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Top Trends in Academic Libraries

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2021–22 ACRL Research Planning and Review Committee

Top trends in academic libraries

A review of the trends and issues

This article summarizes trending topics in academic librarianship from the past two years–a time of tremendous upheaval and change, including a global pandemic, difficult reflections concerning racial justice, and war between nation states. Rapid changes and uncertainty from these events have created a significant amount of shifts to academic libraries, higher education, and society in general. Such shifts have yielded new perspectives and innovations in how librarians approach delivering services, supporting student success, managing staff and physical spaces, embracing new technology, and managing data. This report attempts to provide a snapshot of developments worth noting.

COVID-related trends

The impact of the COVID-19 pandemic on academic library services has been significant, and these changes, in many cases, are ongoing. The issues identified below transcend the period covered by this review as libraries face a fundamental shift that will extend far into the future and beyond the pandemic. In early 2020, nearly all academic[1] and public[2] libraries closed temporarily and shifted towards virtual services. Despite in-person closures, libraries continued online services,[3] kept their communities informed,[4] and adopted innovative collaborations[5] and technologies to adapt to changing circumstances. These closures and the institutional changes that enabled them had a significant and diverse impact on librarianship, including rethinking long-held paradigms,[6] increased professional stress around institutional budgets,[7] and the ability to work remotely.[8] The pandemic also surfaced long-standing issues of inequality[9] and inaccessibility[10] in libraries. Despite the challenges raised by closures, libraries continued to deliver core services and creative solutions, including virtual reference with increasing complexity,[11] a renewed focus on digital literacy with the rise in online learning,[12] and born-digital collection development.[13]

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Library staffing challenges

Since early 2020, the pandemic and racial justice protests have drawn increased attention to several trends in library and higher education staffing. Inequities between librarians and other library staff were heightened. One study found many lower-income and lower-status staff were required to work in-person to a greater degree than librarians and administrators.[14] The contradiction between the necessity of these "frontline" and "essential" positions and their lower-rates of financial compensation has become difficult to ignore. Such staff, often quite ably, perform duties that had previously been the purview of credentialed librarians.[15] Additionally, the Bureau of Labor Statistics note that while workers of color represent 25% of the higher education workforce, more than half of individuals who lost jobs during COVID-19 have been nonwhite.[16] Lingering pandemic impacts, such as budget cuts and hiring freezes, have led to inadequate staffing,[17] even as services have largely returned to pre-pandemic levels. Of note is that, partly in response to university pandemic austerity measures, Northwestern University's library workers announced their unionization with SEIU Local 73, which has been recognized by the university.[18, 19]

Low morale continues to be an area of concern in librarianship,[20, 21] particularly for librarians of color, nonlibrarian staff,[22] and members of underrepresented groups. Stress from caretaking responsibilities for workers who lost childcare or other forms of support during the pandemic has exacerbated issues of esprit de corps and well-being in the workplace. For academic librarians, who are pre-tenure or otherwise expected to contribute publications and presentations to library scholarship (and already at a high-stress time in their careers),[23] the pandemic has created additional challenges to those with caretaking responsibilities, particularly women.[24, 25] These workers already experience burnout at higher rates.[26] Future research concerning recruitment and retention may also investigate the benefits and repercussions of library staff working remotely and wanting to continue doing so.

Space utilization

COVID has thrust the physical spaces of libraries, along with most campus facilities, into the forefront of faculty, staff, and student consciousness over the past two years. Balancing demands for the use of current spaces, increases to construction pricing that may extend projects into 2023, and aligning current capital budgets to this reality continue to impact decisions about how existing spaces will evolve in the near future.

Beyond maintaining appropriate distancing or providing adequate sanitization, librarians operating physical facilities are asking questions, including whether and how to operate in-person collaboration spaces safely (for both users and staff), how to provide resources consistently during waves of openings and closures, and how to assess and address patron and staff levels of comfort interacting in a physical space. Rapidly changing methods of service delivery, information access, and materials storage are continuing to generate questions that may possibly reshape the reliance on centralized, in-person settings as more options move online or become embedded externally.[27]

Simultaneously, key trends in library design continue to be reassessed and may help inform librarians in the near future. For instance, one study from the University of Nebraska-Lincoln argues that recent trends in library space have overcommitted to collaborative learning spaces at the cost of providing valued space for intensive academic work.[28] Daejin Kim, Sheila

Bosch, and Jae Hwa Lee investigated, pre-COVID, how collaboration spaces are used and found that furniture or spaces intended for multiple people are frequently being used by single individuals.[29] Similar studies looking at more nuanced patron needs find that, much like evolving workplace trends, users want a wide variety of space types with different acoustical, privacy, and technology needs according to the work undertaken.[30] Recent studies in other academic settings point to taking this moment of change to pilot new layouts or space configurations that align better with current service needs and that are more activity-based rather than based on type of occupant or user.[31] A multiplicity of trends dominate discussions surrounding space. Accordingly, it is clear that local institutional factors ranging from budget to different use cases will continue to influence how space is allocated, constructed, and used.

Collaborative collections and growth of shared print

While there is a long history of libraries working together to preserve and provide access to rich collections, collaboration around shared print programs has rapidly accelerated in recent years. By creating a collaborative collection, which "elevates the concept of a library collection to scales above a single institution, extending its boundaries to encompass the resources concentrated among a group of libraries,"[32] these programs help research libraries to fulfill their mission to preserve the scholarly record in an era of changing usage, limited funding, and space constraints.

With an initial focus on print journals, shared print programs have matured and evolved to include print monographs more recently. According to Susan Stearns and Alison Wohlers,[33] "over 300 academic and research libraries in the U.S. and Canada participate in some form of shared print program, committing to archive or retain tens of millions of monographs and hundreds of thousands of serial and journal print titles." A major factor in the growth of shared print monograph initiatives was the launch of the HathiTrust Shared Print Program, which "has now secured commitments on more than 5.4 million individual titles held in the HathiTrust Digital Library."[34]

However, as these programs have grown, so has the need for more coordination, standards, and infrastructure. Several groups have been launched in recent years to tackle these issues. In 2015, the Rosemont Shared Print Alliance was founded to coordinate among regional shared print journal programs in order to archive more titles and ensure sufficient copies are preserved.[35] As a complementary organization, the Partnership for Shared Book Collections was founded in 2019 to collaborate around shared print monographs, aiming to "reduce the cost of retaining the scholarly record" and "develop and promote evidence-based best practices."[36] Recently the California Digital Library, the Center for Research Libraries, and HathiTrust announced a collaboration around shared print infrastructure intended to develop standards, workflows, and tools to support collaborative efforts and embed shared print work into the lifecycle of collection development and management.[37] In addition, groups such as the Big Ten Academic Alliance, the University of California Libraries, and the Canadian Collective Print Strategy Working Group have embarked on their own initiatives to take more strategic and intentional approaches to collection development and management in light of their shared print collaborations.[38]

Finally, it is worth noting that controlled digital lending (CDL) is an emerging trend where libraries "circulate temporary digital copies of print books they own in a one-to-one ratio of 'loaned to owned,' removing the print copy from circulation while the digital copy is in use."[39] ACRL has signed a statement in support of CDL.[40] CDL advocates argue that reasonable interpretation of copyright law should insulate libraries from legal exposure; however, the legality of CDL remains an open question.[41]

Open everything

The open access (OA) movement to "make scholarly works both freely available and reusable" continues to be important for librarians, educators, and administrators in higher education.[42] Yet, as Ángel Borrego, Lluís Anglada, and Ernest Abadal, state, the "landscape of scholarly communication is characterized by increasing costs and limited access to research output."[43] Numerous barriers exist ranging from economics to policy that prevent widescale adoption in higher education of executing scholarly communication strategies that would be considered open access. Issues with increasing subscription costs for academic journals are well documented.[44] While librarians typically report favorable beliefs about OA there is a noted lack of OA policy.[45] A report from Hannah Rosen and Jill Grogg, states "while both formal and informal policies exist. . ." regarding OA scholarship, data, and open educational resources, most institutions do not have policies in place "resulting in a scatter-shot approach to open content of all types and less than cohesive institutional strategies."[46]

In addition to further opportunities regarding OA training and outreach, librarians also have opportunities to help with the "identification of, and sometimes deposit into the institutional repository of works that are sitting outside the peer reviewed literature," often called gray literature.[47] Barriers continue to exist for accessing and using open access information. Some scholars are concerned that open access materials are not understandable to the general public, defeating the point of making such materials open and accessible in the first place.[48] For such reasons there is an increasing call for articles to use a "significance statement," which describes an article concisely in plain language understandable to a lay audience.[49]

The COVID-19 pandemic has provided opportunities for various types of OA content to become more widely available and served as "proof of concept" for what is possible.[50] For instance, OA resources were viewed as important for providing off-campus access to library materials in some developing countries.[51] Some publishers recognized the public health importance of providing timely information related to COVID-19 and committed to open access publication of articles relating to it.[52] Worthy of note were the use of preprint servers by scientists, which "in effect [were] crowdsourcing rapid expert peer-review."[53] Europe developed an open access publishing initiative—Plan S—in 2018 with support from national research agencies and 12 European countries. As of 2020, notable journals like *Nature* announced they would facilitate Plan S committing to publishing with full open access in the future.[54]

The Scholarly Publishing and Academic Resources Coalition (SPARC) tracks "Big Deal" cancellations, which continue to occur. For instance, Purdue University canceled a $3.3 million contract for 2020 opting instead for a one-year, title-by-title contract for 2021, while New Mexico State University pointed out both inflationary journal prices and COVID-19

considerations while cutting their collections budget by $800,000 for fiscal year 2021.[55] Some universities and consortia are seeking "transformative agreements," which promote open access publishing by their authors and allow those authors to maintain copyright. Transformative agreements facilitate a more transparent journal licensing process and aim to shift the focus of "scholarly journal licensing from cost containment towards open access publication."[56]

Many facets of the OA movement continue to develop. As libraries continue more aggressive journal subscription negotiations, which may include transformative agreements, as well as possible Big Deal cancellations,[57] more questions will develop about the future of access to scholarly materials. This is multivariable including open data, open educational resources, and OA policies, tools, and advocacy. Combined with the results of unanticipated experiments born from COVID-19, OA continues to be a focal point for academic librarians and administrators.

Artificial intelligence

Artificial intelligence (AI) is being increasingly embedded in academic libraries tools and services. Pattern recognition,[58] AI-powered text recognition, transcription, and searching of historical documents[59] are prime examples that facilitate search and discovery. Keenious, cofunded by the Horizon 2020 program of the European Union, is a research tool for document and writing analysis, attempting to make online research easier.[60] Cactus Communications (CACTUS) recently announced a new AI-powered tool, Paperpal Preflight, "to improve the scholarly publishing experience for researchers, peer reviewers, and journal editors" during the manuscript submission process.[61]

The adoption of AI in virtual reference services provides a new online model for libraries by using "chatbots."[62] Recent attempts to automate standard library operations, such as cataloging, through expert systems have focused on simpler tasks like descriptive cataloging.[63] A team of researchers from the National Library of Norway describes an experiment that uses AI methods to automatically group articles and assign Dewey Decimal numbers to aid in cataloging.[64]

The Library of Congress is experimenting with neural networks and the use of computer vision. The intent is to create new online search prototypes that can sort through large amounts of data in new ways, such as examining and contextualizing millions of digitized items that humans could not do alone.[65] Other experimental work like the Newspaper Navigator aims to explore the visual and textual content via AI.[66] At Yale's Digital Humanities Lab, data-mining techniques are used to illuminate the conventions of portraiture and other visual genres in the 19th century.[67] Leaders, such as Eun Seo Jo and Timnit Gebru, have drawn archives as a model for data collection and annotation in order to inform how decisions that surround fairness, accountability, transparency, and ethics are addressed in machine learning systems.[68]

In the Netherlands, concerns that surround data, information ethics, and data-driven public management have been captured under the Data Ethics Decision Aid (DEDA) to use a deliberative rather than rule-based approach to ethical concerns and advance the development of responsible data practices.[69] It is also important to acknowledge cybersecurity concerns as AI becomes more and more embedded in systems routinely used in libraries.[70]

While AI technologies could be harnessed to provide more tailored search results, monitor social distancing, and integrate the library into personal assistants,[71] it can also help academic libraries demonstrate real value to institutions if it is used judiciously. Asaf Tzachor et al. expressed concerns stemming from urgency in adopting these technologies along with the challenging ethical issues and risks that can arise in a crisis—the COVID-19 pandemic prevention and response is one example.[72] At the same time, AI's potential has remained largely untapped among research libraries. A recent Ex Libris survey revealed that while nearly 80 percent of research librarians are exploring the use of AI and machine learning, only about 5 percent are currently leveraging the technology.[73]

Data

Higher education faces increased challenges with the surging interest in big data. The need to invest in training skilled employees, increase repository capacity, and assign and clarify responsibilities[74] remains critical as libraries and librarians continue to take on leadership roles[75] and provide data services. Those vanguard libraries that were the first to offer services have begun to evaluate programs,[76] services,[77] and tools[78] and make adjustments focusing both on usability for the owner of the data to upload and share data sets and discoverability of those data sets for the end user. The body of literature associated with research data management services in libraries and skill development has reached the point where literature reviews and scoping reviews are looking back in time to draw conclusions and offer suggestions to advance the field and the libraries' role.[79]

Data mining proves itself as an emerging field as well, especially when linked to the Internet of Things (IoT). A recent study using both Clarivate Analytics Web of Science and Sciverse Scopus revealed that knowledge discovery in databases are paving the way to make data increasingly more meaningful.[80] Along these same lines, data analytic methods are constantly changing with the ever-increasing volume of data generated. As a result, "cloud-based AI activities are expected to increase five-fold by 2023,"[81] which could translate into a greater capacity "to store data in a cost-effective manner and glean more actionable insight from IoT data."[82]

Data curation remains an overarching role for the library.[83] The term *active curation,* involvement of the curator from collection and development of the data set to its final analysis and storage,[84] will continue to expand as librarians become more embedded in the data life cycle. Additionally, institutions of higher education continue to show a growing interest in data science education. Based on the study conducted at Purdue University in 2017 to examine the roles of academic libraries to support data science education curriculum, results showed that "hard-core" scientific courses for third- and fourth-year STEM students were most common as opposed to offerings in data-oriented skills, such as data management, data ethics, and data communications.[85] At schools of information, a group of instructors who teach data curation have expressed the importance of integrating both research and teaching in the curriculum. The objective would give students opportunities to develop core competencies, learn about data librarianship and practices to support preservation and access, and broaden their professional horizons by gaining a greater awareness with multidimensional problems of working with data.[86]

Finally, in light of the growing prominence of data, data visualization skills continue to be highly valued, and visual results can be interpreted as a research product and form of expression. Libraries are taking a greater interest in data visualization as they seek to tell their own story, including assessment, value of the library, collection analysis, and internal capacity building.[87]

Critical librarianship

Critical librarianship continues to be an important theoretical perspective for information professionals. Rooted in critical theory (originally denoting a group of Marxist philosophers but over time scholars in many fields now employ *critical theory* or *critical approaches),* critical librarianship challenges traditional concepts in librarianship.[88] For instance, critical librarianship argues that libraries are not neutral and challenges librarians to take active steps toward antiracist and antioppresive practices both for the benefit of users but also for the benefit of the profession itself.[89] As libraries continue to aim for accessibility and more welcoming spaces, scholars familiar with critical librarianship, urge library workers to take meaningful action to include its teachings in their daily practice–referred to as *praxis.*[90] With little diversity in the library professions,[91] and many critiques of popular approaches to information literacy, for instance the ACRL Framework for Information Literacy for Higher Education's lack of acknowledgement of the underlying power structures in which academia operates,[92] critical librarianship argues that there are numerous opportunities for librarians to fight inequity, racism, sexism, and other problems through concrete action.

One facet of critical librarianship and critical pedagogy is critical information literacy (CIL). CIL literature discusses why and how information professionals should ask questions about power dynamics within academia, equal access to information, and the economic incentives around how information and data are created, stored, and used. CIL scholarship also critiques academia itself. As with other teaching and learning theories, CIL is constantly evolving and must be adapted for students in different course levels and in different course subjects.[93] Margaret Rose Torrell examined implementing CIL when using a writing across the curriculum approach with undergraduates, and highlighted the benefits of having more than a one-shot session with students.[94] Marcia Rapchak employed CIL with graduate students who were "eager to engage in discussion and material," such as case studies, essays, and self assessments.[95] L Sofia Y. Leung and Jorge R. López-McKnight taught LIS students and found that including and centering intersectionalities such as race and gender in their pedagogical approach allowed them to be better teachers.[96] Erin Fields and Adair Harper incorporated CIL and open pedagogy into a university course and found that by using non-academic sources and student work, their students were more empowered to work within and assess the current information landscape.[97]

Critical approaches to librarianship and information literacy will likely continue to be an area of exploration for LIS scholars.

Final note

We foresee numerous challenges in the next few years, including potential budget reductions as well as questions about returning to the physical office after an extended period of virtual work. We are also excited that new opportunities for collaboration, additional

interest in critical perspectives, and incorporation of different approaches to manage shared collections will allow academic librarians to continue leading the way in student success and learning, organizational impact, and rigorous scholarly inquiry.

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