

Ongoing Changes in Virtual Reference and Online Instruction in Academic Libraries

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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-

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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.

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

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%

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

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 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.		

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 (CJ-CLS), 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>.
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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>.