Scholarly communications training: Professional development for the next generation of scholars

By: Anna R. Craft and Samantha Harlow

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Abstract:

Many campuses are seeing increased needs for support in scholarly communications areas such as open access, research identity management, scholarship metrics, and related topics. This article discusses a professional development program that addresses scholarly communications needs for online and in-person graduate students and faculty at UNC Greensboro (UNCG), through a collaborative, interdepartmental effort that brings together librarians from the departments of Research, Outreach, and Instruction (ROI) and Technical Services. The authors provide a brief overview of the literature related to scholarly communications needs and training in academic libraries and discuss the UNCG program's inception, modules, format, assessment, and future directions.

Article:

Introduction

Like many academic campuses, the University of North Carolina Greensboro (UNCG) is witnessing increasing requests for scholarly communications assistance and training. The UNCG University Libraries Technical Services Department holds primary responsibility for a number of scholarly communication services and initiatives, including open access publishing and institutional repository ingest and user support. Other areas, including support for research data management and open educational resources (OER) are supported through highly collaborative relationships between personnel in Technical Services and Research, Outreach, and Instruction (ROI). ROI librarians have primary responsibility for liaising with academic departments, including providing outreach, instruction, and research consultations to faculty and students.

Because of their working relationships with faculty and students, liaison librarians often receive direct requests for scholarly communications assistance from users in their assigned departments.

UNCG graduate students, instructors, and faculty are increasingly asking questions about open access, research data, how to get published, copyright, predatory journals, and related topics. In an effort to address these needs, librarians from Technical Services and ROI have entered into an ongoing collaboration to develop a series of workshops on scholarly communications topics. Graduate students are the target audience for many of these workshops, with the goal of introducing new researchers to scholarly communications topics and concepts early in their academic careers; but sessions have also been open to faculty and other campus personnel. To date, workshop modules have included open access, researcher identity management, scholarship metrics, scholarly communication basics, and research data management. In order to meet the needs of distance instructors and graduate students, as well as fit into the busy schedules of all University Libraries patrons, these workshops have been offered in-person and online. These workshops deliver much-needed information to UNCG graduate students and other researchers, while also improving understanding of and communication about scholarly communication services within the Libraries.

Literature review

Many academic libraries are hiring scholarly communication positions in order to address the unique and sometimes complex research support needs of their patrons (Radom et al., 2012), but with a lack of a dedicated scholarly communications department or position in the UNCG University Libraries, personnel in Technical Services and instructional liaison librarians in ROI are tasked with addressing many of the campus's educational needs related to scholarly communication. While these research needs are growing, academic populations—both in general higher education and at UNCG—are increasingly shifting to include more online instruction, with some programs going fully online. As of the Fall 2018 semester, almost 37% of graduate students at UNCG were classified as online students, often being taught by online instructors, with both populations sometimes living at a distance from campus (UNCG Office of Institutional Research, 2018). In order to offer equitable services and support to distance and in-person users, UNCG librarians are working to make scholarly communication education and training available to all patrons.

Professors, instructors, and graduate students—both on-campus and distance populations—often have demanding schedules; therefore finding an ideal time to bring a diverse audience to campus for research workshops can be challenging. With digital projects and methodologies on the rise in research, as well as student and instructor populations shifting to be more virtual, it is vital for librarians to implement collaborative, virtual, and asynchronous approaches to developing and implementing scholarly communication workshops. While there are many studies focusing on library online modules or courses on information literacy concepts that might include scholarly communication topics (Clapp et al., 2013; Gonzales, 2014; Paulson & Laverty, 2018; Zakharov & Maybee, 2019), there is a gap in the distance learning librarianship literature regarding creation of modules or tutorials that are specific to scholarly communication needs and topics.

Given this gap in the literature, it is important to consider existing knowledge and experiences of academic faculty and authors concerning scholarly communication needs. One area of importance is considerations related to publishing in open access journals; gauging author perceptions in this area can assist librarians in planning outreach and programing to meet these needs. A number of academic librarians have interviewed and surveyed authors about their perceptions on open access (Heaton et al., 2019; Laughlin-Dunker, 2014; Rodriguez, 2014; Swoger et al., 2015; Tenopir et al., 2017). At Utah State University, a survey paired with analysis of Scopus data examined why authors tend to publish in open access venues; results revealed that this decision is affected by faculty's ability to pay open access fees, how their departments receive the idea of open access publishing, and a sense of altruism to the field of academia and learning (Heaton et al., 2019). Article processing fees (APCs) and access to funding is one of the major barriers that faculty face when considering open access publishing opportunities; global and language disparities within scholarly journals can also be an issue (MoChridhe, 2019). A survey sent out across four universities to a variety of academic authors found ambivalence from many participants about open access publishing, showing a clear role for libraries in educating authors and future scholars, in addition to providing open access funding opportunities (Tenopir et al., 2017). While faculty perceptions are important, higher education administrators and library directors can also have a role in shaping scholarly communications programing within libraries (Reinsfelder & Anderson, 2013).

In addition to open access publishing support and education, universities and colleges with institutional repositories can use those systems to help identify and analyze their open access and scholarly communication needs. Examining open access citation data from an institutional repository (IR) can help librarians demonstrate the scholarship's impact and can provide opportunities for improving research support services (Antelman, 2004; Arendt et al., 2019). At Montana State University, librarians looked at citation data from their IR and used this analysis to inform scholarly communication programing (Sterman & Clark, 2017). But while many academics have embraced the sharing of open access scholarship, there are frequently disparities between IR policies and traditional academic publishing conventions, and these contradictions can be confusing for authors (Cullen & Chawner, 2011). Librarians can play a role in helping scholars understand the differences between traditional publishing and open access sharing models.

A significant body of library literature discusses scholarly communication outreach and programing for university patrons, and many studies find that collaboration across the institution is key (Cantrell & Johnson, 2018; Eddy & Solomon, 2017; Fong, 2019; Schulte et al., 2018; Senseney et al., 2019). Even solo librarians at small academic institutions can benefit from partnerships to scaffold this type of instruction (Rios, 2019). College and university library patrons are busy, and finding ways to encourage attendance and participation is key to successful research programing, as well as securing funding for workshops, even on a tight budget. The literature provides many examples of collaborative opportunities that can further scholarly communications education. Fong provides a framework and recommendations for building collaborative workshops for graduate students in their article about grant-funded scholarly communication boot camps (2019). Researchers are increasingly pursuing digital and interdisciplinary scholarship, so looking at digital humanists to study and collaborate with for scholarly communication education can provide inspiration for partnerships and programing

(Coble et al., 2014; Senseney et al., 2019). Working with students on open access and university policies can be a way to directly influence a student's research identity (Cantrell & Johnson, 2018), and creating learning communities for faculty to engage in conversations about research is an effective way to form lasting connections for researchers to scholarly communication topics (Bazeley et al., 2014).

The formation of relationships between liaison librarians and technical services personnel can be vital to creating successful research workshops. Research liaison librarians are usually on the front lines of working with graduate students and faculty; this expertise, combined with that of functional specialists on open access, institutional repositories, research identity, research data management, and other research topics, can help build a worthwhile hybrid consultancy approach for scholarly communications education (Eddy & Solomon, 2017; Southall & Scutt, 2017). Library literature shows that cross-departmental collaboration is crucial to the formation of successful scholarly communication outreach and programing; this approach helps create a sustainable model for education to patrons (Harrison, 2018; Southall & Scutt, 2017).

Inception: Developing collaborative scholarly communications support at UNCG

This professional development program developed organically through collaborations between the UNCG University Libraries' Research, Outreach, and Instruction Department (ROI) and the Technical Services Department. In recent years, ROI librarians have requested occasional scholarly communications training sessions—often related to institutional repository, open access, and copyright topics—from personnel in Technical Services who have responsibility for those areas. These sessions were typically developed and delivered to meet course requests or professional development needs and were generally seen as "one-offs" that addressed specific needs but didn't connect to a larger plan or effort.

In the spring of 2019, events coalesced to transition scholarly communication training efforts from one-offs toward a more programmatic approach. At that time, the Libraries were seeking to extend professional development support for graduate students by growing the membership of the Graduate Student Professional Development Committee (GSPDC), an interdepartmental group charged with collaborating to provide professional development opportunities for graduate students at UNCG. GSPDC facilitates communication between Library departments and other campus entities that offer professional development for graduate students, helping coordinate efforts and working to prevent unnecessary duplication of similar initiatives. The extant GSPDC group brought together personnel from ROI, Library Administration, and the Digital Media Commons (DMC); as well as non-library personnel with responsibility for graduate student professional development, including the Graduate School and the Digital Action, Consultation, Training Studio (DACTS). In spring 2019, the coordinator of metadata services from the Libraries' Technical Services department was added to the group, with the goal of increasing scholarly communications professional development and training offerings at UNCG.

Concurrently, a Public Health Education professor expressed interest in and need for additional training on scholarly communication areas for graduate students and faculty in his department, specifically for an information literacy instruction session about open access and scholarship metrics. This faculty member requested additional training on Open Researcher and Contributor

ID (ORCID) and related researcher identity management systems; because this interest aligned with Library efforts toward supporting ORCID, it was identified as a goal area for increased support in the 2019–2020 academic year.

In the summer of 2019, the coordinator of metadata services began developing a research identity management training module for faculty, graduate students, and other researchers at UNCG. At the same time, the GSPDC was in the process of planning multiple training events to be held around the start of the 2019 fall semester; graduate students were the target audience for these events, but attendance was also open to faculty and other UNCG researchers. One of these events, titled "Share Your Scholarship, Raise Your Scholarly Profile," focused on supporting research activities and was coordinated by personnel from ROI and Technical Services. As these efforts developed, a set of discrete scholarly communications training modules was created.

Modules

Librarians used existing priorities and initiatives, as well as requests from faculty and others, to inform the development of content for the scholarly communication modules. The four modules created as part of this effort focus on open access, research identity management, scholarship metrics, and scholarly communication basics. Other previously developed modules on Zotero, a free open source citation management tool, and research data management basics have also been included in some scholarly communication training sessions.

Open access module

The UNCG University Libraries have a strong history of developing and supporting open access initiatives. The Libraries host the multi-institutional North Carolina Digital Online Collection of Knowledge and Scholarship (NC DOCKS) open access repository, provide Open Journal Systems (OJS) open access journal hosting for UNCG employees, offer grants to offset the cost of article processing charges associated with publishing in open access journals, and are active in supporting the identification and implementation of open educational resources, among other areas. Prior to the development of these scholarly communication modules, most open access training efforts were provided to faculty through outreach related to the NC DOCKS institutional repository. These sessions were often delivered at events associated with new faculty orientation, and they generally focused on how and why to submit content to NC DOCKS, while also including brief information about other open access initiatives in the Libraries.

For this particular set of scholarly communication modules and programing, graduate students were the target population. Not all researchers have previous exposure to the concept of open access scholarship and publishing models, and while the NC DOCKS repository does accept some scholarship from UNCG graduate students, not all graduate students will want to pursue setting up a scholarly profile in an institution-specific open access repository during their time-limited academic program. For these reasons, the existing NC DOCKS-centric open access training was not a good fit for this initiative, and a new module was created to address open access more generally, including open and closed access publication models, open access misconceptions, predatory and exploitative publishing, open educational resources, and an

overview of open access initiatives that support faculty and students at the UNCG University Libraries. The following learning goals were created for this session:

- Differentiate between open access and traditional (closed or subscription) publishing models
- Identify characteristics of predatory journals
- Explain UNCG Libraries' support for open access publishing and sharing of scholarship
- Understand impact of open educational resources (OER) and opportunities to use and implement them

The NC DOCKS institutional repository was discussed as one of the Libraries' open access initiatives, but—unlike previous open access trainings—NC DOCKS was no longer the focus of the session.

Researcher identity management module

As mentioned above, the librarians overseeing the creation of this training program received a request from a faculty member for training on researcher identity management tools for faculty and graduate students. This request was in alignment with existing goals and priorities, as the Libraries were working to increase knowledge and awareness of the NC DOCKS institutional repository, ORCID, and related systems.

The initial researcher identity management module discussed NC DOCKS, ORCID, Google Scholar Citations, and Scopus Author ID. The module was later updated to include information about Web of Science Researcher ID; additional updates are possible as systems and needs develop. Learning objectives for this module are:

- Define researcher identity
- Understand why managing researcher identity is important
- Identify some freely-available and widely-used researcher identity management systems
- Select researcher identity management system(s) that are appropriate for you.

In longer sessions, the module includes a hands-on activity where librarians assist attendees in setting up profiles using the services mentioned above. In shorter sessions, an overview is provided and attendees are encouraged to follow up with librarians if they need assistance.

Scholarship metrics module

Based on the request from a UNCG faculty member for instruction on research identity management, UNCG ROI librarians also wanted to build a tutorial and presentation on scholarship metrics and altmetrics. A module was adapted from the Association of College & Research Libraries (ACRL) University Libraries Section (ULS) Professional Development webcast presentation "Beyond Citation-Counting: Metrics and Altmetrics for Demonstrating Scholarly Impact" by librarian Erin Owens from Sam Houston State University (Owens, 2019). Learning objectives for this module are:

- Define key terms and concepts in scholarly metrics and altmetrics
- Discuss how alternative metrics expand a researcher's ability to demonstrate impact
- Access tools and resources (particularly those freely available) to begin gathering metrics and altmetrics for a scholarly product or researcher.

This module discusses citation analysis definitions of article, author, and journal metrics, as well as differences between resources that provide these types of analytics. When presenting this module, there were searching activities based on finding metrics for articles, authors, and journals when time allowed. Altmetrics was also defined and an altmetric exercise was performed through Altmetric.it. This module ends with a discussion on the limitations of using citation metrics for determining impact and value in academia.

Scholarly communications module

The modules discussed above address many aspects of the research process and open access, as well as areas of specific need or interest on campus and in the Libraries, but they do not address the overall concept of scholarly communications. A module on general scholarly communication basics is the newest effort created as part of this training program. This module was developed by request for delivery to graduate student Library & Information Science (LIS) interns who work at the reference desk in ROI. Learning objectives for this session are:

- Define scholarly communication
- Understand the importance of scholarly communication on campus and in the larger world
- Understand basics of the research lifecycle
- Introduce components of scholarly communication work in an academic setting
- Recognize scholarly communication efforts in the UNCG University Libraries.

To date, versions of this module have been delivered to library reference interns and to library faculty and staff.

Research data management

A research data management basics module was created prior to the start of the training program described here, and has since been delivered on its own or incorporated into other modules in a shortened form. This module was created by the former data services librarian in ROI and the coordinator of metadata services in Technical Services. Learning objectives for this session are:

- Recognize what research data management entails and why it is important
- Identify common data management issues
- Learn best practices and resources for managing these issues.

This module has been delivered in-person and through hybrid sessions with both online and in-person attendees. An extended version of the module includes a case study and small group activity for participants; a shorter version focuses on content delivery and question and answer with attendees.

Structure and delivery

Three of the modules discussed above—open access, researcher identity management, and scholarship metrics—were developed or updated for the August 2019 "Share Your Scholarship, Raise Your Scholarly Profile" workshop for graduate students, faculty, and other researchers at UNCG. This event, coordinated through the Graduate Student Professional Development Committee and managed and delivered by librarians from Technical Services and ROI, was scheduled the week before the start of the fall semester as a way to welcome graduate students and faculty back to campus and to provide a refresher on or introduction to the Libraries' services and systems to support research and scholarship sharing.

In order to provide equal opportunity to distance and in-person learners, this workshop offered online and in-person attendance options. There were four training sessions included in the workshop; all sessions were held in a teaching lab in Jackson Library where in-person participants had access to computers and librarians there to assist them. The four training sessions in this workshop covered Zotero Citation Management, open access, researcher identity, and scholarship metrics. All sessions were also shared online via the virtual meeting tool Webex for synchronous remote participants; additionally, sessions were recorded and shared online through a dedicated "Share Your Scholarship, Raise Your Scholarly Profile" LibGuide, so users could continue to access the content after the workshop was over. All attendees were asked to fill out a short Qualtrics survey to assess their experience in the workshop; results are discussed under *Assessment*.

Once the training modules were created, there were immediately other opportunities to reuse and deliver the content to additional audiences. The researcher identity management module was delivered through webinars in the fall 2019 semester and the spring 2020 semester; it was also delivered by invitation at an in-person department meeting for faculty and graduate students in the Human Development and Family Studies Birth-to-Kindergarten program. The open access module was updated and offered as an in-person session for library personnel as part of an effort to raise awareness of open access initiatives and projects in the University Libraries. In order to continue to raise awareness of available scholarly communication training modules and services, the coordinator of metadata services also delivered an invited presentation to the campus Research Advisory Council. This online presentation included shortened versions of the content in the open access, researcher identity management, and scholarship metrics sessions, as well as incorporating information from the newly-developed scholarly communication basics module and the existing research data management training module.

A second multi-session workshop for graduate students and faculty was scheduled to be held in May of 2020, with a plan to offer online and in-person attendance options. All UNCG classes were moved online in March of 2020 due to the COVID-19 pandemic, and in-person events on campus were canceled for the rest of the semester. Librarians in charge of this session considered holding the workshop for online attendees, but ultimately decided to postpone the event after discussions with Graduate School personnel, due to concerns about the stresses students were facing and concern about "Zoom fatigue" from the transition to fully online learning and

working. The COVID-19 pandemic is ongoing at the time of this writing; its impact on the delivery of library education and instruction is not yet fully understood.

Assessment

In order to gauge the efficiency and look for ways to improve these scholarly communication workshops, a short, digital survey was designed in Qualtrics. The survey was linked to the LibGuide with the modules, and sent to face-to-face and virtual attendees. The survey asked questions such as: did you attend this workshop virtually or face-to-face? What was most useful about this workshop? What was least useful about this workshop? And do you have other comments? A Likert Scale question was also provided for attendees to rate their agreement or disagreement with various statements about the workshops (see Figure 1).
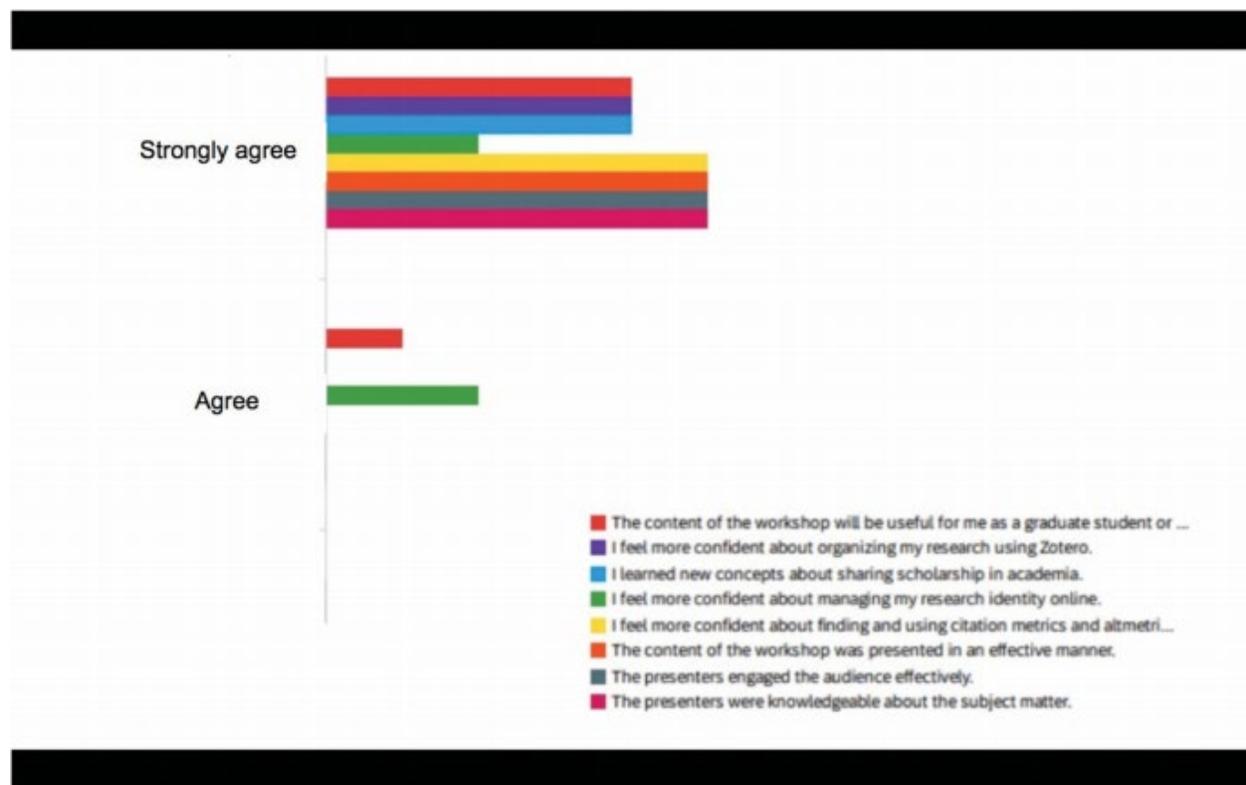

Figure 1. Assessment responses.

Though the response rate was low (6 responses out of 9 participants who attended face-to-face and virtually), the assessment was overall positive. Almost all the students strongly agreed that: the content of the workshop will be useful for me as a graduate student or researcher; I feel more confident about organizing my research using Zotero; I learned new concepts about sharing scholarship in academia; I feel more confident about managing my research identity online; I feel more confident about finding and using citation metric and altmetrics; the content of the workshop was presented in an effective manager; the presenters engaged the audience effectively; and the presenters were knowledgeable about the subject matter. Participants pointed out that they were grateful to be introduced to these topics early in their academic career and that they appreciated the online attendance options, as well as the modules being recorded and the

chat moderated for questions. The recordings and links to presentations for the modules are available on a SpringShare LibGuide, which is still being viewed and used by a variety of online patrons (not just at UNCG). As of May 2020, there have been almost 400 views of this guide (http://uncg.libguides.com/digmethod/research).

Based on the positive assessment, the facilitators of this workshop are not planning on changing the overall structure, but will focus instead on reaching more attendees through better marketing and outreach. Continuing to work with the UNCG Graduate School will help librarians in ROI and Technical Services communicate more effectively with graduate students, and will offer opportunities to provide outreach and marketing materials to directors of programs, graduate student email lists, and university marketing administrators. Finding times to maximize attendance of graduate students is challenging based on busy schedules of students and librarians, so continuing to offer virtual options and recordings will be critical, particularly throughout and post COVID-19.

Future directions

This increasingly programmatic and collaborative approach to scholarly communications education is still relatively new in the UNCG University Libraries. Because of the positive responses from workshop attendees and library personnel, and due to the ongoing needs and continued requests for training on scholarly communication topics, the involved librarians intend to continue to grow this program as they are able. Program growth may take the form of delivery of additional classes or workshops using existing modules, creation of additional workshop modules for online delivery, and using existing content to create new learning objects and opportunities.

Due to the ongoing COVID-19 pandemic, there are no current plans for scheduling or delivering in-person workshops, but online workshops and webinars can and will be scheduled as needed for courses, departments, and other groups. The existing modules on open access, researcher identity management, scholarly communication basics, scholarship metrics, and research data management–all available as Google Slides documents–can easily be edited to meet the needs of events and requesters.

When selecting future topical areas to pursue, librarians will consider needs and requests from library users and stakeholders. The existing collaborative relationship with the UNCG Graduate School may help inform future directions for this programing; other potential collaborative partners include UNCG's Scholarly Communications Committee—a faculty committee with representation from departments and offices across campus—and a newly-developed open access team within the Libraries. One area of need that has been identified is education about evaluating the quality of journals and other publishing venues, especially open access journals and publishers. Librarians are available to assist UNCG authors in evaluating journals and other publishing opportunities, but not all authors request assistance in this area, and sometimes authors do not contact the library until after their work has been accepted by a predatory journal. The existing open access training module includes brief information about predatory journals, but does not go into journal evaluation considerations in detail. By creating a training session that focuses on evaluating journal quality and identifying red flags associated with predatory

publishing, librarians hope to proactively help UNCG authors recognize and avoid entanglement with exploitative publishers.

There are also plans to create new asynchronous online modules to address scholarly communication topics. These modules would draw from existing scholarly communications training content and be built into the ROI research tutorial platform (http://libapps4.uncg.edu/tutorials/). These tutorials are team built, and provide interactive Quick Checks using H5P (HTML5 interactions) and quizzes to create certificates to assess student progress and comprehension. While the online learning librarian and other librarians in ROI have extensive experience creating asynchronous online modules, this area of work is new for Technical Services personnel and this collaboration will provide a learning opportunity and exposure to new technologies and systems.

Conclusion

This increasingly organized and programmatic approach to scholarly communication training is still in its infancy in the UNCG University Libraries. As new cohorts of students enter graduate programs and new researchers begin positions at the university, there will be ongoing needs for training on many scholarly communications topics. As such, librarians intend to continue this training effort, but future decisions and directions will be affected by the ongoing COVID-19 pandemic. The full impact of the pandemic on this and other library efforts is not yet known, but it is clear that online delivery—including synchronous and asynchronous options—will be the focus for the foreseeable future.

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