academic Libraries."

5. Stapleton, Carter, and Bredahl, "Research Consultations in the Academic Library."

6. Stapleton, Carter, and Bredahl, "Research Consultations in the Academic Library."; Karen Brown and Kara J. Malenfant, "Academic Library Impact on Student Learning and Success: Findings from Assessment in Action Team Projects," Report (Association of College and Research Libraries, April 2017), https://alair.ala.org/handle/11213/17181; Laura Robinson Hanlan and Evelyn M. Riley, "Information Use by Undergraduate STEM Teams Engaged in Global Project-Based Learning" (ASEE Annual Conference & Exposition, Seattle, WA, 2015); Jennifer Warburton and Peter Macauley, "Wrangling the Literature: Quietly Contributing to HDR Completions," *Australian Academic & Research Libraries* 45, no. 3 (July 3, 2014): 159–75, https://doi.org/10.1080/00048623.2014.928992.

7. Megan J. Oakleaf, *The Value of Academic Libraries: A Comprehensive Research Review and Report* (Association of College and Research Libraries, 2010).

8. Lorie A. Kloda and Alison J. Moore, "Evaluating Reference Consultations in the Academic Library" (Library Assessment Conference, Washington, DC, 2016); Heidi Senior and Tori Ward, "A Rapid Review of the Reporting and Characteristics of Instruments Measuring Satisfaction with Reference Service in Academic Libraries," *Evidence Based Library and Information Practice* 14, no. 4 (2019): 128–59.

9. "Verbit: Professional AI-Based Transcription & Captioning Services," *Verbit*, accessed March 23, 2022, https://verbit.ai/.

10. "Researchware—Qualitative Research Software for the Analysis of Qualitative Data," *Researchware*, accessed March 23, 2022, http://www.researchware.com/.

11. Gary Freiburger, Jennifer R. Martin, and Annabelle V. Nuñez, "An Embedded Librarian Program: Eight Years On," *Medical Reference Services Quarterly* 35, no. 4 (December 2016): 388–96, https://doi.org/10.1080/02763869.2016.1220756; Kathy Drewes and Nadine Hoffman, "Academic Embedded Librarianship: An Introduction," *Public Services Quarterly* 6, no. 2–3 (September 14, 2010): 75–82, https://doi.org/10.1080/15228959.2010.498773.

12. Leticia San Martín-Rodríguez et al., "The Determinants of Successful Collaboration: A Review of Theoretical and Empirical Studies," *Journal of Interprofessional Care* 19 Suppl 1 (May 2005): 132–47, https://doi.org/10.1080/13561820500082677.

13. Jody Condit Fagan et al., "Faculty Perceptions of Academic Librarians: Experts, Connectors, and Resource Stewards," *New Review of Academic Librarianship*, October 22, 2020, 1–38, https://doi.org/10.1080/13614533.2020.1819354; Jody Condit Fagan et al., "Librarian, Faculty, and Student Perceptions of Academic Librarians: Study Introduction and Literature Review," *New Review of Academic Librarianship* 27, no. 1 (January 2, 2021): 38–75, https://doi.org/10.1080/13614533.2019.1691026; Kimberly L. O'Neill and Brooke A. Guilfoyle, "Sign, Sign, Everywhere a Sign: What Does 'Reference' Mean to Academic Library Users?" *The Journal of Academic Librarianship* 41, no. 4 (July 1, 2015): 386–93, https://doi.org/10.1016/j.acalib.2015.05.007.

14. Fagan et al., "Faculty Perceptions of Academic Librarians."

15. Fagan et al., "Faculty Perceptions of Academic Librarians." ; S. Jeffries, "The Librarian as Networker: Setting the Standard for Higher Education," in *The Collaborative Imperative: Librarians and Faculty Working Together in the Information Universe* (Association of College and Research Libraries, 2000), 114–29; Cathy Weng and David C. Murray, "Faculty Perceptions of Librarians and Library Services: Exploring the Impact of Librarian Faculty Status and Beyond," *The Journal of Academic Librarianship* 46, no. 5 (September 1, 2020): 102200, https://doi.org/10.1016/j.

acalib.2020.102200.

16. Shailoo Bedi and Christine Walde, "Transforming Roles: Canadian Academic Librarians Embedded in Faculty Research Projects," *College & Research Libraries* 78, no. 3 (April 19, 2017): 314, https://doi.org/10.5860/crl.78.3.314.

17. Ángel Borrego and Stephen Pinfield, "Librarians Publishing in Partnership with Other Researchers: Roles, Motivations, Benefits, and Challenges," *Portal: Libraries and the Academy* 20, no. 4 (2020): 655–75, https://doi.org/10.1353/pla.2020.0031.

18. Laura L. Haines et al., "Information-Seeking Behavior of Basic Science Researchers: Implications for Library Services," *Journal of the Medical Library Association* 98, no. 1 (January 2010): 73–81, https://doi.org/10.3163/1536-5050.98.1.019.

19. Peter S. Cahn, "Onramp to Scholarship: Putting Clinical Faculty Members on the Path to Academic Productivity," *The Journal of Continuing Education in the Health Professions* 39, no. 3 (2019): 218–22, https://doi.org/10.1097/CEH.0000000000000260; Douglas Ziedonis and Mary S. Ahn, "Professional Development for Clinical Faculty in Academia: Focus on Teaching, Research, and Leadership," *The Psychiatric Clinics of North America* 42, no. 3 (September 2019): 389–99, https://doi.org/10.1016/j.psc.2019.05.009; J. R. Robles et al., "Perceived Barriers to Scholarship and Research among Pharmacy Practice Faculty: Survey Report from the AACP Scholarship/Research Faculty Development Task Force," *American Journal of Pharmaceutical Education* 73, no. 1 (February 19, 2009): 17, https://pmc.ncbi.nlm.nih.gov/articles/PMC2690871/.

20. Linda L. Restifo and Gerald R. Phelan, "The Cultural Divide: Exploring Communication Barriers Between Scientists and Clinicians," *Disease Models & Mechanisms* 4, no. 4 (July 2011): 423–26, https://doi.org/10.1242/dmm.008177.

21. Laura Petri, "Concept Analysis of Interdisciplinary Collaboration," *Nursing Forum* 45, no. 2 (June 2010): 73–82, https://doi.org/10.1111/j.1744-6198.2010.00167.x.

22. San Martín-Rodríguez et al., "The Determinants of Successful Collaboration."

23. C. Mariano, "The Case for Interdisciplinary Collaboration," *Nursing Outlook* 37, no. 6 (December 1989): 285–88.

24. John N. Ochola and Phillip J. Jones, "Assessment of the Liaison Program at Baylor University," *Collection Management* 26, no. 4 (December 1, 2001): 29–41, https://doi.org/10.1300/J105v26n04_03; Jody Condit Fagan et al., "Faculty Perceptions of Academic Librarians: Experts, Connectors, and Resource Stewards," *New Review of Academic Librarianship*, October 22, 2020, 1–38, https://doi.org/10.1080/13614533.2020.1819354.

Humanizing the Doctorate for Librarians: Benefits, Challenges, and Support Systems

Mihoko Hosoi, Danica E. White, and Kathleen Phillips

In this qualitative case study, we conducted semi-structured, in-depth interviews with 16 Pennsylvania State University librarians who hold, or are considering pursuing, a doctoral degree. Through a thematic analysis using NVivo, we found that the benefits of earning a doctorate included gaining credibility, building relationships with teaching faculty, enhancing research skills, and obtaining a sense of accomplishment. Challenges were primarily related to time management and financial constraints. Supportive advisors and a synergy between library work and doctoral research are important. Libraries benefit from increased knowledge of librarians and can support their doctoral aspirations through financial assistance and flexible work arrangements.

Introduction

The doctorate for librarians is a controversial topic. Some library leaders argue that new hires are more likely to be PhDs (Bell, 2011; Furlough, 2011; Mandeville-Gamble, 2011) while others condemn the idea that new hires would be unlikely to be traditional librarians (Anonymous, 2011). Either way, it is common for librarian job posts to say "MLS or equivalent" for the required credential and list additional preferred credentials (Li & Li, 2021). Additionally, there are many different pathways to become a librarian. For example, the Council on Library and Information Resources provides a fellowship program for recent PhD graduates so that they can explore career opportunities in librarianship without an MLS (CLIR, n.d.). Technological advancement, higher education trends, and the influx of PhDs from other fields might increase competition within the occupation.

Academic libraries are at a pivotal crossroads. Learning from the COVID-19 pandemic experience, higher education institutions have increased their efforts to support trends such as digital transformation, the need for data security, normalization of hybrid and remote work and learning environments, significant turnover, rising costs and declining perceived value of higher education, efforts to address discrimination and inequity, and need for improved data literacy (Caron & Muscanell, 2022). Academic libraries, likewise, are gradually shifting their efforts to address higher education trends as well as academic library trends such as open scholarship, transition to digital collections, shared print collections, use of artificial intelligence,

* *Mihoko Hosoi is Chief Officer for Collections, Research, and Scholarly Communications at Pennsylvania State University, email: mxh5873@psu.edu ; Danica E. White is Teaching, Learning, and Assessment Librarian at Howard University, email: danica.white@howard.edu; Kathleen Phillips is Nursing & Allied Health Liaison Librarian at The Pennsylvania State University, email: kec5013@psu.edu.*

and increased demand for research data management (2021-22 ACRL Research Planning and Review Committee, 2022; ACRL Research Planning and Review Committee, 2023).

These trends will likely impact academic library workforce planning and staffing, although the master's in library science (MLS) is still generally considered to be the terminal professional degree for academic librarians (ACRL, 2018). An increasing number of academic library positions might require credentials beyond MLS in the future because these emerging needs require librarians to interact more with researchers and hold specialized skills. Libraries will need to develop these capabilities to stay relevant, while maintaining traditional services both onsite and remotely. Some library employees might seek additional credentials while working full time. Others might already hold a PhD or other advanced credentials, either with or without an MLS, before becoming a librarian.

The purpose of this article is to explore the benefits of doctorates for librarians, library users, and the organization as well as the challenges that librarians face through their doctoral endeavor. Another objective is to support librarians who pursued, or are interested in pursuing, a doctoral degree and to create a sense of community by sharing stories from relevant individuals. The study will also guide library administrators who might develop or recruit librarians.

We used data from 16 in-depth interviews with librarians at The Pennsylvania State University (Penn State) to answer the following questions: What benefits do librarians gain (or anticipate) from getting a doctoral degree for themselves, library users, and the library? What challenges do (or did) they face in pursuing a doctoral degree? What environment or support systems are needed for librarians to successfully pursue a doctoral degree?

Literature Review

Library and Information Science Literature

Although librarians with doctorates are still a minority (Michalak et al., 2019; Ridley, 2018), some suggest that second master's, JD or PhD degrees are required or desired, in addition to or in lieu of an MLS, for certain roles (e.g., leadership positions, subject librarians, scholarly communications, archives, and research and data services) (Ferguson, 2016; Li & Li, 2021; Michalak et al., 2019). Some studies discuss a PhD as an important credential for librarians with faculty status (Huisman, 2011; Kennedy & Brancolini, 2018; Mayer & Terrill, 2005; Ridley, 2018) while others maintain that a doctoral degree increases the credibility of librarians and improves relationships with teaching faculty (Ferrari, 2007; Gilman & Lindquist, 2010; Mayer & Terrill, 2005).

Reasons for seeking a doctorate vary. Mayer and Terrill (2005) surveyed 1,213 librarians and found that the most popular reason for wanting to get an advanced degree was personal fulfillment (85.91%), followed by greater marketability (62.89%), career advancement (50.86%), job performance enhancement (37.46%), higher salary (34.02%), and job requirement (3.09%). Furthermore, Lindquist and Gilman (2008) compared two groups of librarians through a large-scale survey: one group with individuals who became a librarian before pursuing a doctorate, and another with individuals who became a librarian during or after pursuing a doctorate. They found that the reasons for seeking a doctorate were different between the two groups. For individuals who became a librarian before pursuing a doctorate, personal interest/fulfillment was the primary reason (45.9%). For individuals who became a librarian during or after pursuing a doctorate, wanting a teaching position at a college/university was the most popular reason (41.3%).

Having a doctorate might not necessarily lead to desired outcomes. Gilman and Lindquist (2010) extended on their earlier study and found that, while subject doctorates allowed librarians to better understand and communicate with teaching faculty and enhanced their library work, having a doctorate also created challenges for these librarians. For example, their study participants mentioned issues such as being perceived as overqualified or underqualified for library work if the individual is lacking the MLS, feeling underappreciated or being perceived as "failed academics" by colleagues both inside the library and on campus, needing to balance library work and academic work, and feeling disappointed about compensation. Much of the existing library and information science literature on this topic uses a survey as the data collection method.

Part-Time Doctoral Students

Some librarians work toward a doctoral degree on a part-time basis while working full time. It is not easy for part-time students to develop and maintain relationships, due to lack of communities, limited access to faculty, and changing cohorts (Zahl, 2015). Challenges with socialization may lead to perceptions that faculty primarily cater to full-time students and prefer to teach and conduct research with them rather than part-time students (Mawson & Abbott, 2017; Zahl, 2015). Faculty might assume that the student is enrolled full-time to receive the benefits of a full doctoral socialization experience (Gardner & Gopaul, 2012). Existing research also substantiates the stereotypical view of doctoral students as young, full-time, and with few work or other commitments (Pearson et al., 2011). Moreover, stereotyping disproportionately impacts doctoral socialization of students of color (Maton et al., 2011; Taylor & Soto Antony, 2000).

Another recurring theme associated with part-time doctoral students is invisibility or being forgotten (Bates & Goff, 2012; Evans, 2002; Neumann & Rodwell, 2009) and being peripheral (Mawson & Abbott, 2017; Teeuwsen et al., 2014). Being invisible or peripheral may result in doctoral programs and support systems that do not consider part-time doctoral students' needs. Part-time doctoral students often need to balance their roles as student and professional, as well as personal roles such as caregiver, parent, and community member (Baker & Pifer, 2015; Bates & Goff, 2012; Boncori & Smith, 2020; Teeuwsen et al., 2014). At the same time, part-time students are less likely to receive fellowships and assistantships (Nettles & Millett, 2006), as financial support for doctoral students is often earmarked for full-time students (Bates & Goff, 2012; Gardner & Gopaul, 2012). Given these challenges, part-time doctoral students are found to be less satisfied with their doctoral experiences, although the ones who complete the program tend to progress faster in the program than full-time peers (Nettles & Millett, 2006; Neumann & Rodwell, 2009).

Doctoral socialization is important because knowledge acquisition occurs as part of engaging in a disciplinary community through interaction with faculty and peers (Weidman et al., 2001). Communities that serve as the academic and social crossroads also foster a sense of belonging and help enhance persistence (Tinto, 1997). Identification with the academic community is an important first step to being successful in doctoral studies and is often complicated by part-time status (Mawson & Abbott, 2017; Teeuwsen et al., 2014). If an individual's main identity is far from the dominant group identity, the person can become marginalized (Boncori & Smith, 2020). This contrasts to the experience of full-time students who do not have a 'professional identity' that must be negotiated when they enter doctoral study (Baker & Lattuca, 2010).

Part-time doctoral students bring unique experiences and skills that might benefit other students, the doctoral program, and the organization. For example, part-time doctorates are found to result in innovation and positive organizational changes (Bates & Goff, 2012; Costley & Lester, 2012). Additionally, sharing knowledge based on professional experience is beneficial for all students and the faculty (Dunn & Kniess, 2019).

In order for part-time doctoral students to succeed, ongoing mentoring and close relationships with faculty and peers is essential (Kember et al., 2001; Zahl, 2015; Zhang et al., 2021). Additionally, they need to be supported by their family members, co-workers, and their managers (Gardner & Gopaul, 2012; Lindsay et al., 2018) given their multiple roles and identities. Thanks to technological advances and increased remote learning, some of the part-time doctoral students' challenges can be mitigated by various forms of asynchronous and interactive communication technologies (Zhang et al., 2021).

Analytical Framework

Human capital theory (Becker, 1993) argues that educational credentials certify acquisition of job-related skills that make individual workers more valuable to employers. This perspective suggests, when viewed in light of the current study, that librarians would pursue a doctoral degree to increase their skills and deliver better services in the library workplace. Additionally, formal educational credentialing restricts the labor supply, signals quality of service, creates social and occupational closure, and generally leads to higher status and salaries (Weeden, 2002). When applied in the current study, this perspective suggests that librarians would obtain higher status and/or salaries based on the doctorate. Furthermore, scholars have argued that organizations contribute to workplace inequality and the analytical focus should shift from individuals to organizations (Ray, 2019a; Wooten, 2019; Wooten & Couloute, 2017). Higher education relies heavily on academic credentials in choosing personnel and hires employees with similar backgrounds and credentials (DiMaggio & Powell, 1983; Ray, 2019b, 2019a), possibly leading to inequality. We will analyze the ways in which organizational practices create or alleviate inequity as librarians seek a doctoral degree.

Positionality

We are cisgender women with different racial, ethnic, and cultural backgrounds—one Asian, one Black/Latinx, and one white. At the time of this study, we were at the same academic library, working in different functions, interested in growing professionally and improving the experiences of students and faculty of different backgrounds. One of us is getting a PhD in Spring 2025, another will be starting a doctoral program in Fall 2025, and another is considering seeking a doctorate. We acknowledge that our backgrounds influence the ways in which we see the world (Milner, 2007).

Methods

In this qualitative case study, we conducted semi-structured, in-depth interviews with 16 Penn State library faculty members who hold or are considering pursuing a doctoral degree. All interviews were conducted in February and March 2023 over Zoom. All Penn State library faculty regardless of the geographical location, tenure-status, and rank, were qualified to participate. Approximately 120 people currently work as library faculty at Penn State. We did not know how many people already had or were considering pursuing a doctoral degree but

knew that at least several individuals met the criteria. We decided to work with Penn State library faculty because we wanted to follow up on the findings to support them and create a sense of community among individuals with shared interest in the workplace.

We recruited the initial group of participants (n = 8) on a first-come first-serve basis using the library faculty organization's (LFO) mailing list. We also used snowball sampling to recruit more participants (n = 8) via existing study participants, resulting in a total of 16 participants. We attempted to recruit participants with varied backgrounds, including individuals who had obtained a doctoral degree before they became Penn State library faculty as well as those who obtained a doctoral degree after they became Penn State library faculty. The invitation email clarified the study objectives, necessary qualifications, required commitment, and confidentiality terms.

The principal investigator (PI) sent the recruitment email and listed the research team members' names and titles. Some library faculty members are aware that one of us is pursuing a PhD degree on a part-time basis. Our recruitment email emphasized that their participation was voluntary and that their responses would be kept confidential. No monetary rewards were provided for participation. In the end, a total of 16 qualified library faculty expressed interest. We decided to interview these 16 individuals first, with the intention of interviewing more people if additional perspectives were needed and if additional qualified library faculty are found. Penn State's institutional review board (IRB) determined this study to be exempt from human subject research regulations.

Fortunately, our sample was diverse enough to answer our research questions, including both library faculty who already hold a doctorate (n = 10) and library faculty who are considering pursuing a doctorate (n = 6). Several participants (n = 5) mentioned that they started working toward their doctoral degree before becoming library faculty, while the majority (n = 11) started or are considering starting after they became library faculty. The completed doctoral degrees varied in terms of the field: STEM (n = 4), humanities (n = 2), social sciences (n = 2), and education (n = 2). Interestingly, all the participants who are considering pursuing a doctoral degree in the future (n = 6) said that they were still uncertain about the field of study, except for one person who expressed interest in a PhD in library science and in part-time and online or hybrid learning. Out of the ten participants who already completed a doctoral degree, four completed their degree as full-time students, five completed their degree on a part-time basis while working full-time, and one had a mixed experience with mostly part-time study. The tenure status of our sample varied; eight participants were already tenured, seven were tenure-line library faculty, and one participant was a non-tenure-line faculty member. They worked in different roles; the most common types of work were user/reference services (n = 5) and subject librarianship (n = 5). Others primarily worked in management (n = 3), research services (n = 2), and other roles (n = 1).

Seven participants identified as women, while nine identified as men. Our sample thus included a smaller percentage of women (43.8%), compared with librarianship as a whole, which is dominated by women with 82.25% of all librarians in 2022 (Department for Professional Employees, 2023). We chose not to ask our participants about their racial and ethnic identities because Penn State Libraries is a predominantly white organization, and we had confidentiality concerns for participants with marginalized identities. Even if we grouped all librarians of color together, we worried that analyzing our data based on the participants' aggregated racial/ethnic identities might still create harm for the participants because the number of librarians of color at Penn State is very small and some of their backgrounds are

already known by many, thus making it difficult to keep the data confidential.

We chose to interview via Zoom because Penn State library faculty work across 24 campuses in Pennsylvania and we wanted to provide flexibility. We anticipated a small population for this topic, wanted to encourage broader participation, and indicated in our invitation email that the interview will take up to 45 minutes, considering the workplace norms to avoid lengthy Zoom meetings. In reality, some participants spent more than 45 minutes answering questions although the interviewer was mindful of the time. We avoided extending interviews beyond one hour and offered to set up another interview; however, no participants took this option. Therefore, all interviews were completed within one hour.

The PI scheduled interviews with each participant who expressed interest and assigned participant to one of the three researchers who were listed in alphabetical order by their first name on the interview planning Excel workbook. The PI assigned participants as their expressions of interest came in and did not attempt demographic matching with the researchers. Each researcher found a time that worked with both the researcher and the participant for the interview. At the agreed-upon interview date and time, the researcher met with the participant online, sought their consent, and conducted the interview. The interview was audio and video recorded via Zoom. We used the auto transcription feature of Zoom and cleaned the transcripts by correcting technical errors and reviewing the recordings. We de-identified the participants, coded, analyzed the transcripts via NVivo, and will destroy the recordings once the project is complete.

The interview consisted of background and interview questions (see Appendix A). We asked questions about their motivation, benefits of a doctoral degree for the individual, library users, and the organization, as well as challenges and support needed for library faculty to succeed in their doctoral endeavor. In-depth interviewing allowed us to clarify what library faculty thought in private; the contradictions between their beliefs and actual behavior; and their fear, concerns, or ambitions (Gerson & Damaske, 2020). We started with simple questions to build a rapport with the interviewee and conducted in-depth interviews by avoiding yes/no questions and asking open-ended questions to illuminate the participants' deepest motivation, fear, and desires. We pre-tested questions and adjusted them. During the interview, we clarified and sought their responses by saying "Will you say more about…?" or "What do you mean by…?" instead of guiding their answers. We skipped questions if they were answered via earlier questions. We asked them to imagine that they were talking to a close friend if they seemed to be hesitating, or if we encountered homogeneous patterns. Additionally, we asked the same questions in different ways as needed and paid attention to not just the responses but also how interviewees responded. We asked complicated or heavy questions later in the interview. Furthermore, we made a note of both physical observations and any surprises.

Each of the researchers conducted five or six interviews. During the interview phase, we met twice to discuss emergent findings from the interviews. We also discussed surprising observations. After the last round of interviews, we determined that data saturation had been reached because no new findings had emerged and decided not to seek additional participants. We also thought that the chances of finding other qualified Penn State library faculty in a timely manner were small. Each interviewer transcribed her own interviews, and other researchers cross-checked for accuracy.

We randomly selected two of the 16 transcripts for initial coding to establish a shared coding scheme. Each researcher initially independently open coded the two transcripts using

NVivo qualitative data analysis software. Open coding involves inductively developing codes from the data without advancing the researchers' interpretations (Corbin & Strauss, 2008). We also used a conventional content analysis (Hsieh & Shannon, 2005) to derive the coding scheme directly from the text of the recordings because existing theory and literature is limited, and our aim is to allow new insights to emerge through open-ended questions. Coding proceeded iteratively in several rounds. At the same time, we expected certain themes to emerge based on the existing literature and the coding was also done deductively and abductively (Timmermans & Tavory, 2012). In other words, we were open to finding new themes through an inferential process by relying on our positionalities and theoretical lenses, while piecing together information that is known.

After ordering and categorizing codes independently using two transcripts, we met again, discussed, and reached interpretive convergence (Saldaña, 2021), or an agreed, shared interpretation. Guided by the research questions and memos taken during interviews, we collectively developed themes primarily under the three areas of investigation: benefits of obtaining/holding a doctorate, challenges seeking/holding a doctorate, and necessary environmental factors and support systems to successfully obtain a doctorate. From this collaborative process, we developed a common coding scheme to be used across all transcripts. Each researcher then focused on one specific area of investigation (i.e., motivations and benefits, challenges, or necessary support systems) and coded and analyzed all 16 transcripts using this common coding scheme. To ensure trustworthiness, we reviewed each other's work for accuracy. Appendix B shows the coding scheme.

Findings

Motivations and Benefits

Motivations

Interviewees shared various motivations in considering a doctoral degree. Librarians who pursued a doctorate before entering the field ($n = 5$) were initially motivated by aspirations of becoming researchers or teaching faculty. They all had clear rationale for choosing a subject or a program. On the other hand, those who obtained or are considering a doctorate while working as librarians ($n = 11$) aimed to gain credibility, improve research skills, and build relationships with teaching faculty without necessarily pursuing a teaching position.

All participants except two discussed personal fulfillment ($n = 14$) as a motivating factor. Many shared that they are lifelong learners. Personal fulfillment frequently overlapped with discussion surrounding career advancement, credibility, and research skill enhancement. Common phrases associated with career advancement included, "moving up," "open[ing] doors," and "career aspirations." Credibility and research skills were mentioned relating to interactions with students and faculty. The Penn State Libraries offer faculty status to librarians, which requires research and might influence participants' motivations in seeking a doctoral degree. Some viewed a doctoral degree as a way to strengthen their research skills, for example, methods, scholarly writing, and publishing. Three participants mentioned that a doctoral degree was required for employment at the time. No participants discussed salary as a motivating factor.

Benefits

Participants discussed benefits relating to self and to others. Regarding benefits to oneself, all

but one participant (n = 15) focused on credibility in relation to external perceptions of their abilities, skills, and equality as faculty. As the doctoral credential enables them to elevate their status and differentiate themselves from others, it could potentially make it more difficult for others to enter the field. This supports the occupational closure theory (Weeden, 2002). As one participant explained:

> …it's not that we can't get respect by not having a PhD. We certainly do, but I think they see you as more part of the group as the faculty group…people may respect you more…see you as an ally in the educational mission (Participant 6).

Similarly, another participant said:

> When [I'm] conducting a lot of consultations with research faculty and when they find out that I also have a doctorate degree, there's somewhat of that automatic respect level that just is, is set … they trust what I'm saying potentially a little bit more because of that degree (Participant 15).

Most participants addressed doing their current job better (n = 14), learning more about research (n = 14), and building relationships (n = 10) as benefits to oneself. In doing their current job better, participants who completed a doctoral degree felt that they became more knowledgeable about the subject and the curriculum, gained time and project management skills, became more innovative, and improved their overall performance as a librarian. This finding supports the human capital theory (Becker, 1993). In learning more about research, participants who obtained a doctoral degree indicated that they enhanced research skills, became familiar with different methodologies, and learned about a variety of software programs such as NVivo or SPSS. Individuals who are considering a doctoral degree and have not yet started the program believed that doctoral education would provide them with a deeper understanding of the research that graduate students and faculty conduct within their respective liaison areas. Additionally, participants said they would develop, or have developed, collaborative opportunities with teaching faculty through doctoral socialization and would grow, or grew, instruction programs through those relationships. Participant 14 stated that earning a doctoral degree, "allow[ed] a connection, where there's too often a disconnect."

These individual benefits overlapped with benefits to students, faculty, and the institution. For example, several individuals mentioned that being a full-time librarian and a part-time doctoral student helped their doctoral program peers in that they served as unofficial library ambassadors because the library faculty knew more about research resources. Additionally, individuals who already earned a doctoral degree found opportunities to apply their knowledge and were able to better aid students and faculty. Their enhanced performance, in turn, bolstered the library's stature within the University.

Challenges

When discussing the challenges in obtaining a doctoral degree, nearly all mentioned time management and financial issues. The ones who obtained a doctorate before becoming a librarian (n = 5) talked mostly about faculty advisor related issues and the motivation needed to keep

up with their doctoral work. The ones who are considering a doctorate while working as a librarian ($n = 11$), on the other hand, talked mainly about balancing family, work, and education. Women talked more about prioritizing family matters in deciding their career choices and when to pursue a doctoral degree.

Managing time and fulfilling responsibilities across different areas, including work, family, and education, proved to be a major hurdle, especially for those with a full-time job and/or a bustling family. Many participants mentioned the constant struggle of juggling pressing concerns, such as completing papers within tight deadlines while dealing with the complexities of everyday life. Participant 2 drove over an hour each way to attend classes after work and returned home late at night. This grueling routine occurred twice a week for around two and a half years. Similarly, Participant 9 drove one hour each way once a week to take a course in the evening for almost three years. Others shared similar stories, such as the participant who said: "It's a long road. So just make sure that you're prepared for that. You don't want to get halfway through and then give up. That happens a lot. So just kind of know what you're getting into"(Participant 2), and another who commented: "So, you really have to have, I think, a commitment that is so strong that you're willing to sacrifice a lot of things in order to do this … this is going to take up, you know, most of the free space of your life for years … It's a lot of work, a lot of stress" (Participant 5).

Financial challenges were brought up by nearly every participant. One individual discussed how graduate stipends are often insufficient, leading to reliance on student loans for non-tuition expenses. Financial constraints often required difficult choices and sacrifices for individuals who were pursuing a doctoral degree, such as seeking help from family members, delaying other personal decisions, or limiting options to nearby programs. All library faculty who are considering pursuing a doctorate and hesitating ($n = 6$) discussed financial concerns.

For those who have already earned a doctoral degree, the issues went beyond financial and time-related and focused more on endurance and relationship with their advisor. The struggle to remain motivated and make progress throughout a doctoral program was mentioned numerous times in the interviews. Research-focused programs require a level of independence that necessitates perseverance and persistence. Low self-esteem and self-doubt were recurring challenges, causing fear and uncertainty about one's capabilities. Additionally, working with an advisor can be challenging, as it often involves listening to criticism and being patient while waiting for feedback and revisions. One participant shared that cultural factors led to missed opportunities for challenging norms, seeking help, and asserting individual goals. A lack of supportive advisors can hinder doctoral students' success and negatively impact their motivation, as participants' comments show. One stated: "Many of the students who pursued a doctoral [degree]…didn't finish it. One of the reasons is that they don't really have good advisors and they don't know how to focus on what they need to do" (Participant 9). Another participant shared: "I naively thought … if I don't get any support from my advisor in getting this degree, I can still do it. What I hadn't considered is that, you know, your advisor and or people in this environment might work against you" (Participant 14).

Doctoral education also triggered an identity crisis, leading in some cases to a sense of separation from the library profession. Some shared that they now identify more as educators or researchers than librarians. Additionally, some participants mentioned the challenges they faced from their library colleagues. The fear of not being accepted back into the library profession after obtaining a non-library doctorate degree was a significant concern for some. They

felt there was a perception of arrogance or elitism associated with the degree, resulting in the need to downplay its significance. There were also challenges in embracing the title of "doctor." Some colleagues' expectation was to prioritize the MLS qualification. Participant 8 said:

> There have been several instances … where it was, that's nice that you have it, but you need to take a step back like you're not special. Like you know when you're too proud about it, you seem rankist and you know if you use that a lot, the other librarians are going to think that you think you're better than them and they're not going to want to work with you.

Necessary Support Systems

For the necessary environment to successfully complete a doctorate, the most salient theme was the availability of financial support (n = 13), such as stipends, scholarship, fellowship, and employee tuition benefits. Three participants who obtained a doctorate while working full-time shared that they utilized the University's tuition benefits. Participant 14 commented that doctoral education "is largely a pursuit of the privileged" given the extensive amount of time and financial resources needed. Participant 12 admitted, "I never would have obtained the degree if I had to pay full tuition." These comments indicate that organizational support, such as tuition benefits, can alleviate inequity by allocating resources effectively (Ray, 2019a).

The importance of family support was the second most salient theme related to the necessary support systems (n = 12). The participants' family members helped them with childcare and household chores, as well as provided emotional and financial support. Their doctoral endeavors were balancing acts, particularly for participants who completed degrees while working full-time because they sometimes needed to take evening courses and commute to different universities or catch up with work in the evening or over the weekend. Two faculty mentioned that they had family members who held or were working on a doctoral degree, which suggests that they had family support in terms of doctoral socialization.

The geographic location or online options of doctoral programs was the third most salient theme (n = 10). All participants who successfully completed their doctoral degrees (n = 10) did so in person, suggesting that it is difficult to obtain a doctoral degree fully online. This implies that the candidate needs to live close to the program to be productive. Participant 6 shared: "Many universities have sort of opened up the online learning to an undergraduate degree in history. But they still hold those cards very tightly to their chest with the PhD. I think it's a quality control issue … They want you to do residency work in those fields."

Most (eight out of ten) of the participants who completed their doctorates stressed the importance of having a supportive faculty advisor. Additionally, some commented also on the importance of having supportive classmates. These themes were absent among participants who have not started a doctoral program and might be blind spots for those individuals. One participant commented:

> [Advisors] are the person who kind of helps you guide you through and mentors you through your projects, as well as kind of the various steps you have to take to kind of pass your comprehensive exams, and then your defense ultimately, and they decide when that happens with you, obviously. But one of the biggest

> pieces of advice I give folks if they're looking into a program that has that kind of relationship is that that person is really important, even more so than the research topic (Participant 15).

Similarly, another participant commented: "I found probably more help in the people that had similar setups to me where there was a couple of people that were part-time and working full-time. Particularly if they were ahead of me. I got a lot of help" (Participant 7).

Furthermore, the library faculty who worked on or are considering a doctorate on a part-time basis discussed the importance of having flexible work schedule, supportive supervisors, as well as synergy between the doctoral education and the library work. Two participants who completed their doctorates while working full-time indicated that they used their sabbatical to gather data for their dissertations. Some connected their doctoral work with their library work, for example, by building on and publishing their doctoral work in a library and information science journal or using their library work as a lab to produce doctoral research.

Discussion

Some of the findings are new, compared with previous studies on this topic, and seem important for any librarians who are considering pursuing a doctoral degree. For example, to be successful in the doctoral endeavor, it is important to find a supportive advisor and proactively seek help. Additionally, those who plan on obtaining a doctoral degree while working full-time should find a synergy between library work and doctoral research so that they can stay productive in both.

Those who have completed a doctoral degree were generally satisfied with the benefits they obtained, such as a sense of accomplishment, improved credibility and relationships with teaching faculty, and increased research skills. These benefits seem particularly relevant to librarians with faculty status and show that doctoral education led to increased job performance, as the human capital theory (Becker, 1993) suggests, and higher status (Weeden, 2002) in terms of increased credibility.

At the same time, those who are interested and hesitating to pursue a doctoral degree discussed financial challenges, time constraints, and the lack of online or part-time options. All participants who successfully completed their doctoral degrees ($n = 10$) did so in person, although some commuted a long distance and needed family support. Libraries and institutions might consider providing job flexibility, resources, and funding to facilitate the pursuit of advanced degrees by librarians to reduce or prevent inequality/inequity, given that there are benefits to the organization as well as to individuals.

After obtaining a doctoral degree, some experienced backlash or felt challenged by colleagues without a doctorate. Librarians with a doctorate will need to negotiate their identities while being effective in their roles because they are likely to be evaluated by others who are mostly MLS holders without a doctorate. Likewise, librarians without a doctorate should reflect on their own perceptions of people with a doctoral degree, but no MLS, and consider the benefits these individuals bring to the organization.

The overarching theme among the participants who successfully completed a doctoral degree was determination or perseverance. Several participants commuted to another location to take courses while working full-time. Two participants attended multiple universities to acquire necessary credits. A few had difficulties with their advisors and needed to navigate

challenging relationships. Some talked about overcoming qualifying and comprehensive exams and successfully defending dissertations. Participant 5 commented, "I don't diminish the second master's or an MBA … But it is a different kind of experience."

Future research might interview librarians more broadly across different academic libraries so that racial/ethnic, gender, and class-related nuances can be better understood related to this research topic. As discussed earlier, we chose not to ask our participants about their racial and ethnic identities because we had confidentiality concerns for participants with marginalized identities, given the site-specific nature of this study. At the same time, some of the comments in this study signaled the importance of these dimensions. For example, one participant mentioned that white library faculty could get promoted without a doctoral degree and that librarians of color would need a doctoral degree in the competitive academic environment. A few shared that their parents or grandparents had a PhD, showing that they were privileged in a way in obtaining the degree. Women talked more about their families and wanting to balance work-family life. These topics seem important in advancing equity within the profession.

Conclusion

The benefits of earning a doctoral degree included gaining credibility and respect from teaching faculty, building relationships, enhancing research skills, and obtaining a sense of accomplishment in their library faculty roles. Challenges faced by librarians pursuing a doctoral degree were primarily related to time management and financial constraints. Financial support, including stipends, scholarships, fellowships, and employee tuition benefits, plays a pivotal role in alleviating the financial burdens associated with pursuing a doctorate. Additionally, creating supportive and responsive advising systems is essential, as advisors greatly impact students' progress and motivation. Librarians can find a synergy between library work and doctoral research, to stay productive in both. By recognizing and addressing the challenges and seeking necessary support, librarians can successfully navigate the doctoral journey and contribute to the advancement of knowledge and research within the field. Libraries and institutions can play a crucial role in supporting librarians' doctoral aspirations through financial assistance, promoting flexible work, and cultivating a supportive culture.

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The authors have no known conflict of interest to disclose.

References

ACRL Research Planning and Review Committee. (2022). Top trends in academic libraries: A review of the trends and issues. *College & Research Libraries News*, *83*(6). https://doi.org/10.5860/crln.83.6.243

ACRL. (2018, April). *Statement on the terminal professional degree for academic librarians*. Association of College & Research Libraries (ACRL). https://www.ala.org/acrl/standards/statementterminal

ACRL Research Planning and Review Committee. (2023). *2023 ACRL environmental scan*. Association of College & Research Libraries. https://acrl.ala.org/acrlinsider/2023-acrl-environmental-scan/

Anonymous. (2011). A response to McMaster University Librarian Jeff Trzeciak: From the Edmonton chapter of the PLG. *Progressive Librarian*, *36/37*, 106–107.

Baker, V. L., & Lattuca, L. R. (2010). Developmental networks and learning: Toward an interdisciplinary perspec-

tive on identity development during doctoral study. *Studies in Higher Education*, *35*(7), 807–827. https://doi.org/10.1080/03075070903501887

Baker, V. L., & Pifer, M. J. (2015). Antecedents and outcomes: Theories of fit and the study of doctoral education. *Studies in Higher Education*, *40*(2), 296–310. https://doi.org/10.1080/03075079.2013.823936

Bates, P. J., & Goff, L. (2012). The invisible student: Benefits and challenges of part-time doctoral studies. *Alberta Journal of Educational Research*, *58*(3), 368–380. https://core.ac.uk/download/pdf/236135652.pdf

Becker, G. S. (1993). *Human capital: A theoretical and empirical analysis, with special reference to education* (3rd ed). The University of Chicago Press.

Bell, S. (2011, April 13). Why all the fuss over PhD academic librarians. *ACRLog*. https://acrlog.org/2011/04/13/why-all-the-fuss-over-phd-academic-librarians/

Boncori, I., & Smith, C. (2020). Negotiating the doctorate as an academic professional: Identity work and sense-making through authoethnographic methods. *Teaching in Higher Education*, *25*(3), 271–285. https://doi.org/10.1080/13562517.2018.1561436

Caron, A., & Muscanell, N. (2022, October 31). *2023 higher education trend watch*. https://www.educause.edu/ecar/research-publications/higher-education-trend-watch/2023

CLIR. (n.d.). *CLIR Postdoctoral Fellowship Program*. CLIR Postdoctoral Fellowship Program. https://postdoc.clir.org/

Corbin, J. M., & Strauss, A. L. (2008). *Basics of qualitative research: Techniques and procedures for developing grounded theory*. Sage Publications.

Costley, C., & Lester, S. (2012). Work-based doctorates: Professional extension at the highest levels. *Studies in Higher Education*, *37*(3), 257–269. https://doi.org/10.1080/03075079.2010.503344

Department for Professional Employees. (2023, April 16). *Library professionals: Facts, figures, and union membership: 2023 fact sheet*. Department for Professional Employees, AFL-CIO. https://www.dpeaflcio.org/factsheets/library-professionals-facts-and-figures

DiMaggio, P. J., & Powell, W. W. (1983). The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields. *American Sociological Review*, *48*(2), 147–160.

Dunn, M., & Kniess, D. R. (2019). To pursue or not to pursue a terminal degree. *New Directions for Student Services*, *2019*(166), 41–50. https://doi.org/10.1002/ss.20306

Evans, T. (2002). Part-time research students: Are they producing knowledge where it counts? *Higher Education Research and Development*, *21*(2), 155–165. https://doi.org/10.1080/07294360220144079

Ferguson, J. (2016). Additional degree required? Advanced subject knowledge and academic librarianship. *Portal: Libraries and the Academy*, *16*(4), 721–736. https://doi.org/10.1353/pla.2016.0049

Ferrari, R. C. (2007). To PhD, or not to PhD: A question for art librarians. *Art Documentation: Journal of the Art Libraries Society of North America*, *26*(1), 51–55.

Furlough, M. (2011, April 12). "I'm nobody! Who are you?" Reactions to Jeff Trzeciak. *Mike Furlough*. https://www.mikefurlough.net/?p=18

Gardner, S. K., & Gopaul, B. (2012). The part-time doctoral student experience. *International Journal of Doctoral Studies*, *7*, 63–78. https://doi.org/10.28945/1561

Gerson, K., & Damaske, S. (2020). *The science and art of interviewing*. Oxford University Press.

Gilman, T., & Lindquist, T. (2010). Academic/research librarians with subject doctorates: Experiences and perceptions, 1965-2006. *Portal: Libraries and the Academy*, *10*(4), 399–412. https://doi.org/10.1353/pla.2010.0007

Hsieh, H.-F., & Shannon, S. E. (2005). Three approaches to qualitative content analysis. *Qualitative Health Research*, *15*(9), 1277–1288. https://doi.org/10.1177/1049732305276687

Huisman, R. (2011). Lifelong learning: Moving beyond the library degree. *College & Research Libraries News*, *72*(5), 288–289. https://doi.org/10.5860/crln.72.5.8565

Kember, D., Lee, K., & Li, N. (2001). Cultivating a sense of belonging in part-time students. *International Journal of Lifelong Education*, *20*(4), 326–341. https://doi.org/10.1080/02601370117754

Kennedy, M. R., & Brancolini, K. R. (2018). Academic librarian research: An update to a survey of attitudes, involvement, and perceived capabilities. *College & Research Libraries*, *79*(6), 822–851. https://doi.org/10.5860/crl.79.6.822

Li, X., & Li, T. (2021). The evolving responsibilities, roles, and competencies of East Asian studies librarians: A content analysis of job postings from 2008 to 2019. *College & Research Libraries*, *82*(4), 474–489. https://doi.org/10.5860/crl.82.4.474

Lindquist, T., & Gilman, T. (2008). Academic/research librarians with subject doctorates: Data and trends 1965–2006. *Portal: Libraries and the Academy*, *8*(1), 31–52. https://doi.org/10.1353/pla.2008.0008

Lindsay, H., Kerawalla, L., & Floyd, A. (2018). Supporting researching professionals: EdD students' perceptions of their development needs. *Studies in Higher Education*, *43*(12), 2321–2335. https://doi.org/10.1080/03075079.2017.1326025

Mandeville-Gamble, S. (2011, May 22). Fear and loathing in academic libraries: Shooting the messenger of professional change. *Outloud Librarian*. http://outloudlibrarian.blogspot.com/2011/05/fear-and-loathing-in-academic-libraries.html

Maton, K. I., Wimms, H. E., Grant, S. K., Wittig, M. A., Rogers, M. R., & Vasquez, M. J. T. (2011). Experiences and perspectives of African American, Latina/o, Asian American, and European American psychology graduate students: A national study. *Cultural Diversity and Ethnic Minority Psychology*, *17*(1), 68–78. https://doi.org/10.1037/A0021668

Mawson, K., & Abbott, I. (2017). Supervising the professional doctoral student: Less process and progress, more peripheral participation and personal identity. *Management in Education*, *31*(4), 187–193. https://doi.org/10.1177/0892020617738182

Mayer, J., & Terrill, L. J. (2005). Academic librarians' attitudes about advanced-subject degrees. *College & Research Libraries*, *66*(1), 59–73. https://doi.org/10.5860/crl.66.1.59

Michalak, R., Rysavy, M. D. T., & Dawes, T. A. (2019). What degree is necessary to lead? ARL directors' perceptions. *College & Research Libraries*, *80*(6), 752–765. https://doi.org/10.5860/crl.80.6.752

Milner, H. R. (2007). Race, culture, and researcher positionality: Working through dangers seen, unseen, and unforeseen. *Educational Researcher*, *36*(7), 388–400. https://doi.org/10.3102/0013189x07309471

Nettles, M. T., & Millett, C. M. (2006). *Three magic letters: Getting to Ph.D.* Johns Hopkins University Press.

Neumann, R., & Rodwell, J. (2009). The "invisible" part-time research students: A case study of satisfaction and completion. *Studies in Higher Education*, *34*(1), 55–68. https://doi.org/10.1080/03075070802601960

Pearson, M., Cumming, J., Evans, T., Macauley, P., & Ryland, K. (2011). How shall we know them? Capturing the diversity of difference in Australian doctoral candidates and their experiences. *Studies in Higher Education*, *36*(5), 527–542. https://doi.org/10.1080/03075079.2011.594591

Ray, V. (2019a). A theory of racialized organizations. *American Sociological Review*, *84*(1), 26–53. https://doi.org/10.1177/0003122418822335

Ray, V. (2019b). Why so many organizations stay white. *Harvard Business Review*, *November*, 1–11.

Ridley, M. (2018). Academic librarians and the PhD. *Partnership: The Canadian Journal of Library and Information Practice and Research*, *13*(1), 1–9. https://doi.org/10.21083/partnership.v13i1.3971

Saldaña, J. (2021). *The coding manual for qualitative researchers* (4e ed.). SAGE.

Taylor, E., & Soto Antony, J. (2000). Stereotype threat reduction and wise schooling: Towards the successful socialization of African American doctoral students in education. *The Journal of Negro Education*, *69*(3), 184–198.

Teeuwsen, P., Ratković, S., & Tilley, S. A. (2014). Becoming academics: Experiencing legitimate peripheral participation in part-time doctoral studies. *Studies in Higher Education*, *39*(4), 680–694. https://doi.org/10.1080/03075079.2012.729030

Timmermans, S., & Tavory, I. (2012). Theory construction in qualitative research: From grounded theory to abductive analysis. *Sociological Theory*, *30*(3), 167–186. https://doi.org/10.1177/0735275112457914

Tinto, V. (1997). Classrooms as communities: Exploring the educational character of student persistence. *The Journal of Higher Education*, *68*(6), 599–623. https://doi.org/10.1080/00221546.1997.11779003

Weeden, K. A. (2002). Why do some occupations pay more than others? Social closure and earnings inequality in the United States. *American Journal of Sociology*, *108*(1), 55–101. https://doi.org/10.1086/344121

Weidman, J. C., Twale, D. J., & Stein, E. L. (2001). *Socialization of graduate and professional students in higher education: A perilous passage?* Jossey-Bass.

Wooten, M. E. (Ed.). (2019). *Race, organizations, and the organizing process*. Emerald Publishing Limited.

Wooten, M. E., & Couloute, L. (2017). The production of racial inequality within and among organizations. *Sociology Compass*, *11*(1), 1–10. https://doi.org/10.1111/soc4.12446

Zahl, S. B. (2015). The impact of community for part-time doctoral students: How relationships in the academic department affect student persistence. *International Journal of Doctoral Studies*, *10*, 301–321. https://doi.org/10.28945/2297

Zhang, S., Carroll, M., Li, C., & Lin, E. (2021). Supporting part-time students in doctoral programs: A technology-based situated learning model. *Studies in Graduate and Postdoctoral Education*, *12*(2), 190–205. https://doi.org/10.1108/SGPE-11-2019-0082

Appendix A. Interview Questions

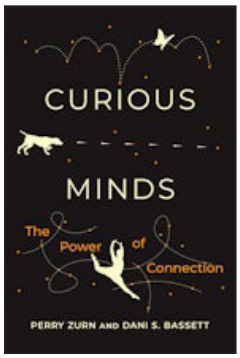
1. Background Questions:
    a. How do you pronounce your name?
    b. How would you like to be addressed?
    c. What are your pronouns?
    d. What kind of work do you do at the library?
    e. What doctoral degree did you obtain, are you pursuing, or are you considering?
    f. When did you (or are you going to) pursue a doctoral degree?
        i. IF THE TIMING IS UNCLEAR: Was it before you became a library faculty, or after you became a library faculty?
    g. How did you (or are you going to) pursue a doctoral degree?
        i. Full-time or part-time? Why?
        ii. In-person or online? Why?
2. Benefits / Goals (achieved or expected):
    a. What motivated you to pursue a doctoral degree?
    b. What benefits did you gain and/or goals did you achieve (or do you anticipate gaining and/or achieving) from getting a doctoral degree?
        i. IF UNCLEAR, ASK: Will you say more about…? What do you mean by…?
    c. What about benefits for others, by your obtaining a doctoral degree?
        i. For other students?
        ii. For faculty?
        iii. For the library?
3. Challenges:
    a. What challenges did you encounter (or anticipate) in pursuing a doctoral degree?
        i. IF UNCLEAR, ASK: Will you say more about…? What do you mean by…? What makes you think…?
        ii. IF NEEDED, SAY: Imagine you are talking to your best friend. What would you say?
4. Environment / Support Systems:
    a. What allowed you to pursue (or consider pursuing) a doctoral degree?
        i. IF UNCLEAR, ASK: Will you say more about…? What do you mean by…? What makes you think…?
        ii. IF NEEDED, SAY: Imagine you are talking to your best friend. What would you say?
5. What other thoughts do you have for a doctorate for library faculty, if any?

Appendix B. Coding Scheme

1. Background:
    a. Pronouns
        i. She/her
        ii. He/his
        iii. Other
    b. Tenure status
        i. Tenure-line
        ii. Tenured
        iii. Non-tenure-line
    c. Types of work
        i. User services
        ii. Management
        iii. Subject librarian
        iv. Research services
        v. Special Collections
        vi. Other
    d. Doctoral degree (either obtained or being pursued)
        i. D.Ed.
        ii. PhD in humanities
        iii. PhD in social sciences
        iv. PhD in STEM
        v. PhD in library science
        vi. Other
        vii. Unsure
    e. Degree status
        i. Completed
        ii. Future / planning
    f. Degree start timing
        i. Before becoming a library faculty
        ii. After becoming a library faculty
    g. Full-time or part-time doctorate
        i. Full-time
        ii. Part-time
        iii. Mixed
        iv. Unsure
    h. Instruction mode (actual or desired)
        i. In-person
        ii. Online
        iii. Hybrid
        iv. Unsure
2. Benefits / Goals (achieved or expected):
    a. Motivation
        i. Personal fulfillment

        ii. Career advancement
        iii. Job performance enhancement
        iv. Higher salary
        v. Job requirement
        vi. Other
    b. Benefits for self
        i. Gaining credibility
        ii. Learning more about research process and methods
        iii. Broadening career opportunities
        iv. Doing the current job better
        v. Building relationships & connections
        vi. Gaining a sense of accomplishment
        vii. Getting a promotion
        viii. Other benefits
    c. Benefits for students
    d. Benefits for teaching faculty
    e. Benefits for the organization/library
3. Challenges:
    a. Work-life balance
    b. Time management
    c. Financial issues
    d. Motivation (lasting)
    e. Academic advisor related issues
    f. Identity related issues (race, ethnicity, rank, etc.)
    g. Overqualification/Lack of recognition in the library
    h. Other
4. Environment / Support Systems:
    a. Convenient location
    b. Financial support
    c. Flexible doctoral programs
    d. Flexible work schedule
    e. Interesting programs and courses
    f. Supportive advisor
    g. Supportive classmates
    h. Supportive colleagues
    i. Supportive family
    j. Supportive supervisor
    k. Synergy with work
    l. Other
5. What other thoughts do you have for a doctorate for library faculty, if any?

Curious Minds: The Power of Connection, Perry Zurn and Dani S. Bassett, The MIT Press, 2022. 293p. Softcover, $22.95. 9780262547147



It was upon reading the 1999 article, "The Invisible Substrate of Information Science" by renowned information science scholar, Dr. Marcia Bates, that something clicked in my understanding of the library field as a graduate student in my MSIS program. Bates described Information Science (as well as the disciplines of Education and Journalism) as a meta-discipline (1044). Compared to conventional disciplines, the meta-discipline cuts across the spectrum of various subjects, interested more in the processes than the content of each. Suddenly, I realized the reason all my peers and professors came from such varied academic and professional backgrounds. The common link was an interest in so many different fields. Specifically, we were curious about the invisible processes of information organization, retrieval, creation, and preservation that intersect with learning and human knowledge. While written in a manner inviting to any student, Perry Zurn and Dani S. Bassett's *Curious Minds* holds a particularly unique perspective from which librarians and information professionals can find kinship and inspiration.

What new is there to say about curiosity? Zurn and Bassett challenge common understandings of curiosity as a purely acquisitional drive to fill an information gap. Instead, they present a much more compelling theory of curiosity as a practice of connection or knowledge network building in architectures of "(un)knowers, (un)knowledges, and things (un)known" (47). The authors bring a wealth of collaborative research to support this work. Provost Associate Professor of Philosophy at American University, Dr. Perry Zurn is also the author of *Curiosity and Power: The Politics of Inquiry* and has academic publications in the areas of political theory, transgender studies, and network science. Dr. Dani S. Bassett is J. Peter Skirkanich Professor of Bioengineering at the University of Pennsylvania and a MacArthur Fellow whose research blends neural and systems engineering and intersects in psychology, visual arts, and more.

Accomplished, interdisciplinary scholars and twins, Zurn and Bassett themselves have curious minds. The book begins with an introduction that serves as an outline to ground the reader for the journey ahead and traces the authors' own backgrounds and experiences with learning while discovering limitations the external world imposed upon their freedom of thinking. The equity and policing of curiosity as manifested in exclusion, access, privilege, and oppression based on gender, sex, race, ethnicity, ability, and class is central to the inquiry Zurn and Bassett excavate in *Curious Minds.* Throughout the book there is continual emphasis on the *how* of curiosity rather than the *what*. Though the authors pay attention to definitions of curiosity, the bulk of their study consists of an examination of its shapes, dimensions, movement, and geometry through the lenses of philosophy, psychology, and network science. It would be easy for any authors to get lost in communicating these complex theories to a general audience, but Zurn and Bassett successfully distill and organize the information presented in their book. Admittedly recognizing that the narrative structure will not be straightforward, they lean into the meandering nature of curiosity, inviting readers to also indulge in curiosity *with* the book rather than *about* it.

Informed by their respective expertise in philosophy and neuroscience, the chapters alternate primary authorship between Zurn and Bassett resulting in a refreshing exercise of the left and right sides of the brain. Yet, they maintain a wholly unified voice, likely due, in part, to their connection as twins. Each chapter blends into the next as the authors pick up where the other leaves off. Showing their scholarly brush strokes, they form and revise questions and develop new theories over the course of the text.

Neuroscience science may pose a steep learning curve for many librarians, as well as the average person. Yet, Bassett's explanation of the field maintains a thoroughly humanist delivery. Providing multiple illustrations and playful metaphors, they provide a background on the origins of network science and current efforts to graph the architecture and movement of individual and collective knowledge. Writing, "the shape of knowledge is much like that of Swiss cheese … a flesh of knowns interwoven with pockets of unknowns," they build upon this visual metaphor to introduce the concept of a network model (116-117).

Zurn's chapters shift from the scientific and material perspective of curiosity to its cultural history and conceptualization within philosophy and the humanities. Discerning the shapes knowledge networks take as they move from node to edge, he identifies three curiosity styles derived from figures in Western intellectual history: the busybody, the hunter, and the dancer. We may ourselves be familiar with these curious minds, those rambling and indulgent, others intensely narrow and focused, and some ingenious and artful. Individuals are not bound to one style but rather shift between them. Readers will also enjoy the Curious Bestiary found in the book's appendix which expands upon the styles into which curiosity can morph; shapes that are not static.

The authors delve deeply into these various movements of curiosity through relational connections, knowledge network growth, kinesthetic shaping, and tour both the mind and material space. In the chapter, "Curiosity Takes a Walk," the authors contemplate the humanist traditions of walking as a form of thinking and the reverse, looking at four types of walks: the philosophical, the spiritual, the environment, and the political. In this examination of traveling thought they flesh out maps and geographies of the mind and delve into how they are encoded in the brain. How does curiosity impact the neurological functions of learning and memory?

It is in these final two chapters where libraries, educators and students can find especially relevant and valuable reflection. The atmosphere in academic institutions and libraries is charged with pressure to police thinking and learning. While public libraries encounter increasing challenges to censor and restrict access to books and resources, academic librarians are tasked with teaching information literacy. Zurn and Bassett describe the brain's capacity for flexibility and adaptation and how curiosity can result in conformational change. Could this process increase understanding of implicit bias and tolerance for ideas that conflict with deeply rooted belief systems? Could it expand the individual's capacity as well as communities to adapt these systems across diverse identities?

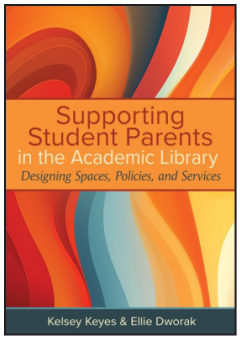
Curious Minds reimagines spaces of education and possibilities for change in neural, social, and knowledge networks. Giving credit to communities that have engaged in this kind of curious practice long before and outside of the academia, the authors turn to the case studies of neurodivergent author, Naoki Higashida, the Freedom Schools of the Civil Rights era, and Indigenous knowledge systems. They critique the academy's attachment to distinct knowledge structures and argue for a movement that allows for "flourishing ecosystems of knowledge" that focus on equity and liberation demonstrating a curiosity de-disciplined (213).

Curiosity engaged in what the authors describe as edgework, moves beyond filling information gaps by making relational connections—and breaking them. Librarians are aware of imperfect information architectures and engage in efforts to change and work around them. Instructing students how they too can make unexpected discoveries if they change a keyword or simply open themselves to new ideas can bring about the possibility for knowledge network growth. As librarians themselves operate within a meta-discipline, how is a praxis of curiosity passed along to students and educational institutions? Could the invisible information structures navigated regularly be made visible and find advocates for system change? Zurn and Bassett provide answers but generates further questions about the nature of curiosity. There is a lighthearted and rebellious spirit at the heart of *Curious Minds* that affirms the power of these small divergences in the mind to crack open streams of new connections and curious futures. — *Ginny Barnes, First Year Student Success Librarian, California State University, Fresno*

Reference

Bates, Marcia J. "The Invisible Substrate of Information Science." *Journal of the American Society for Information Science*, vol. 50, no. 12, 1999, pp. 1043–50.

Supporting Student Parents in the Academic Library: Designing Spaces, Policies, and Services, Kelsey Keyes and Ellie Dworak, Association of College and Research Libraries, 2024. 312p. Softcover, 82.00. 9798892555531



It is clear from the first pages of this book that authors Keyes and Dworak care deeply about students who are also parents, an increasing population found on college campuses. *Supporting Student Parents in the Academic Library* opens with the authors' own experiences observing student parents on their campuses and point out their relative invisibility, both in physical spaces, consideration in policies, and in the data collected at higher education institutions. They note "our point is to highlight the fact that a lack of data being collected about students' parenting status renders them less visible, and thus this group continues to be underserved" (xviii). While some chapters may digress into a discussion of higher education in more general terms rather than focusing on the library, ultimately the book is a detailed, timely, and thoughtful consideration of students who are parents, providing helpful tips on how academic libraries can support this often-ignored set of scholars.

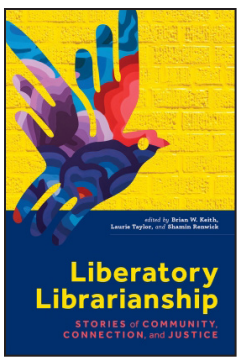
The book is divided into four parts, thirteen chapters, with the authors describing their work as "part toolkit, part treatise, and part call to action" (xxi). Each chapter opens with several learning objectives which provide scope and overview to the subject matter. Chapters close with discussion questions to encourage further thinking on how information might be relevant to readers and their campus libraries. Part 1 provides a summary of the scant data that is currently collected about student parents enrolled in higher education as well as the challenges these students are likely to encounter. Through this examination the reader is given a bleak picture of higher education reporting regarding student parents and of the data that any researcher working with this population must piece together through various reporting agencies. The authors' data gathering resulted from a survey at Boise State University and offers a glimpse at how many students are parents, the challenges they face, and what support might help them graduate (xv). The answers to the questions of "why" were missing and still need consideration. Part 2 focuses on what the authors' study did not address and pushes

the discussion beyond higher education and into the realm of university libraries, offering examples of what successful partnerships with student parents can look like. Part 3 zooms out and looks to other organizations and institutions to examine how they are supporting parenting students. Part 4 dives into how the authors collected information for the book from their own institution, including survey results and methodology. Finally, the seven appendixes provide additional materials including project plans, budgeting, and surveys discussed throughout the work. Useful "Field Notes" contained throughout the book offered sound, practical advice on integrating parenting students into library services.

The need for closer study, along with better/more data, is vital for understanding student parents. If one of the primary issues is, as the authors argue, the lack of data that even acknowledges the presence of student parents, then pointing this out early is a necessary strategy; however, the amount of detail provided in the opening four chapters can feel very overwhelming. Keyes and Dworak examine and discuss every major reporting agency, offering takeaways as well as critiques. While it is helpful to acknowledge data gaps, starting with this level of detail left little room for excitement or momentum to move beyond the (lack of) numbers and into the bountiful practical advice, which is often desired early in an informational book, particularly one that is arguing for institution-wide change.

Part 2 leads off with a thorough discussion of policies and how academic libraries can and should do better at directly addressing children and student parents in their institutional policies. Chapter 5 "explores the academic libraries of eighty of the largest four-year institutions across the United States and analyzes their policies—or, rather, lack of policies—regarding children in the library," an eye-opening examination that convincingly argues all academic libraries should directly address children and parenting students in an accessible and accepting manner within their written policies (83). These four chapters along with the final two, which discuss the authors' own survey methods, have the most practical advice for librarians looking to examine and implement changes to their own libraries. Overall, Keyes and Dworak found that student parents are a "diverse group" who are not getting their needs met (or even considered) (243). *Supporting Student Parents in the Academic Library* is a detailed and well-rounded study examining the needs of student parents and how higher education should include them in planning library services; although, the reader may do well to pick and choose the chapters most applicable to their institution and interests. — *Hannah Cole, Research & Instruction Librarian, California State Polytechnic University, Pomona*

***Liberatory Librarianship: Stories of Community, Connection, and Justice*,** Brian W. Keith, Laurie Taylor, and Shamin Renwick (eds.). ALA Editions, 2024. Softcover, 192p. $64.99. 9780838936610.



With the onset of COVID-19 in early 2020 and the growing outrage related to police brutality, libraries began thinking more critically about how to respond to systemic discrimination and oppression. *Liberatory Librarianship* proposes that libraries can support marginalized groups of people and aims to inspire librarians to work toward equality, not just through diversity, equity, and inclusion efforts, but through promoting social justice in the programming and services provided to their communities (xiii). The editors, along with chapter contributors, set out to prove that liberatory librarianship "goes beyond decolonizing." They encourage the leveraging of library

resources through collaboration and utilization of library workers' expertise to improve the circumstances of marginalized and oppressed peoples by advocating for "freedom, justice, and community" (xiv). Collectively, the authors are able to achieve this goal by providing examples of how liberatory librarianship can be applied to different settings and include marginalized populations.

Following the editor's introduction, the book begins with biographical sketches of four librarians who, by the authors' account, exemplify liberatory librarianship. The next section examines library programs that can be considered successful liberatory librarianship, followed next by chapters which discuss the ways in which DEIJ (diversity, equity, inclusion, and justice) work crosses over into the personal lives of professionals who engage with it. Part IV includes several case studies of successful (or not so successful) liberatory librarianship. For instance, Tavernier et al. summarizes a project they completed to amplify primary sources that reveal hidden histories of Black communities. The final chapter, by Dantus, introduces readers to the concept of empathy as a form of liberation and resistance. Lastly, the book's appendices include a convenient list of acronyms used throughout the chapters, short biographies on the editors and authors, and an index.

Liberatory Librarianship does a fantastic job of revealing how collaboration and community building are major keys to engaging with libraries as a form of liberation. Boies discusses how their public library worked with a partner organization to plan an event to reach an ethnic group that was facing struggles in the community. Similarly, Smith reveals how student volunteers, alumni, and community members came together to complete the "KNOW Systemic Racism" project at Stanford University, and how librarians from other parts of the world were inspired by their work (34). The far reach of a project started by a single academic library is evidence of the limitlessness of librarianship inspiring other institutions and sparking comparable undertakings. Not only do many of the case studies demonstrate how libraries have successfully leveraged community assets and partnerships to contribute to or champion marginalized groups, but the book itself stands as an example of bringing together authors from different institutions across various locations who shared similar visions.

While it is certainly worthwhile to assess the progress libraries have made in response to the pandemic, the true measure of this book's applicability will be its ability to stand the test of time. Some of the reflections provided may already have lost some of their relevancy. For example, the chapter "Unsiloed, Cross-Jurisdictional DEI," the authors discuss how they established employee resource groups and communities of practice to work towards their institution's DEI (diversity, equity, inclusion) goals. As with other chapters of the book, a primary goal of this chapter seems to be to inspire similar initiatives at other institutions; however, libraries across North America have already made DEI a priority in the last few years (Ciszek, 2020). Furthermore, the American Library Association (ALA) has incorporated equity, diversity, and inclusion tenants in its web pages during and since 2020. For instance, in June of 2020, the ALA issued a statement on its website claiming to have perpetuated racism in the past and vowed to make the professional association more equitable (American Library Association, 2020). This is not to say that DEI itself is irrelevant. Certainly, DEI is a priority for libraries; however, inspiring others to start DEI initiatives at their institutions may not be entirely worthwhile considering that most institutions have already done so. In addition, as Ciszek (2020) suggests, DEI alone is not enough to achieve liberation, and it may be time to

move on to advocating for social justice , which is another indicator why some of the chapters of this book fall short of relevancy to the current moment.

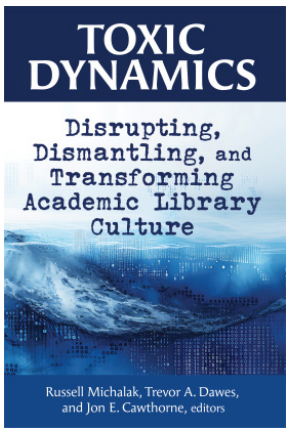
In conclusion, *Liberatory Librarianship* is worth the read to find inspiration and/or if there is interest in learning more about the initiatives that libraries have engaged in since the public's call for increased diversity, equity, and inclusion. However, even though some chapters do go beyond DEI and instead use terms such as "justice" and "resistance," there are few examples in this book of engagement with social justice beyond representation and accessibility, towards the dismantling of current systems to liberate oppressed peoples through librarianship the way the title suggests it does. — *Nadya Lim-Douglas, Librarian, Ontario Tech University*

References

American Library Association. (2020, June 26). *ALA takes responsibility for past racism, pledges a more equitable association*. https://www.ala.org/news/2012/01/ala-takes-responsibility-past-racism-pledges-more-equitable-association

Ciszek, M. P. (2020). Moving from diversity to equity and inclusion with social justice as the goal. In Christine Bombaro (ed.), *Diversity, equity, and inclusion in action: Planning, leadership, and programming* (pp. 1-11). ALA Editions.

Toxic Dynamics: Disrupting, Dismantling, and Transforming Academic Library Culture, Edited by Russell Michalak, Trevor A. Dawes, and Jon E. Cawthorne, Association of College and Research Libraries, 2024, 347p. Softcover, $90. 9798892555517



Toxic Dynamics: Disrupting, Dismantling, and Transforming Academic Library Culture, edited by Russell Michalak, Trevor A. Dawes, and Jon E. Cawthorne, is a comprehensive examination of the pervasive issue of toxic workplaces within academic libraries. Each chapter is authored by different contributors, bringing a rich diversity of perspectives and expertise to the subject. The book's primary argument is that toxic dynamics in academic libraries are a significant barrier to effective and healthy work environments. The chapter authors argue that toxic workplaces are often a result of poor leadership, systemic inequities, and institutional failures. They emphasize the need for supportive leadership, clear definitions of workplace toxicity, and actionable steps to address these issues. The introduction sets a clear roadmap for the book, emphasizing its relevance to a broad audience within the academic library community. The chapters are credible and each of the authors communicate clearly to a general academic library audience. There are many unfamiliar terms and acronyms in the book, but each author explains and defines the terms used in their chapter. While there is already literature on this subject, many of the chapters address more nuanced topics relating to toxicity which have not received as much attention in the literature. The book is organized so that the early chapters lean more heavily on defining toxic workplaces and the following chapters lead into case studies and more specific topic areas.

Each of the chapters provides a thorough literature review, some more in-depth than others. The methodology varies across chapters, including case studies, an auto-ethnographic approach, action research methodology, as well as multiple chapters that derive insights from the source material in the literature review. This variety allows for a comprehensive exploration of the topic from multiple angles. For instance, the

use of autoethnography in Chapter 9 provides a personal account of working in a toxic environment, which is both validating and insightful. The thorough literature reviews throughout the book support the material presented, highlighting topics ranging from leadership failures and their impact on personnel and unions as well as consolidations of higher education institutions (HEIs).

Chapters also include practical advice and/or recommendations on how to implement changes, improve work environments, or what steps individuals can take. Most recommendations emphasize the significant role management and leadership have in fostering a healthy work environment; however, not all recommendations are targeted to upper management. Many of the suggestions are directed at individuals looking to make personal changes, groups of like-minded individuals who are interested in forming a community of practice, professional organizations who should be rising to the occasion, as well as the entire field of academic librarianship.

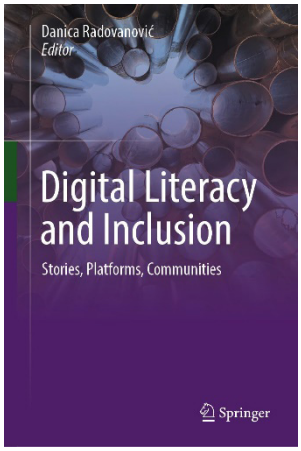
One of the book's strengths lies in its clear definition of a toxic workplace, in multiple chapters, which is crucial for readers to identify and understand their own experiences. Yet, the book is not without its weaknesses. Some chapters, such as Chapter 4, suffer from a lack of clarity in their arguments, with terms like "misrepresentation" not being adequately explained. Additionally, while the book provides numerous actionable steps, some recommendations are based more on personal experiences than empirical data, which may limit their generalizability.

The book is highly relevant to current trends and issues in academic libraries, such as public programming, accessibility, and technology integration. For example, Chapter 10 examines digital scholarship and proposes a feminist approach to balance expectations and team dynamics. This chapter highlights the gender disparities in digital scholarship, where maintenance work is often undervalued compared to innovative work, typically dominated by men. The book also addresses the dynamics between tenure-track and tenured librarians, generational disparities, and the lack of mentoring, which are critical issues in today's academic libraries. The emphasis on systemic inequities and the harm caused by patriarchal white supremacy in Chapter 6 is particularly timely given the ongoing discussions about diversity, equity, and inclusion in the workplace. The chapters illustrate the challenges of implementing change and the importance of supportive leadership.

Toxic Dynamics makes a significant contribution to the literature on workplace toxicity in academic libraries. It addresses nuanced topics and provides real-world examples and recommendations for leaders and staff. The book is well-organized, with each chapter building on the previous ones to create a comprehensive understanding of the issues. It is a valuable resource for academic librarians, particularly those in leadership positions, but also for anyone interested in improving workplace dynamics in academic libraries. The book is highly recommended for deans, directors, and senior administrators, but it also offers significant insights for all library workers, leaders, managers, and educators. It offers practical insights and actionable steps for addressing workplace toxicity, making it a valuable addition to any academic library's collection. This book is directed at individuals with multiple chapters imparting real-world examples and recommendations for leaders as well as employees to implement at their own institutions. Most importantly, this book is validating to those working in toxic environments. Whether you are a senior administrator or a library worker, *Toxic Dynamics* provides the tools and knowledge needed to foster a

healthier and more supportive work environment. — *Ruthann Mowry, Curator of Rare Books and Manuscripts, Rare Book & Manuscript Library, University of Illinois Urbana-Champaign.*

Digital Literacy and Inclusion: Stories, Platforms, Communities, Danica Radovanović (Editor), Springer, 2023, 218p. eBook, $79.99. 9783031308086



Danica Radovanović is a senior associate researcher at the University of Oslo (UiO) and has explored the topic of digital literacy in various prior publications. Her focus on digital literacy is particularly compelling, as she offers new and diverse perspectives on the general public's interactions with digital platforms on the internet. *In Digital Literacy and Inclusion: Stories, Platforms, Communities*, Radovanović focuses on the main topic of updating the concept of digital literacy, which is discussed through various practices and applications of digital literacy in several countries and regions. The book's discussions on digital literacy and inclusion are backed by a strong theoretical framework and diverse case studies. It highlights the challenges in promoting digital literacy and presents the digital divide on three levels, advocating digital literacy as a practical solution that incorporates education and digital upskilling. Ultimately, Radovanović demonstrates that digital literacy not only helps overcome access barriers but also empowers individuals to use technology effectively for tangible benefits in daily life.

The book is written in a very clear and transparent manner. The use of technical vocabulary is explained with excellent definitions and visualizations so that complex ideas about digital literacy and digital inclusion can be easily conveyed to general readers. The selection of contributors who come from various backgrounds is also a benefit because it presents varied discussions but is still aligned with the book's primary thesis; discussions are written systematically and coherently making each chapter easy to understand, eliminating confusion. This book does not focus on a particular group or country or target a specific audience, so any interested reader can read and enjoy it. Although detailed, the discussion and concepts in each chapter are not difficult to read and understand, mainly due to the underlying theoretical foundations and solid academic references used.

The ideas presented in the book are written effectively and coherently through relevant explanations and case studies. Each chapter not only presents research findings but also provides critical reflections that enrich the reader's perspective on digital literacy, digital citizenship, critical skills development, and digital inclusion. The discussion begins with the opening chapter by Radovanović, who explains that digital literacy is no longer just about technical skills but also about a critical awareness of how technology is used by people in their daily lives.

The opening chapter's discussion continues in Part 1, which includes four chapters. This section expands on critical culture and digital literacy, highlighting two key approaches: a participatory approach that promotes transparency in privacy data (Chapter 2) and a creative approach that encourages community involvement in the digital society (Chapter 3). The author also addresses the challenges digital users encounter, with Chapter 4 addressing the risks of cybercrime and the need for deeper digital literacy, and Chapter 5 focusing on the need for more inclusive and coordinated internet policies in developing Southeast Asian countries to bridge the digital divide.

While Part 1 highlights the necessity of developing digital skills, Part 2 addresses strategies to enhance digital literacy and the associated challenges. Chapter 6 reveals how the COVID-19 pandemic widened the educational gap for underprivileged Australian students, who faced significant barriers to digital skills and access. Despite these setbacks, the pandemic also accelerated digital transformation in education, work, and social interactions. However, genuine digital inclusivity remains out of reach. Chapter 7 explores student engagement with social media and takes a closer look at sharing academic content to enhance critical thinking skills. Lastly, Chapter 8 examines the TikTok algorithm and its influence on young people's digital experiences. Digital ethnography reveals that users develop digital skills and learn to navigate algorithms via their interactions on the given platform.

The next set of ideas on digital literacy in the context of global issues is discussed in five chapters in Part 3, which is the most complex portion of the book. First, the discussion begins with the impact of digital transformation on agriculture in the Global South, highlighting the challenges faced by farmers who produce more than 70 percent of food and the importance of digital literacy to improve their economic well-being. Chapter 10 addresses the challenges of digital inclusion in rural Australia, stressing the need for digital skills and infrastructure. In Chapter 11, the focus turns to community networks in Latin America as a solution to improving digital literacy, with the role of local internet service providers providing cultural training. Chapter 12 evaluates a digital skills intervention in a semi-urban South African community, pointing out that the program's success depends on understanding the factors that influence digital literacy, not just technology access. Chapter 13 concludes with a discussion of digital health literacy in Uttar Pradesh, India, during COVID-19, showing how the state helped health workers access and disseminate critical information and improve long-term health indicators.

There are many contributors to *Digital Literacy and Inclusion* and each idea or topic is separate from the others. The book presents its complex ideas in a detailed manner, using an academic style that manages to engage and inspire readers. It does not target a specific audience and is suitable for anyone seeking a comprehensive understanding of digital literacy. This book is an invaluable resource for information and library science students focusing on digital literacy research and studies. It is also well-suited for college and public libraries, which can attract a broad readership.

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— *Arya Wijaya Pramodha Wardhana, Master's Student, Universitas Indonesia*