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Librarians in Transition: Scholarly Communication as a Core Competency

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Abstract: Modern digital scholarship requires faculty to navigate an increasingly complex research and publication world. Liaison librarians are uniquely suited to assist faculty with scholarly communication needs, yet faculty do not identify the library as a provider of these services. Proactive promotion of scholarly communication services by librarians is needed. In this article, scholarly communication training developed for librarians at a mid-sized public university is described. Two surveys – describing faculty digital scholarship needs and librarian attitudes toward scholarly communication services – are presented. Articulating scholarly communication support as a core competency affirms the importance of this developing role for librarians.

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The activities of scholarly communication-support librarians have grown and changed in recent years due to the increasingly complex nature of modern digital scholarship. Today's scholars must wrestle with a dizzying array of options, from selecting search portals to ensure a thorough review of the literature, to making decisions about modes of publication and data curation, as well as considering their rights to self-archiving and self-determined dissemination of their work. The variety of needs across disciplines necessitates an "engagement-centric" librarianship that is embedded in and responsive to the scholarly life of our faculty (Kenney, 2014). For several years academic libraries have developed services to support scholarly communication (SC) on their campuses, and many Association of Research Libraries (ARL) member libraries have established librarians dedicated to the issues of SC and publishing (Newman, Blecic, & Armstrong, 2007; Radom, Feltner-Reichert, & Stringer-Stanback, 2012). Scholars have begun to study the trajectory of these positions since librarian job responsibilities have adapted to scholarship developments in the digital world (Bonn, 2014; Xia & Li, 2015). In many cases, even when a dedicated SC support position exists, the demand goes beyond the abilities of a single librarian, and traditional roles are taking up the banner of SC support. Many studies have described initiatives where libraries implement SC training (Bresnahan & Johnson, 2013; Bruns, Brantley, & Duffin, 2015; Kirchner, 2009; Malenfant, 2010; Rodriguez, 2015; Wirth & Chadwell, 2010), and subject liaisons are increasingly being called upon to add SC support to their repertoire of duties.

Another argument for expanding the responsibilities of liaison librarians is the impact of the longstanding serials crisis, coupled with devastating losses in library collection budgets following the Great Recession (Prottsman, 2011). Reduced budgets not only decrease the amount of collections work, but compel librarians to seek out materials available as open access and redouble outreach efforts to their faculty in order to better serve and collaborate with them. Plutchak (2012) argues that, because of the availability of online resources, scholars now tend to view their research processes as largely outside the library, although the proliferation of online SC and changes in scholarly publishing ironically increase scholars' need for librarians' skills.

In this article, the authors argue for a change in the way SC knowledge and skills are perceived. While SC expertise is currently often the domain of a single position in the library, the authors believe researchers will be better served if SC is considered a core competency of subject librarians, similar to reference, instruction, and collection development. Here, we describe a SC education program implemented for librarians at Eastern Illinois University (EIU), a Carnegie classification Master's L University (awarding at least 200 master's degrees annually). We review a survey of EIU librarians' behaviors and attitudes surrounding SC. We then consider the results of a survey of the digital scholarship needs of EIU faculty, which further emphasize the growing need for librarians to integrate SC skills into their competencies. Finally, we affirm the need for SC to be a core competency of liaison librarianship and suggest that becoming proficient in SC support services is achievable for all librarians, irrespective of their maturity in the field.

Literature Review

The library and information science (LIS) literature relevant to SC in the digital age has matured over the last several years and encompasses many facets of the concept. A sample of

these issues include managing institutional repositories (Armstrong, 2014; Bruns, Knight-Davis, Corrigan, & Brantley, 2014; Bull & Eden, 2014; Burns, Lana, & Budd, 2013; Royster, 2014; Schlangen, 2015; Sterman, 2014), authors' rights (Wirth & Chadwell, 2010), open access (Clobridge, 2014; Harnad, 2010; Pinfield, 2015; Quinn, 2015; Suber, 2012; Zhao, 2014), bibliometrics and altmetrics (Bladek, 2014; Brown, 2014; Bruns & Inefuku, 2015; Carpenter, Lagace, & Bahnmaier, 2016; Gargouri et al., 2010; Gordon, 2012; Konkiel & Scherer, 2013), data management (Krier & Strasser, 2014; Patel, 2016; Pinfield, Cox, & Smith, 2014), library publishing (Allen, 2008; Busher & Kamotsky, 2015; Gilman, 2014; McIntyre, Chan, & Gross, 2013; Park & Shim, 2011; Steele, 2014), research support services (Kennan, Corrall, & Afzal, 2014; Mitchell, 2013; Vinopal & McCormick, 2013), and faculty engagement (Reinsfelder & Anderson, 2013; Wiegand, 2013). Rather than provide an exhaustive review, the authors focus on aspects of the literature relevant to the transformation of liaison librarians into service providers of SC support, trends toward faculty engagement in library services, including assessment of faculty needs, and literature promoting SC support as a core competency.

Transforming the Liaison Role

There is no single way to introduce a SC-support training program. At Oakland University, a medium-sized public university, several SC-related training events for librarians were implemented in anticipation of Open Access Week, allowing the liaisons to increase their comfort and understanding with these issues (Rodriguez, 2015). At the University of British Columbia, liaison librarians surveyed the SC environment of their subject areas (Kirchner, 2009). By doing so, liaisons refocused their services from "library-centric" (the collection) to "scholar-centric" (engagement and outreach) (Kenney, 2014). Oregon State University organized an authors' rights workshop for their librarians (Wirth & Chadwell, 2010). At the University of

Colorado at Boulder, librarians were polled to determine where their SC knowledge was strong

and where additional preparation was needed (Bresnahan & Johnson, 2013). The assessment

revealed that most discomfort was related to data management. Practical, hands-on training was

identified as a solution to address this issue. Liaison assignment of duties were redefined at the

University of Minnesota (Malenfant, 2010). Reference desk hours and collection development

responsibilities were replaced with SC and institutional repository outreach initiatives. Such a

restructuring emphasized the move to offering new services, brought to light areas where liaisons

felt less prepared to provide services, and resulted in a Scholarly Communications Collaborative

for sharing resources and support (Malenfant, 2010). At a small liberal arts college in New York,

the conversation began with liaison interviews of faculty to understand how to address campus

SC needs (Swoger, Brainard, & Hoffman, 2015).

      While there has been discussion about integrating SC into the responsibilities of liaison

librarians (e.g., Beaubien, Masselink, & Tyron, 2009; Bresnahan & Johnson, 2013; Cox,

Verbaan, & Sen, 2012; Finlay, Tsou, & Sugimoto, 2015; Kirchner, 2009; Malenfant, 2010;

Rodriguez, 2015), not much has been written about this transition from the perspective of the

liaison (but see, for example, Taylor, 2009; Turtle & Courtois, 2007; Zhang, Liu, & Mathews,

2015). This may be because SC still feels beyond the expertise of liaison librarians who fill

multiple roles in an environment of constricting staff and budgets. Without a formal transition

that requires active participation with SC services, added responsibilities may end up somewhere

near the bottom of a liaison's long to-do list. Faculty may not be engaging librarians with

questions about copyright, open access, and institutional repositories, so librarians may have a

sense that there is no pressing need to educate themselves on these issues. On the contrary, to

remain relevant to the campus community, such a proactive service is necessary.

Acquiring an expertise of SC issues will allow librarians to create a faculty-centric model of service as advocated by Hahn (2008) and Royster (2014). Reviewing Malenfant's 2010 study of liaison work at the University of Minnesota and incorporating liaison efforts across many research libraries that have developed following the University of Minnesota initiative, Kenney (2015) identifies six issues that will affect the liaison model into the future. One of these issues, assessment, emphasizes that liaison activities should be evaluated in terms of the effect they have on scholars, rather than simply by quantifying accomplishments. Another issue has to do with redefining the liaison role to better suit the changing research landscape (Kenney, 2015). A 2013 ARL special report reviews major changes in liaison librarianship over the last several years and identifies emergent trends and recommendations (Jaguszewski & Williams, 2013). The authors conclude that "[n]ew roles in research services, digital humanities, teaching and learning, digital scholarship, user experience, and copyright and *scholarly communication* [emphasis added] are being developed at research libraries across the country, requiring professional development and re-skilling of current staff, [and] creative approaches to increase staff capacity" (Jaguszewski & Williams, 2013, p. 16). At academic institutions, librarians are recognizing the essentiality of SC support services. Are faculty beginning to turn to librarians for assistance with these services?

Faculty Engagement and Needs Surveys

Subject librarians, with their close ties to academic departments, are well-positioned to support the research needs of faculty by offering SC services (Kenney, 2014; Malenfant, 2010; Neugebauer & Murray, 2013; Plutchak, 2012; Thomas, 2013). Following an engagement-centric service model, liaison librarians support the research needs most valued by their departments and institution rather than those deemed most relevant by the library, although these indicators need not be divergent. In this way, liaisons are providing SC support in ways that are more meaningful

for their faculty. SC support may be administered in many ways, including this three-tiered approach advocated by Thomas (2013): supporting faculty in navigating publishing models and making their work open access, consulting with faculty about copyright transfer agreements and the fair use of copyrighted work, and enabling faculty to evaluate open-access publications and meet funder mandates.

With the growth of institutional repositories and the steady migration of scholarship from print only to include a hybrid space of print and digital media, opportunities for a wide range of services and support have been created. Academic librarians can assume these duties. Given that this set of tasks and services is still emergent, there are few published studies that survey faculty about the kinds of digital content they create, and fewer still that ask faculty to identify their own and their students' needs in the realm of digital scholarship. Instead, some current literature focuses on the practices and preferences of faculty regarding their use of existing library resources and services. Profera, Jefferson, and Hosburgh (2015) assess the use of physical and virtual library spaces to gauge the effect on faculty use of library resources and services. Zhang (2015) examines the use of library services by engineering faculty at a large research university.

Other studies have surveyed faculty about specific digital practices such as scientific data collection and preservation. With their 2015 US Faculty Survey, Ithaka S+R began querying faculty about the types of research data they collect (Wolff, Rod, & Schonfeld, 2016). This survey revealed that faculty want to manage their own data; however, a majority of faculty indicated that the provision of research support services by the library is highly important. Toups and Hughes (2013) probed faculty attitudes on and needs for data management to inform the development of data curation services at a small liberal arts university and found greater needs

existed than were anticipated. Data-support services have been developed in light of the findings from focus groups and interviews.

Scaramozzino, Ramírez, and McGaughey (2012) surveyed STEM faculty at California Polytechnic State University San Luis Obispo (Cal Poly) about their data collection behaviors and attitudes in three areas: data preservation, data sharing, and educational needs. The survey evidenced that these scholars have data management and educational needs with which the library can assist, although faculty did not currently view librarians as a source of expertise for this information. Cal Poly, like EIU, is primarily a teaching university, and faculty at these types of institutions have unique data curation needs. The EIU faculty survey, presented later in this article, will add further insight into this nascent body of literature about scholars' digital scholarship service needs.

Scholarly Communication Support as a Core Competency

The new Association of College and Research Libraries (ACRL) Framework for Information Literacy for Higher Education, adopted by the ACRL board in 2016, incorporates SC in the Scholarship as Conversation frame, an update from the old Information Literacy Competency Standards for Higher Education, which had no such mention of SC (Mullen, 2011). Librarian engagement with promoting SC services is gradually expanding. However, familiarity with traditional library resources makes incorporating open-access resources, including the institutional repository, challenging for many reference and liaison librarians (Mullen, 2011).

The evolution in methods of SC prompts scholar interest in support services and suggests the need for SC skills to become a core librarian competency (Bailey, 2005; Bonn, 2014; Bresnahan & Johnson, 2013; Kenney, 2014; Kirchner, 2009; Neugebauer & Murray, 2013; Thomas, 2013; Wirth, 2011). Commenting on the role of librarians in the SC environment, Wolf

(2015) argues that librarians are often at the center of this relationship between researcher, funding agencies, and publishers. In June 2016, the Task Force on Librarians' Competencies in Support of E-Research and Scholarly Communication (a joint effort between the ARL, Canadian Association of Research Libraries - CARL, Association of European Research Libraries - LIBER, and Coalition of Open Access Repositories - COAR) published its "Librarians' Competencies Profile for Scholarly Communication and Open Access" (Calarco, Shearer, Schmidt, & Tate, 2016). The authors of this profile argue that the traditional role librarians have played in relation to open access and SC has expanded such that specific skills and competencies must be outlined to assist administrators seeking to employ highly qualified professionals (Calarco et al., 2016).

In the broader context of research support services, which include SC knowledge as well as data management and bibliometrics, research has shown "a near-universal support" to develop targeted LIS education to better serve library professionals in this emerging service role (Kennan et al., 2014, p. 666). Steele (2014) notes the essential work of librarians with researchers and repositories and calls for librarian-led SC literacy programs for researchers. SC is increasingly being viewed as a central service that libraries can provide and in which librarians should be skilled.

The Program: Training the "Scholarly Communication Coach"

Background and Context

Institutional repositories (IRs) continue to develop in academia, along with the expansion of discipline repositories such as arXiv, E-LIS, Social Sciences Research Network (SSRN), English and American Literature Research Network (from SSRN), and scholars' commons like the Digital Commons Network, Research Gate, Mendeley and Academia.edu. Additional

repositories are listed at the Simmons College-sponsored Open Access Directory, http://oad.simmons.edu. Despite this growth, and perhaps because of the simultaneous development of discipline and scholar commons, IRs are not seen as central to the research enterprise of the institution, remain unknown to many faculty, and are viewed by scholars as limited to the domain of the library, rather than being a component of their research life (Creaser, 2010; Cullen & Chawner, 2010; Dutta & Paul, 2014; Hahn & Wyatt, 2014).

EIU's IR, The Keep, was launched in 2011. As more faculty began contributing their works to the IR, the IR librarian was fielding a growing number of faculty questions surrounding SC issues, such as authors' rights, copyright, choosing a reputable publisher, journal embargoes, and participating in the IR. The Head of Reference saw this as an opportunity to expand reference services to meet faculty need. The Dean of the Library recognized the value of providing such services, so the IR librarian and Head of Reference developed a program to expand awareness among liaison librarians of the complex SC landscape.

The faculty demand for assistance with SC-related questions exceeds the support that one knowledgeable IR librarian is able to provide. Librarianship at EIU is collaborative, communication among librarians is often informal, and librarian skill sets are diverse to meet campus need. The 14 liaison librarians represent all areas of operation in the library. They share collection-development responsibilities and single or multiple department liaison duties. Continuing to expand one's skill set is an acknowledged part of the variety of liaison responsibilities. Learning more about SC resources is not regarded by liaisons to be a burden, yet feeling comfortable with the range of SC issues in one or more disciplines could be perceived as a challenge.

Program Planning

To begin organizing a SC training program at EIU, the IR librarian and Head of Reference searched the literature for any similar programs implemented at institutions analogous to EIU. They reviewed potential SC services and selected those most appropriate for the EIU faculty population to include in librarian training. For example, consultations with the campus Research Services Office indicated that research data management (RDM) services were not in high demand, leading to the decision to limit training in RDM to basic services surrounding data management plans. Where more extensive data services are required, the IR librarian will handle data management.

The training program had as its ultimate goal the integration of library services into the SC and digital scholarship environment of each liaison's department(s). The training program was to help the liaisons become "scholarly communication coaches" (Brantley & Bruns, 2014). We have defined scholarly communication coach as a subject liaison who has a working understanding of SC issues such that they can field most common concerns and provide basic consultative SC services (Bruns et al., 2015).

Course Components

The SC Coach program drew upon the structure of SC trainings developed at the universities of Minnesota and British Columbia, utilizing, respectively, the systems and environmental scan methods (Kirchner, 2009; Malenfant, 2010). With the environmental scan, the liaison analyzes the assigned department's programs, such as student journals or undergraduate research fairs. The liaison investigates the discipline's stand on open access via scholarly societies and professional associations. The liaison also discovers the discipline's preeminent sources of publication, such as the major journals and discipline repositories. Additionally, the liaison collects information on faculty participation in the IR (thekeep.eiu.edu)

and online scholars' networks including Academia.edu, Research Gate, and others previously mentioned.

For the second component of training, the IR librarian and Head of Reference developed a SC Coach toolkit, which includes select SC resources to assist liaisons in their communication with faculty. The toolkit points to such sources as the DMPTool and Sherpa/RoMEO (for publisher copyright policies). It also includes resources to assess publisher quality, such as Jeffrey Beall's list of Potential, Possible, or Probable Predatory Scholarly Open-Access Publishers (https://scholarlyoa.com/publishers/) and the Directory of Open Access Journals (https://doaj.org/) promoted by Berger and Cirasella (2015). These core tools help answer most questions posed by our faculty, including questions about data management and how to navigate publisher copyright agreements.

As a third component to SC Coach training, liaisons attended a workshop on authors' rights, intellectual property, Creative Commons licensing, and digital publishing. This session was designed to help librarians field questions about where to publish and which open-access journals or open repositories would most increase scholarly visibility and research impact. The session also aimed to enhance the liaison's understanding of non-traditional ways of documenting research impact, such as with altmetrics.

Desired Outcomes and Future Directions

By designing and hosting a SC training program at EIU, the IR librarian and Head of Reference intended to enable liaison librarians to be well-informed of SC support services they may offer faculty in their subject domains. The SC Coach role helps to personify this mission. Learning about and applying these new skills will take an intentional investment of time. It will require active engagement by librarians with their subject faculty. Librarian education on SC

issues will involve periodic refresher sessions and assessment activities, such as the internal survey described below. Assessment exercises will help determine the level of contact the librarian has had with faculty researchers over the course of a year. Environmental scans of the state of SC within a discipline performed every 1 to 2 years will refresh librarians' understanding of the ongoing needs of scholars.

The SC Coach training was an introduction to the establishment of SC and digital scholarship support services at EIU. With the help of this instruction, the ongoing work of building SC services and engaging faculty in collaboration can grow. At a teaching institution like EIU, where research is important but not primary, demonstrating to faculty the benefits of seeking out liaisons for SC support is a central focus for the continued vitality of the library. When librarians focus on services relevant to scholars' needs, not only are they able to position the IR as a valued university resource, they again find themselves a critical partner in the research heart of the university.

Liaison Feedback on Scholarly Communication Support: Enthusiasm, Indifference or Reluctance?

To better understand the current practices among EIU liaison librarians in providing SC services, the authors conducted an internal survey. At EIU's Booth Library, 14 librarians serve 35 academic departments. The IR librarian, with expertise in SC, is also a subject liaison. The remaining liaisons also have responsibilities in reference, instruction, collection development, acquisitions, cataloging, circulation, technology support, and/or management and administration. SC is not a role formally acknowledged in these liaisons' assignment of duties.

Six months after presenting the SC Coach workshop, the authors surveyed the liaisons seeking to understand their involvement with SC in their relationships with their department

faculty (survey questions may be found in Appendix A). The IR librarian was excepted from the survey. Twelve of 13 responded to the survey.

Half of the liaisons attended the SC workshop (6 of 12 survey respondents). Since the workshop, those librarians who participated in the training were more likely to report that their faculty had asked them about SC topics (3 of 6, versus 0 of 6 of the liaisons who did not attend the workshop). Workshop participants were more likely to have read about SC services or actively identified open-access resources to add to the library collection since the workshop (5 of 6, versus 3 of 6 of the liaisons who did not attend the workshop). Drawing broadly generalizable conclusions from this survey is impossible due to the low sample size, but a few notable points emerge from our liaison feedback. Librarians working with departments where there is more interest in SC topics (e.g., open-access publishing, copyright concerns, self-archiving in the IR) are more likely to participate in professional development related to SC, and they are more likely to seek out opportunities for self-directed learning on SC topics. The results also suggest that librarians who elect to attend in-house workshops are interested in broadening their awareness of SC issues and services.

There was no difference between librarians who attended the SC workshop and those who did not with regard to proactively engaging department faculty in conversations about SC topics (3 of 6, and 2 of 6, respectively). There was also no difference in how librarians viewed SC support being integrated into their assigned duties. For those who attended the workshop and for those who did not, 5 of 6 cited SC knowledge as being a part of their subject-specialist responsibilities. Only two librarians believed SC services were beyond the scope of a liaison's assigned duties. Most liaisons recognize SC support as part of their job without having it formally acknowledged in their assignment of duties, but some liaisons may be more willing to

engage with SC issues when it is a formally acknowledged responsibility. Despite the benefits

for liaisons to discuss SC services with faculty, such as helping authors better understand their

rights and striving to make research more openly available to the global community (Kenney,

2014; Mullen, 2011), if a department faculty member does not request the services, liaisons may

not recognize the value.

Beginning in the 2009 and 2012 Ithaka S+R US Faculty Surveys, respondents were asked

to rate the importance of the statement, "the library provides active support that helps to increase

the productivity of my research and scholarship" (Housewright, Schonfeld, & Wulfson, 2013, p.

68). In 2009, 60% of respondents rated this statement as important. In 2012, that number

declined to approximately 50%. It should be noted that, compared to every other survey

question, the fewest respondents considered this statement to be important (Housewright et al.,

2013). In the 2015 Ithaka S+R US Faculty Survey, this statement, now referred to as "research

support," made slight gains in importance. Just over 50% of faculty rated research support as

highly important (Wolff et al., 2016). Given the low level of faculty awareness and perceived

importance of liaison services, it seems questionable at best to consider a lack of faculty requests

to indicate an absence of need.

In the EIU liaison survey, 4 of 12 respondents (2 of 6 who attended the workshop and 2

of 6 who did not) indicated a desire for more guidance or familiarity with SC services. A single

workshop on issues surrounding SC is not enough to increase librarian familiarity with this topic.

Online resources like the SC Coach toolkit (booth.eiu.edu/sccoach), additional workshops, and

self-directed instruction will provide liaisons with an increased understanding of the importance

of engaging with faculty on SC issues. Additional training could include influential

communication and leadership development (McNeil, 2010). Establishing a stronger sense of

community among liaison librarians helped with the development of SC services at the

University of Iowa (Koffel, Magarrell, Raber, & Thormodson, 2013). Barton and Waters (2004)

note that faculty must hear about these library services at least seven times and through multiple

contact points (e.g., print handouts, web pages, in-person engagement) before becoming open to

utilizing them.

Librarians, too, can be slow to adapt. The concept of shifting roles of the reference

librarian to include skills in promoting and teaching about the IR was addressed in a 2005 special

issue of *Reference Services Review* (Rockman, 2005). For libraries that are just beginning to

develop an IR, this change in service emphasis may not yet be realized. At EIU, where the IR has

been aggressively developed and promoted, liaison librarians are still learning how to

incorporate SC as a primary skill set (Bruns et al., 2014). There remains a need for greater

emphasis on the importance of SC-services, but it is unclear from whom in the library this

message should be coming. Should the IR librarian, for whom these services are primary, be the

champion, or should the subject liaison, who has the closest relationships with faculty in the

academic departments, be the SC-services advocate? The best answer may be institutionally

dependent. Regardless of the type of institution, the role must be adopted by each librarian. This

will ensure that the liaison librarian's duties will move from passive, library-centric, collection

building toward an active, participatory, and collaborative role, engaged with faculty in their

teaching and research activities (Buehler & Boateng, 2005; Kenney, 2014).

The Need: Campus Survey of the Digital Needs of Faculty

In early 2015, bepress, an open-access, scholarly-publishing services company and the

producer of the Digital Commons repository software, surveyed the EIU faculty on their digital

scholarship needs. The survey, for which EIU's IR librarian was consulted in writing, asked

about the types of digital products faculty (and their students) created in the course of their

teaching and research (see Appendix B). In addition, the survey asked faculty to rank the

importance of each type of product to manage, organize, preserve, and share.

These questions illuminated the fact that faculty are creating a wide variety of digital

works, which go beyond the traditional published articles, book chapters, and monographs.

Documenting these other forms of faculty research productivity, such as data from literary and

historical research, open educational resources like textbooks and web scripts related to

geographical research, is encouraging for any university, but it is especially so at a

comprehensive university that emphasizes undergraduate and master's level teaching above

faculty research. Survey results indicate there is a potential role for librarian support to manage

and promote these works.

Approximately 27%, or 123 members, of the university faculty at EIU took the survey.

Of the respondents, 22% were from the humanities, 41% were from the social sciences, and 30%

were from the sciences. Only 7% percent of respondents did not indicate their discipline.

The first part of the survey asked faculty to select, from a list of options, all the types of

digital scholarship products they create. The options were:

- Working papers and reports
- Published documents (articles, books, book chapters, conference proceedings)
- Historical and archival documents
- Multimedia (video, audio, image)
- Primary research materials, such as research data
- Creative works (art, photography, graphics, music compositions)
- Other (please specify)

Faculty indicated that they most frequently create published documents (chosen by 71% of

respondents) and working papers (selected by 48% of survey takers). While this response could

have been expected of an active faculty, we did not anticipate the large number of projects being

created outside this traditional realm of scholarship: 28% of respondents create multimedia

works, and more than 40% create primary research materials, such as research data. Notable

among respondents who create primary research materials (data) is the relatively high number of

humanities faculty (15%) and social sciences faculty (41%) who produce research data in need of

management and preservation, in addition to the sciences faculty (68%). Some respondents

(20%) also produce creative works in the course of their research and scholarly activity. A small

portion of faculty (13%) create historical and archival documents, with humanities scholars

representing over half of this population.

Next, faculty were asked to select the digital products they felt were the most important

to manage, organize, preserve, and share. Across the sciences, humanities, and social sciences,

faculty were most likely to rank published documents as their most important digital products

(61% of respondents). More than 50% of respondents selected research data as most important.

The second part of the survey asked faculty to rank the importance of a range of scholarly

activities. The range included the following options, which have been ordered by rank here from

the survey results:

1. Organizing my digital scholarship
2. Managing and preserving research data
3. Increasing the citations/visibility of my work
4. Promoting my students' work
5. Publishing an online journal or conference
6. Measuring and demonstrating the impact of my work

The survey then asked respondents for which of these activities they require the most help. Their

answers shifted slightly, with a higher ranking going to "Increasing the citations/visibility of my

work":

1. Organizing my digital scholarship
2. Increasing the citations/visibility of my work
3. Managing and preserving research data

4. Promoting my students' work
5. Publishing an online journal or conference
6. Measuring and demonstrating the impact of my work

These two ranking questions, in particular, elucidate faculty perceptions and preferences of the kinds of SC support librarians can provide. Although faculty may not be explicitly asking for assistance from their liaison librarians, this survey provides demonstrable evidence of faculty need for these services. It becomes our job as librarians and liaisons to provide the outreach and information alerting the faculty to our ability and readiness to provide these SC services.

Developing a Core Competency

The results of the EIU faculty survey add a powerful testament to the growing body of literature underscoring a continuing need in academia for the professional librarian skillset, as well as for the continued development of this skillset to support faculty research and publishing. Despite the flagging statistics of traditional library services evidenced in countless articles and surveys (e.g., Association of Research Libraries, 2013; Carlson, 2001; Foster & Gibbons, 2007; Gayton, 2008), a coming "great age of librarians" may yet be on the horizon (Plutchak, 2012, p. 10). As Plutchak asserts, library services such as reference, collection development, and programming, as well as the library as place, may have declining value to researchers in the digital age. The physical library may be viewed as less essential to conducting research and therefore less esteemed. As digital scholarly content creation continues to proliferate, however, and the electronic avenues through which scholars access information grow ever more complex, the information landscape becomes increasingly difficult to navigate. This makes the librarian skillset more relevant and necessary than ever (Plutchak, 2012).

To bridge the gap in academic services for faculty SC support, the authors call for a liaison-librarian core competency to be developed around SC issues. These skills need to be

developed in LIS education (Corrall, Kennan, & Afzal, 2013; Kennan et al., 2014). Analysis of

job advertisements predicts that, beyond a passing familiarity with the issues, SC is on the brink

of being accepted as a core role, with reference, instruction, and collection development, of

academic librarianship (Finlay et al., 2015). Key areas of focus for both professional

development and LIS education are defined in the report initiated by COAR, "Librarians'

Competencies Profile for Open Access and Scholarly Communication" (Calarco et al., 2016).

       The development of a SC competency skillset for existing librarians has many useful

examples, including the SC Coach program implemented by the authors. Additional programs

and examples stemming from 2009 have matured to a point where best practices for a particular

institution can be selected and customized, and assessment of their effectiveness can be

measured (Bresnahan & Johnson, 2013; Kirchner, 2009; Malenfant, 2010; Wirth & Chadwell,

2010). Kenney (2015) is an example of such an assessment, which draws upon the work of

Malenfant (2010). ACRL has also developed a SC Toolkit that serves as an updated and ample

guide to developing individual competency or library services (http://acrl.ala.org/scholcomm/).

In May 2016, the ACRL Science & Technology Section (STS) Scholarly Communications

Committee began the Scholarly Communications Investigations series, an initiative whose aim is

to share informational SC posts on the STS Discussion List (STS-L). With a wealth of resources

available to help librarians at all stages of their career make the transition to SC coach, the

moment is ripe for a transition to this new library service model. At research-intensive

universities and teaching-centric institutions, librarian support is desirable and needed.

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Appendix A

Liaison Librarian SC Support Services Survey

1. Did you attend the Scholarly Communication Coach training workshop?
    o   Yes
    o   No

2. Since the workshop, have you engaged faculty of your assigned departments in conversation about open access, copyright concerns, The Keep, or other scholarly-communication related topics?
    o   Yes
    o   No

3. Since the workshop, have faculty of your assigned departments asked you about open access, copyright concerns, The Keep, or other scholarly-communication related topics?
    o   Yes
    o   No

4. Since the workshop, have you read about scholarly communication services or identified open- access resources to add to our collection? Choose all that apply:
    o   Yes
    o   No
    o   Did not attend the workshop
    o   Other (please specify)

5. Where do you see scholarly communication services fitting within your assigned duties?
    o   Reference
    o   Subject specialist
    o   It is not part of my assigned duties.
    o   Other (please specify)

6. What would make you more inclined to incorporate scholarly communication services into your liaison duties?

7. Comments?

Appendix B

Faculty Digital Needs Survey

1. As part of my research, I develop the following types of digital materials:
    o   Working papers and reports
    o   Published documents (articles, books, book chapters, conference proceedings)
    o   Historical and archival documents
    o   Multimedia (video, audio, image)
    o   Primary research materials (such as research data)
    o   Creative works (art, photography, graphics, music compositions)
    o   Other (please specify)

2. Which of the above research materials are the most important to manage/organize/preserve/share? Why?

3. As part of my teaching, I develop the following types of digital materials
    o   Multimedia (video, audio, image)
    o   Open educational resources (textbooks, syllabi, course materials)
    o   Historical and archival documents
    o   Primary research materials (such as research data)
    o   Creative works (art, photography, graphics, music composition)
    o   Other (please specify)

4. Which of the above teaching materials are the most important to manage/organize/preserve/share? Why?

5. My students develop the following types of digital materials:
    o   Electronic theses and dissertations
    o   Capstone projects
    o   Multimedia (video, audio, image)
    o   Historical and archival documents
    o   Primary research materials (such as research data)
    o   Creative works (art, photography, graphics, music composition)
    o   Other (please specify)

6. Which of the above student projects are the most important for you or your students to manage/organize/preserve/share? Why?

7. What is the most important to you? (rank in order)

    o   Organizing my digital scholarship
    o   Promoting my students' work
    o   Increasing the citations/visibility of my work
    o   Managing and preserving research data
    o   Publishing an online journal or conference

- o   Measuring and demonstrating the impact of my work
- o   Other (please specify)

8. Where do you need the most help? (rank in order)

- o   Organizing my digital scholarship
- o   Promoting my students' work
- o   Increasing the citations/visibility of my work
- o   Managing and preserving research data
- o   Publishing an online journal or conference
- o   Measuring and demonstrating the impact of my work
- o   Other (please specify)

9. Do you have any specific projects that would benefit from digital support services? Please describe.