

4-2019

From Survey to Social Network: Building New Services through Connections

Heather Jagman
DePaul University, hjagman@depaul.edu

Ana Lucic
DePaul University, alucic@depaul.edu

Follow this and additional works at: https://via.library.depaul.edu/lib_pubs



Part of the [Library and Information Science Commons](#)

Recommended Citation

Ana Lučić and Heather Jagman, "From Survey to Social Network: Building New Services through Connections," Association of College and Research Libraries. Recasting the Narrative: The Proceedings of the ACRL 2019 Conference, April 10–13, 2019, Cleveland, Ohio, edited by Dawn M. Mueller. Chicago: Association of College and Research Libraries, 2019

This Conference Proceeding is brought to you for free and open access by the University Library at Via Sapientiae. It has been accepted for inclusion in Staff Publications - University Libraries by an authorized administrator of Via Sapientiae. For more information, please contact digitalservices@depaul.edu.



From Survey to Social Network: Building New Services through Connections

*Ana Lučić and Heather Jagman**

Introduction

Still relatively new at many educational institutions, *Digital Scholarship* and *Data Services Librarian* positions frequently require the appointees to find novel ways of expanding current services and exploring new initiatives. To better understand the needs of our institution, we initiated two information gathering processes involving faculty, our key stakeholders. We will share what we learned as we developed and conducted our 2017 digital scholarship needs assessment survey, which preceded 24 in-depth interviews with faculty members, and the larger trends that emerged from the survey as well as the themes uncovered by the interview process. Each of these research strategies made a distinct contribution to our understanding of the services needed, and proved to be useful tools as we tried to simultaneously develop a network and understand the faculty culture at DePaul. Although every institution's context is unique, both methods of collecting information provided insights which should be helpful in a variety of contexts.

The Digital Scholarship and Data Services Librarian positions were established in 2015 in response to several new initiatives at DePaul, including the formation of Studio χ , a new center for faculty whose research lies at the intersection of humanities and computer science; the formation of a cross-college collaboration task force, and a number of new programs exploring the use of “big data.” Externally, the need for positions supporting data and digital humanities was also highlighted in the ACRL Research Planning and Review Committees April 2013 Environmental Scan, which noted, “an explosion of DH centers, an increase of grant funding available for DH work, and an increase in the number of conference sessions focusing on DH,” as well as the likelihood of a “substantial role for librarians in curating, managing and preserving data.”¹ Data curation was also noted as a top trend in the 2012 Top Trends in Academic Libraries: a review of the trends and issues affecting academic libraries and higher education.² The 2014 report reiterated the potential for collaborative opportunities in data management and also described the possibilities for growth in the support of digital humanities.³ Jaguszewski and Williams also discussed the emerging role of a hybrid model of liaison librarianship and “functional specialists” in their 2013 ARL report.⁴ Indeed these new positions were conceived as functional specialists, situated within the library's reference, instruction and academic engagement department where, in addition to having liaison responsibilities to specific departments, they would also provide functional support across disciplines.

In order for the librarians in these new positions to be successful, we understood that we would not only need to integrate these new roles into the library's culture, but also understand the digital scholarship and data management landscape at DePaul. We began this process early, inviting faculty already teaching in the areas of data journalism and digital humanities to serve on the search committees for these positions. Once hired, the librarians in these new positions developed a series of professional development workshops for existing library staff, introducing participants to the text mining capabilities offered through the HathiTrust Research Center, as well the data cleaning capabilities afforded by OpenRefine software. Beyond the library, the titles of these newly

* Ana Lučić, *Digital Scholarship Librarian, DePaul University Library, alucic@depaul.edu.* Heather Jagman, *Coordinator of Reference, Instruction, and Academic Engagement, DePaul University Library, hjagman@depaul.edu.*

created positions and their position descriptions certainly provided some initial directions for how to begin developing relationships with faculty stakeholders, and Johnson's 2018 literature review on the evolution of liaison librarians affirmed that listening to faculty needs is essential, but where to start?⁵

Studio χ , the newly established center for digital humanities mentioned above, was similarly invested in understanding who else on campus was interested or already participating in digital scholarship and data initiatives in order to expand their reach beyond their initial steering group. Together, the library and Studio χ recognized that a survey could help identify the existing level of interest in digital scholarship methods and help discover who is using them. We also sought to understand what tools and methods faculty would like to include in their teaching and research, but either don't know how to use or access. Partnering with Studio χ in the creation and delivery of the survey and subsequent interviews provided a systematic process for identifying key stakeholders and library champions, as well as formal process for listening to what faculty need in terms of support from the library and beyond. This partnership with Studio χ likely helped us reach more faculty than a library produced survey alone would have done. It also helped cement the relationship between Studio χ and the library, establishing the necessary conditions for continued conversations about collaboration. Similarly, the survey opened up formal and informal channels for conversations with faculty stakeholders. This effort created and developed relationships at a key moment, affirming Lankes's assertion that "knowledge is created through conversation," and that librarians need to be part of the conversation in order to facilitate knowledge creation in their communities.⁶ Gerber confirms the importance of creating conditions for these conversations, noting that "seeking conversations with faculty helped develop the library's understanding of the [digital humanities] landscape," leading to new partnerships and innovations.⁷

Fontenot and Bright claim that "academic librarians can serve as a central link between different disciplines to help bolster academic relationships across the university and establish research networks between departments."⁸ As we will show, one of the prominent themes emerging from this study was *relationship building*. We will demonstrate how the process we used enhanced opportunities for faculty engagement and cross-departmental collaboration. We believe the process we conducted, combined with the data we collected, will provide opportunities to promote the library's position on campus as a space where novices and experts can meet⁹ and establish mutually beneficial connections through conversations.

Survey Development

In developing the survey, the Digital Scholarship and Data Services librarian looked to existing resources, networks, and opportunities. For example, Ithaka S+R surveys and reports constitute a very useful resource that was consulted during the process of survey development.¹⁰ Institutions and librarians interested in building a digital scholarship center or providing services in the area of digital scholarship and data services can also draw upon the resources provided by the Coalition for Networked Information (CNI).¹¹ In 2017, CNI and the Association of Research Libraries (ARL) organized a second Digital Scholarship Planning Workshop that one of the authors of this article had an opportunity to attend. This workshop provided a venue for participants to investigate the digital scholarship options at their respective institutions, and explore how different institutions approach digital scholarship services. The Digital Library Federation eResearch Network is yet another career development opportunity for new appointees at library institutions whose title include the word "digital." Offered virtually, the professional development program offered through the Digital Library Federation allows new appointees to network and meet colleagues at other institutions who are building the same or similar services and concerned with similar issues.¹² A set of practical assignments provide an opportunity to prepare for the real tasks likely to be faced by people building digital scholarship programs and data services. Both Digital

Scholarship and Data Services Librarian had the opportunity to attend the DLF's eResearch Network program in 2017.

While the educational opportunities for librarians building new digital services are certainly not scarce, building new services at an institution requires input from a number of constituents. During the process of survey development, we recognized that knowing what type of questions were being asked at other institutions, and being able to compare results across institutions might be an additional and helpful guiding point. While each institution is unique and a one-model-fits-all solution does not exist, we believe that encouraging institutions to share questions and answers may increase our shared understanding of the landscape around digital scholarship, data services, and scholarly communication. We envision a repository of sorts that would ingest the questions from different institutions. At the same time, certain key demographic characteristics of the institution would be added to the repository. In this way, the library that is setting out to distribute a survey can become familiar with the questions that were already asked at different institutions but also identify questions that are suited for their own institution. Upon completion of the survey, the results can be shared and, in some cases, even pooled to perceive broader trends in the area of digital scholarship. LibQual+¹³ comes close to the type of repository that is envisioned here. An advantage of implementing LibQual+ is the ability to compare the results from your institution to peer institutions.¹⁴ However, rather than focusing on assessing the quality of existing services, the tool/repository imagined here would gather and offer questions about the development of potential services while also allowing users to see how responses from a home institution compare to those of peer institutions. In our case, we leveraged our existing relationships and reached out to colleagues who had recently conducted similar surveys. Our survey employed six questions that originated from a Penn State University questionnaire that was conducted back in 2012¹⁵ which facilitated a comparison between the results from our two institutions. While Penn State is considerably larger than DePaul, a similar number of responses to our respective questionnaires was obtained, and some of the trends perceived at the two institutions were very similar.

Survey Methodology and Demographics

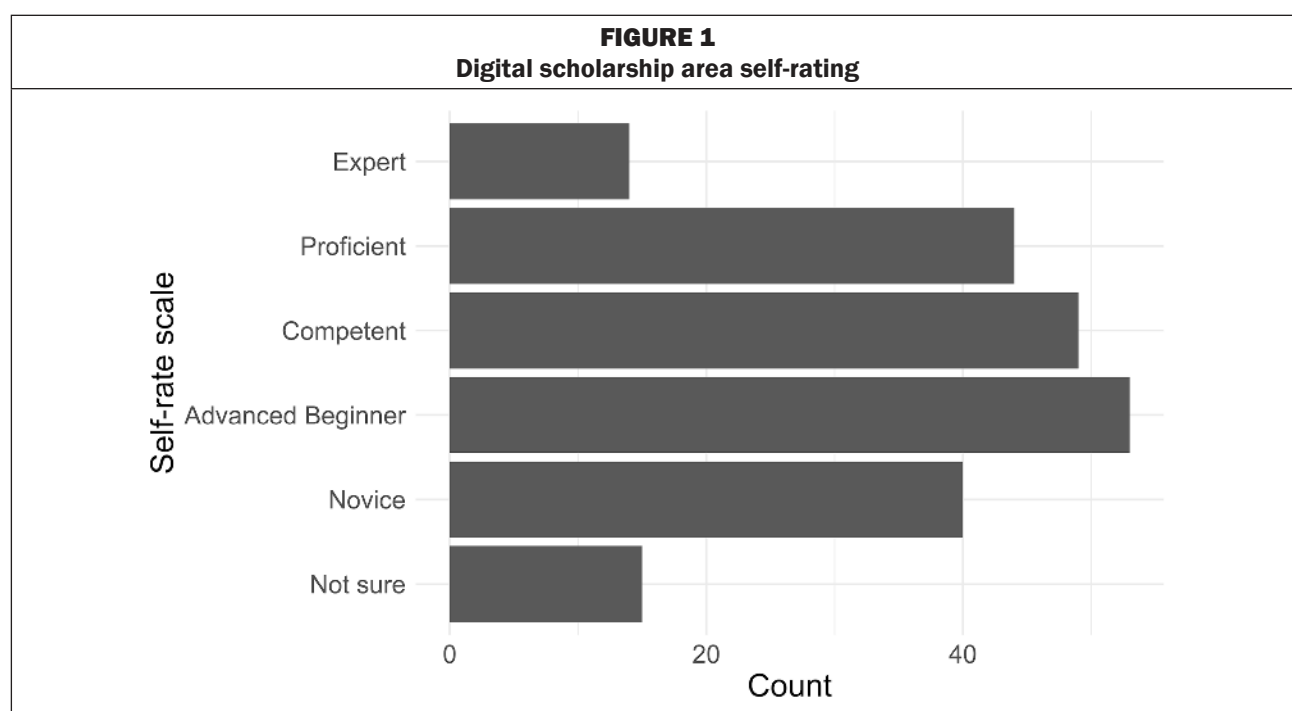
The survey was distributed to all faculty members (~1,950) in June 2017, and closed in September 2017. Qualtrics software was used for survey design. Upon completion, from December 2017 until March 2018, the Digital Scholarship Librarian and Data Services Librarian conducted interviews with two dozen faculty members at DePaul. Faculty were able to indicate that they were interested in participating in a follow up interview as part of the survey, but we also solicited recommendations for additional faculty to speak with during the interview process. These recommendations provided us with a way to connect to other key stakeholders and build the digital scholarship network.

DePaul has ten colleges and is a mid-sized urban educational institution with 22,437 students located in Chicago with two campuses, one situated in the residential Lincoln Park neighborhood and the other in the downtown Chicago Loop area. While some of the colleges are quite large, some are smaller and do not have as many faculty. As a result, we decided to keep all questions optional, including the demographic questions, since some answers may have revealed faculty identities. During the analysis process, we concentrated only on the answers from faculty members who provided their demographic information, 221, representing a ~12% response rate. Answers were received from all ten colleges and from all ranks of faculty. The largest number of responses were received from the College of Science and Health, and the College of Liberal Arts and Social Sciences which comprise the two largest colleges at DePaul. 52% of the respondents identified as female, 45% as male, and 3% as Other.

Results

One of the questions we were keen to answer when starting this project was how faculty rate themselves in area of digital scholarship. While it is difficult to assess your knowledge of digital scholarship skills, it is possible to measure how, in general, you fare in the area of digital scholarship.

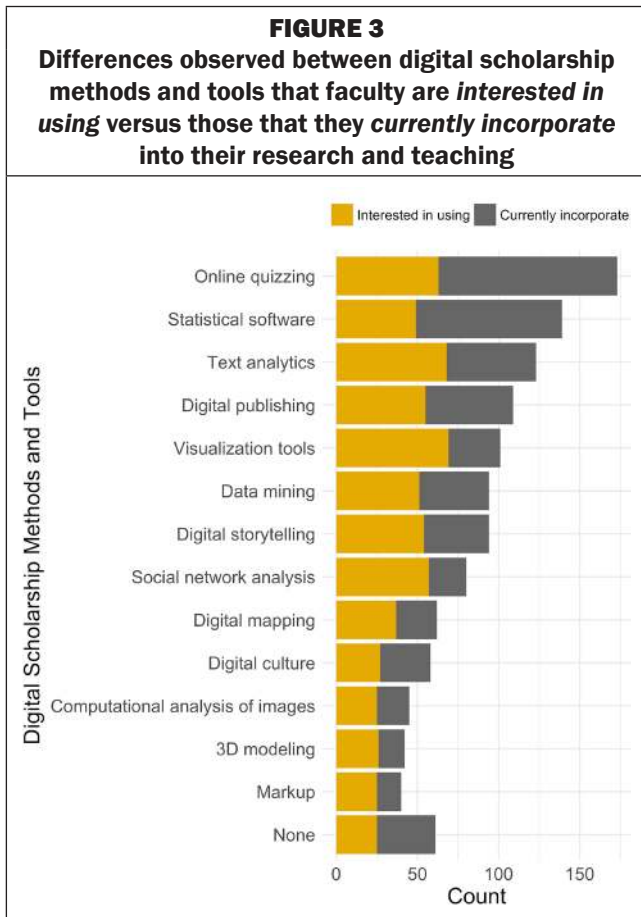
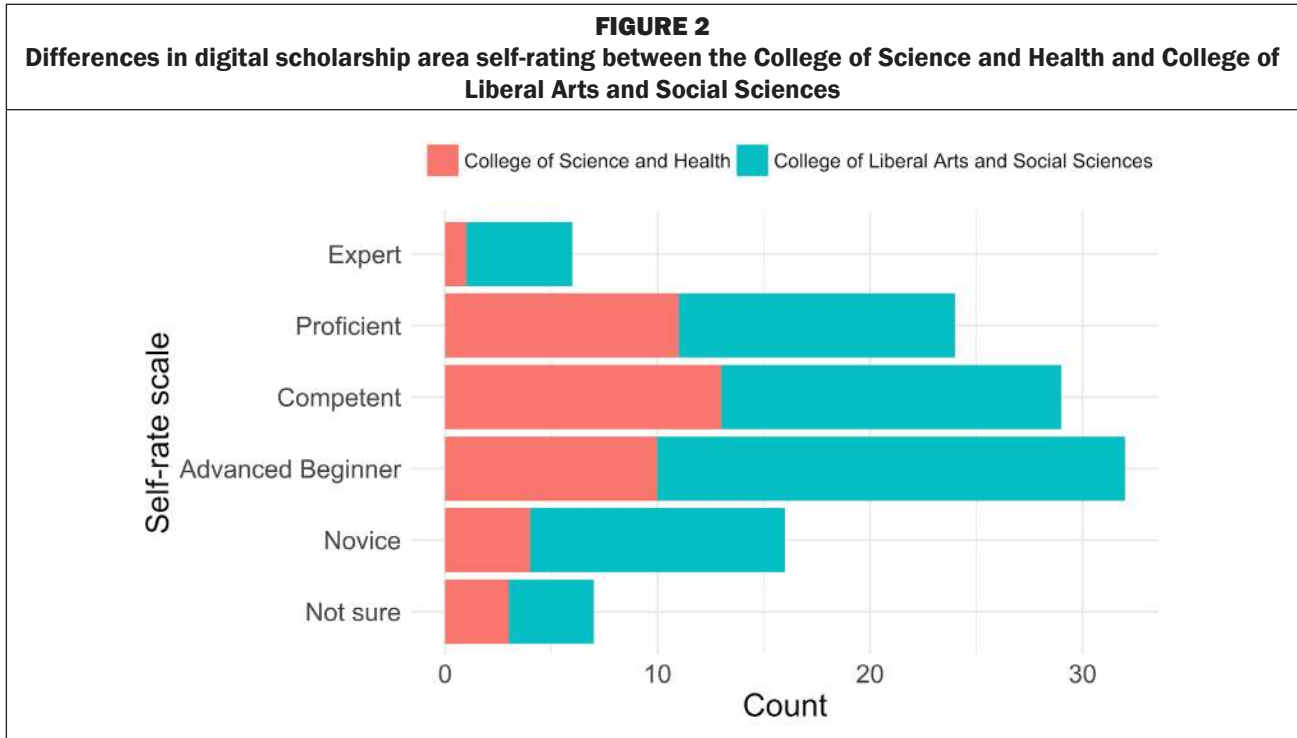
Most of the faculty surveyed self-identified as *advanced beginners* in the use of digital scholarship methods (53/24.65%), followed by *competent* (49/22.79%), *proficient* (40/20.47%), *novice* (40/18.60%), *expert* (15/6.51%) and *not sure* (14/6.98%). In other words, approximately 50% of faculty surveyed identified as *not sure*, *novice*, or *advanced beginners* whereas the other half identified as *competent*, *proficient*, and *expert*. This almost equal split across the six categories indicates the areas where we would like to see improvement in the future: we would like to increase the number of faculty who identify as *competent*, *proficient* or *experts*, while also decreasing the number of faculty across colleges who identify as *not sure*, *novice* or *advanced beginner*. Figure 1 indicates the distribution of self-rank.



A relatively large number of Associate Professors (24) identified as *advanced beginners*. This may be due to a lack of time and energy (due to the pursuit of tenure) to devote to the continued development of digital skills.

The self-ranking indicated several differences between colleges, in particular the College of Science and Health and the College of Liberal Arts and Sciences. The majority of faculty who participated in the survey from the College of Science and Health consider themselves *proficient* (13) and *competent* (13) while the majority of participants at the College of Liberal Arts and Social Sciences self-rated as *advanced beginner* (22). Figure 2 indicates this difference.

Other differences were also observed. For example, most of the participants from the College of Education, self-rated as *novice* (7) whereas *proficient* was the category that the majority of participants from the College of Computing and Digital Media chose (7). Most of the participants from the Driehaus College of Business rated themselves as either *competent* (7) or *proficient* (7). We do note, however, that faculty who self-rated as *experts* in the area of digital scholarship are represented across all colleges, as do faculty who rank themselves *novice*, *not sure*, and *advanced beginner*.



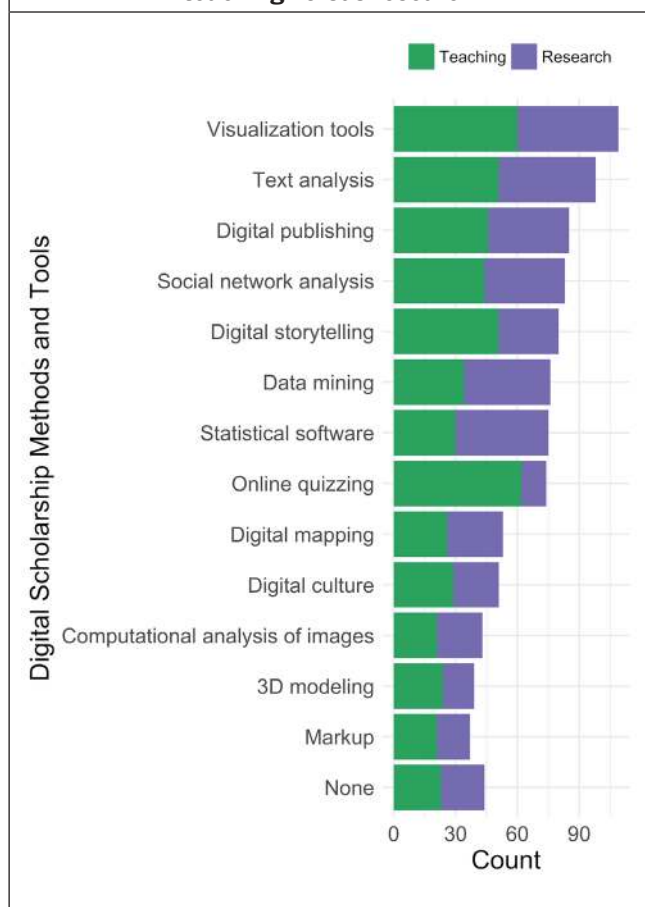
Digital Scholarship Technologies, Methods and Tools

To better understand the digital scholarship landscape at our institution, we asked a question that attempted to differentiate between methods/tools that faculty *currently incorporate* into their teaching and research, and those they would like to incorporate into their teaching and research in the future. Figure 3 visualizes the difference between *current use* and *an interest in using* digital scholarship methods and tools for both teaching and research:

As Figure 3 indicates, *visualization tools*, *social network analysis*, *digital mapping tools*, *text analytics*, *data mining* as well as *digital storytelling*, *computational analysis of images*, *3D modeling*, *markup*, show the largest difference in terms of how many faculty *currently use* these methods, and how many are *interested in using* them. These results provide us with pointers for the areas where we should be focusing our energies on in the future.

Figure 4 delves deeper into the *interested in using* category and highlights the distribution of votes for digital scholarship technologies and methods across *teaching* and *research* categories:

FIGURE 4
Differences between digital scholarship methods and tools faculty are interested in using for their teaching versus research



According to Figure 4, with the exception of *statistical software*, *data mining*, *digital mapping*, *computational analysis of images*, the level of interest in using technologies and tools is greater for teaching than for research. We also notice that *visualization tools*, *text analytics tools*, *statistical software*, *data mining*, *social network analysis*, *digital publishing*, *digital storytelling*, and *digital mapping* represent the most popular technology categories for faculty at DePaul.

As these results indicate, faculty are interested in a wide range of digital scholarship methods and tools. The categories indicating more *interest in using* than *current use* provide us with indicators for prioritization.

Library as a Connector

When asked, “What type of educational workshops and opportunities would support your digital scholarship research and teaching,” faculty responded that *developing additional skills* would be most helpful for both teaching (144) and research (147). *Working with other units* was the second-ranked category deemed helpful for both teaching (82) and research (104). Other categories included *identifying collaborators* (83—research and 68—teaching) and *better access to resources* (82—research and 67—teaching). *Securing funding* was deemed more helpful for research (104) than (52) for teaching.

The *developing additional skills* response supports earlier findings regarding the types of digital scholarship skills in which faculty are interested. The number of responses for the *working with other units* and *identifying collaborators* categories signal the need for an internal network of digital scholarship experts of sorts, and reinforces our desire to provide networking opportunities for faculty. For example, the interview process revealed—outside of the regular interview protocol questions—that faculty would like to see the library do more to leverage its position a connector on campus:

“It can be very broad but you [the library] can tie things, you can *make connections* that normally wouldn’t be made through online tools. It’s part of the communication process...”

“I feel that the library is a perfect vehicle for this and that it could be sort of like the *central distribution hub* of everybody’s work where people can sort of be more in touch with what’s going on with other faculty members and other research projects. And you could get people involved that you would normally oversee or not think of... There’s something happening here that can be used over there.”

“So, if there was a way for the library to have a system to deliver all of those things that different people have put together, I think that would be very useful.”

Making connections between people and campus resources in order to assist with the development of digital scholarship projects is one of our future goals.

Citation Management, Expert Searching, Long-Term Preservation

In addition to the areas identified above, the survey and the interviews identified three additional themes: *citation management, expert searching, long-term preservation*. While the majority (136) of faculty members indicated no use of citation management tools for the purpose of managing citations, many are interested in citation management workshops, especially with respect to their research (101) and (57) teaching. The survey and interviews also confirmed that faculty are interested in improving their information searching expertise, and helping students identify relevant literature for their classes and assignments. Faculty also indicated an additional area of improvement: saving and preserving research materials and data. 29 faculty indicated that they either Strongly disagree (1), Somewhat disagree (18), Disagree (10) that it is easy for them to save/archive their work.

Discussion

The results of the survey revealed a range of interests in digital scholarship across disciplines. While faculty in the College of Liberal Arts and Social Sciences showed the most interest in *textual analysis*, it is not stated as a top priority for faculty in the College of Science and Health, where support for *statistical software, data mining, and visualization tools* take higher priority. The Theatre School and College of Communication indicated the most interest in *social network analysis*, but the College of Business prioritized *data mining*. These findings suggest the need for a customized approach to supporting the divergent needs of the various colleges. However, customizing training and support would not only require more librarians trained in digital scholarship methods, it would also require the provision of access to more digital scholarship tools. For example, at present time, the library does not have access to its own server. This means that while access to instances of Omeka/Neatline, Scalar, and WordPress blogging platform may be obtained through the library, the overall management is hosted externally. This type of configuration suffers from certain limitations, and in particular curbs our efforts to introduce open source tools, platforms, or software. Also, while the current digital scholarship librarian can adapt her skill set to a variety of the digital scholarship methods and tools identified in our survey, we also want to make sure that “digital scholarship roles and services are not solely dependent on a single individual within the organization,”¹⁶ as suggested by Dan Cohen, Vice Provost, Dean and Professor at Northeastern University, during the CNI-ARL workshop in 2017.

Until such time that we have more support for the areas of digital scholarship and data services, our plan is to draw on our internal expertise and offer one-on-one consultations and a menu of workshops available on an *on-demand* basis in the areas of our current expertise (e.g. expert searching, citation management, text analysis, digital mapping, visualization tools, digital publishing, markup technologies). We also plan to reach out to Associate Professors who are interested in digital technologies, but who may lack time or resources to advance their digital scholarship skills.

The library has already begun to support a number of initiatives identified in our results, such as digital publishing, providing the externally hosted instances of Omeka/Neatline, WordPress, and Scalar mentioned above. Our institutional repository, Via Sapiientiae, provides a publishing platform for a number of open-access journals hosted by departments and faculty members. Additionally, our Wikipedian-in-residence provides support for faculty wishing to incorporate Wikipedia editing into the curriculum.¹⁷

The library has also offered several workshops that fall under the broad area of digital mapping; teaching faculty how to incorporate Neatline into classroom instruction, for example. Two text mining workshops were of-

ferred in 2017, one, in collaboration with Studio χ , geared towards faculty, which focused on using the HathiTrust digital library analytics platform to analyze volumes in the HathiTrust digital library, and another more general workshop aimed at library staff. Studio χ and the library have also begun to support digital storytelling, recruiting the experts from StoryCenter, who delivered two successful workshops. Finally, a DePaul faculty member who is an expert in the area of social network analysis, was recruited to conduct a workshop in 2018 on the use of Gephi, an open source tool for social network analysis.

As these examples show, a number of workshops and professional development opportunities for faculty have been offered by Studio χ and the library. However, one aspect that we still have not been able to address is the proposed interval and regularity for these workshops in the future. Additionally, while we have already begun to provide support in the areas discussed above, other areas such as *visualization tools*, *statistical software*, and *data mining* have received less support. These, in fact, represent areas that we will be focusing on going forward.

Unrelated to our survey results, the second floor of the Lincoln Park campus library underwent a significant change and renovation in 2017. A number of teaching and learning spaces were created, including media production studios and a “MakerHub” which supports 3D printing, vinyl and laser cutting, and sewing. Renovations also included media production studios and a Prysm visualization screen intended to support collaborative work. The addition of each of these spaces represents significant support for the emergent and current interest of faculty in the areas such as 3D modeling, media editing, and visualization.

Building Connections

Although the process of transcribing the interviews with 24 faculty members continues at the time of publication, one theme has already emerged. As mentioned earlier, faculty expressed their need to connect to other departments and learn of developments in other units across campus. In support of this need, the DePaul Library, in partnership with Studio χ , initiated a series of “Research Meet & Greet” events in autumn 2018. In order to bring faculty from different departments and colleges together to share information about their projects and interests, each event features a different faculty speaker presenting on their research, followed by a series of lightning talks. This forum also provides an opportunity to network and ask questions. The biggest challenge currently is finding the most convenient time for faculty to attend. The “Research Meet & Greet” events have also provided our librarians with an opportunity to grow their personal networks and learn more about projects and research happening throughout the university.

Our results revealed we already have a number of experts at DePaul in a variety of areas, such as digital mapping, social network analysis, data mining and digital storytelling. Beyond “Research Meet and Greet,” the interviews uncovered the need for an internal network of sorts through which one could identify researchers, departments, and centers able to provide assistance with statistical, textual or data analysis. Like many institutions, DePaul promotes a network of faculty and staff experts (<https://resources.depaul.edu/newsroom/find-an-expert/Pages/default.aspx>) available to speak to external audiences on a variety of subjects, but our results indicate a need for an internal network. We hope to create a similar resource in order to provide a way for us to associate particular digital scholarship skills with particular experts/units/centers/resources on campus. This type of mapping and networking resource would be available to DePaul researchers who are trying to find answers to their digital scholarship needs and queries.

Our plan is to continue to develop our partnerships with Studio χ and our Center for Teaching and Learning. The Library already collaborates with these centers; offering workshops and educational opportunities. We will continue to explore other opportunities for partnerships as they arise.

Finally, as the process of conducting the survey and interviews with faculty members revealed, one of the library's largest assets are the *relationships* that subject liaisons have with faculty, and that take years to cultivate and grow. We plan to intentionally and thoughtfully leverage these relationships in order to expand our social and professional campus network. These relationships can be leveraged to advertise the menu of services that we plan to offer, and help us identify and associate digital scholarship skills with particular faculty and/or units. It is these relationships that we believe will help us function as a research hub at the university able to "see things that are not visible to all."

Conclusion

Supporting digital scholarship and data services at any institution is a complex task. Digital Scholarship and Data Services are multi-faceted areas that incorporate a number of technologies, services, and platforms. The results of our survey point to notable differences between colleges that, in turn, lead us to recommend a diversified approach to supporting the needs of faculty. The results also indicate a need for a broadly conceived digital scholarship educational program. We plan to customize and individualize our suite of services by offering a menu of on-demand workshops and one-on-one consultations in order to increase our ability to support these areas. The library will continue to bolster digital scholarship services in cooperation with two centers at the university and also work on aligning specific digital scholarship skills with different units and faculty members. Throughout this process, it has become apparent that one of the largest assets we have are personal relationships that often may take years to build. We plan to continue growing our digital scholarship program by drawing strength from the networks that we have established.

Acknowledgements

We would like to thank Kindra Morelock, who worked as a Data Services Librarian at DePaul University at the time of writing the abstract, for her contributions to the development of this paper.

Notes

1. ACRL Research Planning and Review Committee, "Environmental Scan 2013," Association of College and Research Libraries, April 2013: 4-6, <http://www.ala.org/acrl/sites/ala.org/acrl/files/content/publications/whitepapers/EnvironmentalScan13.pdf>.
2. Lynn Connaway, et al., "2012 Top Ten Trends in Academic Libraries: A Review of the Trends and Issues affecting Academic Libraries in Higher Education." *College & Research Libraries News*, 73(6), 311-320. <http://crln.acrl.org/content/73/6/311.full>.
3. ACRL Research Planning and Review Committee, "Top trends in academic libraries: A review of the trends and issues affecting academic libraries in higher education" *College & Research Libraries News* 75, no. 6 (June 2014), <https://crln.acrl.org/index.php/crlnews/article/view/9137/10062>.
4. Janice Jaguszewski and Karen Williams. "New Roles for New Times: Transforming Liaison Roles in Research Libraries." Association of Research Libraries, (2013): 9-10, <https://www.arl.org/storage/documents/publications/nrnt-liaison-roles-revised.pdf>.
5. Anna Marie Johnson, "Connections, Conversations, and Visibility: How the Work of Academic Reference and Liaison Librarians Is Evolving." *Reference & User Services Quarterly* 58, no.2: 99, <https://journals.ala.org/index.php/rusq/article/view/6929/9382>.
6. David Lankes, "The Atlas of New Librarianship," (Cambridge: MIT Press, 2011), 33 <https://davidlankes.org/rdlankes/Publications/Books/OpenAtlas.pdf>.
7. Kent Gerber, "Conversation as a Model to Build the Relationship among Libraries, Digital Humanities, and Campus Leadership." *College & Undergraduate Libraries* 24, no. 2-4 (2017): 426. doi:10.1080/10691316.2017.1328296.
8. Emma Fontenot and Candace Forbes Bright, "Librarians as Facilitators of Collaboration: Implications from a Social Network Study of Academic Co-Authorship," *Mississippi Libraries* 80, no. 4 (2017): 74, Library, Information Science and Technology Abstracts.
9. Merinda Kaye Hensley and Steven J. Bell, "Digital Scholarship as a Learning Center in the Library: Building Relationships and Educational Initiatives," *College and Research Library News* 78, no. 3 (March 2017): 158.
10. Nancy Maron and Sarah Pickle. "Sustainability Implementation Toolkit: Developing an Institutional Strategy for Supporting Digital Humanities Resources," Ithaka S+R, June 2014, <http://sr.ithaka.org?p=22853>.
11. "Publications by CNI Staff" Coalition for Networked Information, last modified December 6, 2014, <https://www.cni.org/resources/publications> (accessed February 6, 2019).

12. "DLF eResearch Network Opportunities," <https://www.diglib.org/opportunities/e-research-network/> (accessed February 6, 2019).
13. "LibQual+," <https://www.libqual.org/home> (accessed February 6, 2019).
14. Anamika Megwalu, "LibQUAL+ and LibQUAL Lite," *Charleston Advisor* 20, no. 3 (2019), doi:10.5260/chara.20.3.34.
15. Smiljana Antonijević Ubois and Ellysa Stern Cahoy, "Developing Research Tools via Voices from the Field," *dh + lib*, Special Issue, July 29, 2016, <https://acrl.ala.org/dh/2016/07/29/developing-research-tools-via-voices-from-the-field/>.
16. Anna R. Craft, "Digital Scholarship Planning: A Perspective on the CNI-ARL Workshop," *Serials Review* 44, no.1 (February 2018): 69, doi: 10.1080/00987913.2018.1433930.
17. Scott Walter, "The Wikipedian on Campus," *The Full Text*, July 2, 2018, <https://news.library.depaul.press/full-text/2018/07/02/the-wikipedian-on-campus/>.

Bibliography

- ACRL Research Planning and Review Committee. "Environmental Scan 2013." Association of College and Research Libraries (April 2013): 4-6. <http://www.ala.org/acrl/sites/ala.org.acrl/files/content/publications/whitepapers/EnvironmentalScan13.pdf>.
- ACRL Research Planning and Review Committee. "Top trends in academic libraries: A review of the trends and issues affecting academic libraries in higher education" *College & Research Libraries News* 75, no. 6 (2014): 294-302. <https://crln.acrl.org/index.php/crlnews/article/view/9137/10062>.
- Antonijević, Smiljana Ubois, and Ellysa Stern Cahoy. "Developing Research Tools via Voices from the Field." *dh + lib*, Special Issue (July 2016). <https://acrl.ala.org/dh/2016/07/29/developing-research-tools-via-voices-from-the-field/>.
- Connaway, Lynn, Janice S. Lewis, Stephanie Alexander, Yunfei Du, Brad Eden, Barbara Petersohn, Merrilee Proffitt, and Lutishoor Salisbury. "2012 Top Ten Trends in Academic Libraries: A Review of the Trends and Issues affecting Academic Libraries in Higher Education." *College & Research Libraries News* 73, no. 6 (June 2012): 311-320. <http://crln.acrl.org/content/73/6/311.full>.
- Craft, Anna R. (Contributor). "Digital Scholarship Planning: A Perspective on the CNI-ARL Workshop." *Serials Review* 44, no.1 (2018): 64-70. doi:10.1080/00987913.2018.1433930.
- "DLF eResearch Network Opportunities." <https://www.diglib.org/opportunities/e-research-network/> (accessed February 6, 2019).
- Fontenot, Emma, and Candace Forbes Bright. "Librarians as Facilitators of Collaboration: Implications from a Social Network Study of Academic Co-Authorship." *Mississippi Libraries* 80, no. 4 (2017): 73-78.
- Gerber, Kent. "Conversation as a Model to Build the Relationship among Libraries, Digital Humanities, and Campus Leadership." *College & Undergraduate Libraries* 24, no. 2-4 (2017): 418-433. doi:10.1080/10691316.2017.1328296.
- Hensley, Merinda Kaye, and Steven J. Bell. "Digital Scholarship as a Learning Center in the Library: Building Relationships and Educational Initiatives." *College & Research Libraries News* 78, no. 3 (March 2017): 155-158.
- Jaguszewski, Janice, and Karen Williams. "New Roles for New Times: Transforming Liaison Roles in Research Libraries." Association of Research Libraries (2013): 9-10. <https://www.arl.org/storage/documents/publications/nrnt-liaison-roles-revised.pdf>.
- Johnson, Anna Marie. "Connections, Conversations, and Visibility: How the Work of Academic Reference and Liaison Librarians Is Evolving." *Reference & User Services Quarterly* 58, no. 2 (2018): 91-102. <https://journals.ala.org/index.php/rusq/article/view/6929/9382>.
- Lankes, David. *The Atlas of New Librarianship*. Cambridge: MIT Press, 2011. <https://davidlankes.org/rdlankes/Publications/Books/OpenAtlas.pdf>.
- "LibQual+." <https://www.libqual.org/home> (accessed February 6, 2019).
- Maron, Nancy, and Sarah Pickle. "Sustainability Implementation Toolkit: Developing an Institutional Strategy for Supporting Digital Humanities Resources." Ithaka S+R. Last Modified 18 June 2014. <http://sr.ithaka.org?p=22853>.
- Megwalu, Anamika. "LibQUAL+ and LibQUAL Lite." *Charleston Advisor* 20, no. 3 (2019): 34-39. doi:10.5260/chara.20.3.34.
- "Publications by CNI Staff." Coalition for Networked Information. Last modified December 6, 2014. <https://www.cni.org/resources/publications> (accessed February 6, 2019).