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Digital Scholarship Needs Assessment: Binghamton University 2022

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Binghamton University Library

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INTRODUCTION

Purpose of Needs Assessment

As digital scholarship and digital humanities (DS/DH) continue to grow on campus the libraries continue to collaborate with campus communities to ensure faculty, staff, and graduate and undergraduate students' research, classroom, and learning experiences in these fields are supported. The type of support needed can drastically change from one year to the next depending on the technologies, tools, and research being done in the DS/DH fields. Those constant changes make it imperative for the libraries to stay actively involved with the DS/DH community on campus. Regular needs assessments are a way the libraries can stay involved with the community and ensure we are providing the necessary tools, workshops, and spaces that the DS/DH community on campus needs.

For this needs assessment we had three goals. The first was to determine the focus and interest of digital scholarship on campus considering current trends in research, projects, and general interest. The second goal was to gather information about the current understanding of digital scholarship and digital humanities work on campus, and the third goal was to compile assets and barriers people engaging in digital scholarship face on campus. By focusing the assessment on these goals, we aimed to collect relevant and useful information that would inform what services and projects to prioritize within the digital scholarship department in the libraries. In addition to these goals, the needs assessment was an opportunity for the new digital scholarship librarian to start making connections and building relationships within Binghamton's digital scholarship community.

The needs assessment was done over the course of the spring semester and was one of the first major projects undertaken by the new digital scholarship librarian. Data was collected through a series of interviews that took place in-person and over zoom. From the data, we discovered four major areas of concern within the DH/DS community on campus. Those categories are access to DS/DH campus resources, building a stronger sense of community, providing a better system of support for those starting and sustaining long-term projects, and creating a holistic approach to engaging in DS/DH research and pedagogy. While the libraries cannot address all the concerns at once there are action items we can focus on to create a more visible, informed, and stable community of practice on campus. While digital scholarship on campus becomes more visible and popular the community also continues to grow. The libraries' digital scholarship team is an integral and enthusiastic member of that community and is eager to participate in its growth. We aim to do this through creating responsive community-informed resources through our physical and digital spaces.

Background and Research

Definitions

Digital scholarship and digital humanities are both umbrella terms encapsulating a myriad of research practices, tools, and theories. Digital scholarship is often summarized as the use of digital tools or methods in the service of research or pedagogy (Roemer, 2019; Eichmann-Kalwara et al., 2021). Digital scholarship includes scholarly communications, emerging digital technologies, and exploration of digital advocacy, justice, and access. Digital humanities, which falls under the umbrella of digital scholarship, could be defined, in very broad terms, of being digital scholarship that is done in service to the humanities fields. Indeed, the exact definition of digital humanities is constantly being considered and re-considered as technologies and practices continue to change the landscape of scholarship and pedagogical practice (Oiva, 2020). However, both terms are often associated with highly collaborative and interdisciplinary practices that promote the use of technology as often as they critique and question them. For the purposes of this report DS/DH are often used interchangeably, not because the terms are the same, but because they are both such large umbrellas. Eichmann-Kalwara et al. discuss the difficulties of these large terms as they are often interpreted in different ways by librarians and researchers (2021). There were many participants in the study doing what is considered digital scholarship who were unaware their work fit within this field. Learning more about how DS/DH practitioners on campus consider themselves will help the libraries create a more solid definition of these terms for our own community of digital scholars and humanists.

Digital Scholarship, Digital Centers, and Digital Scholarship Services

This extremely brief literature review shows the often center-centric focus of studies done on digital scholarship or digital humanities. It also helped to discover many of the barriers to doing DS/DH are experienced on campuses other than Binghamton. The literature review helped brainstorm potential actions to address similar issues on Binghamton's campus and to better contextualize our own work as a digital scholarship team. The other part of the research concerned how digital scholarship librarians perceive themselves and are perceived by researchers on campus. Since DS/DH are collaborative fields that involve a myriad of tasks, skills, and methods building equitable collaborations within those projects in essential. Having a better understanding of where and how digital scholarship teams have situated themselves on campus, beyond the physical and digital realm of the center, as scholars was included in the literature review to contextualize that we are invested in this work not only as digital scholarship librarians, but as scholars too.

Digital scholarship is growing across campuses as librarians and scholars establish collaborations, spaces, and workflows that support digital projects and work. Within the literature digital scholarship centers are

often created as a response to growing DS/DH needs on campuses. These centers, which are growing in number, come in a variety of names and sizes. Centers are often highly tailored to their campus and community and contain varied services from a full GIS research lab to a collaborative workroom with tables, chairs, and whiteboards. Research about digital scholarship is often center-centric focusing on the creation, staffing, and work that occurs within digital scholarship centers (Miller, 2017; Longmeier, Murphy, 2021). Studies that discuss the transfer of knowledge between scholars (Oiva, 2020) or how liaison librarians can be involved in digital scholarship (Hannah, Heyns, Mulligan, 2020) still focus that research around discussions of digital scholarship centers. These studies show the importance of digital scholarship centers to digital scholarship communities on campus whether or not those centers are manifested in physical or digital spaces.

The relationship between digital scholarship centers and digital scholarship communities on campus is also apparent in the research about how these centers are created. When building the Digital Matters Lab at the University of Utah the Digital Matter's working group focused on building a strong community of practice and connecting digital scholars across their campus first to ensure the success of their physical space (Cummings, Roh, Callaway, 2020). Specifically, this approach differed from previous failed attempts to build a center that had not established community buy-in or purpose yet.

Other studies detailing the creation of digital centers argue for the importance of expanding offerings beyond center walls to engage the digital scholarship community in the center and digital scholarship more broadly. At Rhodes college a Mellon grant allowed the digital scholarship team to create communities of practice centered around building the presence and community of digital scholarship and digital projects on campus (Newman, Bonefas, Trentham, 2017). The grant funded CoP did not lead to the creation of a center (although the study mentions a potential renovation of library space), but a network of scholars acting as liaisons to their departments and campus as experts and practitioners of DS. Similarly, SUNY Stonybrook created a series of Open Mic nights that invited digital scholars to share their research and engage in informal networking with other members of Stonybrook's campus (Kasten-Mutkus, Costello, Chase, 2019). While Stonybrook does not have a formal digital scholarship center, these Open Mic nights gather campus members from across campus to one event showcasing the library and its role in promoting and connecting digital scholars.

When creating a digital center at the University of Calgary Christie Hurrell began with an assessment to determine how a center might serve the campus community better (Hurrell 2019). Hurrell found that the DS community on their campus had three main concerns: finding space and community to practice digital

scholarship, finding interdisciplinary collaborators, and finding training and consultations on digital scholarship tools. With that feedback the University of Calgary created not only a physical space, but also a service model for consultations and outreach to create a wider boundary of support within the created lab space.

Li, Song, Lu, and Zhou did a case study for their university library, Wuhan University Library, and what services their campus most sought from their digital scholarship services team (2020). They found five areas that researchers looked for including formulating and brainstorming research questions, finding research partners and setting up collaborations, writing research proposals, provide tools and training for creation of digital projects, and to find suitable research materials (Li, Song, Lu, & Zhou, 2020). Together, these studies show very similar concerns and needs for digital scholarship services on campuses, especially considering the emphasis centers often have on networking and building collaborative relationships on campus.

The literature on the work of the digital scholarship librarians continues to highlight the collaborative nature of the job. Leigh Bonds, from Ohio State University, breaks down the steps to running a successful consultation about digital humanities projects (Bond, 2018). The collaborations that come out of those initial consults are often used as an assessment to determine how consultations contribute to that collaborative work although tracking the 'success' of these measures can be difficult (Bond, 2018). The University of North Carolina Greensboro libraries took the demand for library/faculty collaboration and created a Digital Partners program (Bucknell, 2018). The Digital Partners Program rewards applicants with dedicated time from a library partner who may be a subject librarian, archivist, or digital scholarship librarian. The program gave faculty what they were seeking, which was dedicated time and expertise on their projects, and allowed the library to start building a community of DS/DH 'champions' on campus and build the visibility of the library as a service.

There is also research investigating the nature of collaborations between digital scholarship services and centers in libraries and faculty scholars. While these relationships are often discussed in terms of collaboration they are not always seen as equitable. One study surveyed librarians and faculty members to determine how collaborations are approached from both kinds of digital scholarship practitioners (Webster, 2019). Findings from the study showed that collaborations were usually initiated by scholars, not librarians. According to their results 17.8% of librarians were invited to join collaborations because of their particular skill set while 28.8% of scholars were invited to collaborate for the same reason. Additionally, 21.1% of scholars invited themselves onto collaborations while only 6.7% of information professionals reported doing the same. The results show that while information professionals and scholars are both sought out based on

their skill sets, scholars are more likely to choose and volunteer for projects. Webster argues that information professionals' lack of time and resources makes them less free to volunteer for projects. Instead, information professionals wait to be asked to be involved in projects allowing them to prioritize their time better (2019, 12). Webster's study reveals that even when collaborations are seen as mutually beneficial there are still issues with equity concerning how and when information professionals are involved in collaborative projects.

The differences in expectations between scholars and librarians is often at the center of discussions of the equity of collaborations between the two groups. Trevor Munoz has written about the digital scholarship librarians and the importance of situating their work within a wider history of librarianship (Munoz, 2016). Munoz writes that there is an "othering" of research that makes it into something done by faculty and not librarians and that also:

> common patterns of professional discourse seem to divide research into two kinds: topics related to the efficient business operations of libraries as institutional structures, and everything else. The former is strongly preferred so that, even when research is admitted as part of librarianship, it seems like an extension of management. (Munoz, 2016, p.4)

Instead, Munoz advocates for research to be seen as a core portion of library work including the work of digital scholarship librarians.

However, it is not always easy for librarians to be seen as scholars on their campuses or even as professionals. Specifically, digital scholarship librarians find themselves navigating multiple identities in a dichotomy of librarian-scholars that makes it feel as though they are inhabiting an in-between space or as Huet, Alteri, and Taylor have coined the 'hyphen' (2019). To the authors, life on the hyphen means not being seen as scholars by campus members and not being supported by their departments' lack of solid research expectations and job descriptions. The invisibility of labor was also discussed by Graban, Marty, Romano, and Vandegrift in a two-day symposium where attendees discussed invisible labor in digital scholarship work (2019). From that symposium the authors acknowledged that librarians had different motives and ideas of earning 'credit' either as authors or collaborators and that while visibility is an issue creating value for digital scholarship labor and work was more important. Digital scholarship librarians have a lot to balance in their work between centers, services, and professional development to ensure they are promoting and supporting their community as well as advocating for themselves and involvement in this work.

Digital Scholarship at Binghamton

Binghamton's community of digital scholars is constantly growing. Like on many campuses the particular tools and methods of interest may change from year to year, but there is a steady interest in DS/DH on campus. Transdisciplinary Areas of Excellence in Data Science and Material and Visual Worlds have both held worships and events concerning DH and DS projects and practices. There is also a Digital and Data Studies Minor being created on campus as well as a Digital Storytelling Initiative launching in the Fall of 2022. The Spatial Humanities Working Group (SHWG) on campus has held a series of workshops on GIS technology supporting graduate, faculty, and staff members across campus. As DS and DH become more visible on campus to its students, faculty, and staff the campus will need to be able to offer the support, infrastructure, and instruction DS/DH practitioners will need to create, explore, and teach within these fields.

The libraries have been developing resources and spaces, physical and digital, to address those current and future needs. The digital scholarship department is housed within the larger department of library systems and digital initiatives. The libraries' digital scholarship team only had one official member until this past Spring when an additional digital scholarship librarian was hired and there is current search for a third digital scholarship librarian. The current digital scholarship team handles digital publishing and scholarly communications helping to manage our digital repository The ORB. It also handles questions about accessibility and copyright although we partner with other campus and library departments within those fields. In general, the team is available for individual consultations with faculty and students to discuss their research and classroom needs. We also provide classroom instruction on tools and digital methods instructors are introducing or working with in their classrooms.

The libraries also had a major role, along with partners from Harpur College, in creating and leading the DHRI, the Digital Humanities Research Institute. The DHRI is held every other summer at Binghamton for one week. The week consists of a series of workshops where scholars learn about emerging tools, research methods, and project management through hands-on experience. The workshops have been very successful and have led to a series of class and research projects, and campus-wide collaborations such as the Spatial Humanities Working Group. In addition to the DHRI, a Digital Storytelling Workshop is also being planned to occur during the DHRI's off summer. In the future, both workshops should run alternatively every summer and help support and promote the work of digital scholars and humanists on campus.

In addition to continuing to participate in both summer workshops, the libraries are also building a new Digital Scholarship Center that will be housed on the third floor of Bartle library. There is currently a pilot Digital Scholarship Center on campus that we are hoping to fully launch in the Fall of 2022 and use to host

workshops, classes, and events. The space should help make digital scholarship more visible and generate interest in DS/DH on campus and the new space. We also hope that we can use the data we gather from the pilot's launch to inform our plan for the new center being built on the third floor of Bartle library.

With new team members, new campus spaces, and many exciting collaborations and initiatives happening within digital scholarship on campus the digital scholarship team is looking forward to engaging even more with our campus community. Now that we have a team of people, rather than one staff member, we are looking forward to being able to engage more through workshops, class sessions, and collaborations. DS/DH on campus is truly a community and not just a single department, office, or building on campus and we are looking forward to finding our space in that community and supporting it through the libraries.

NEEDS ASSESSMENT

Methodology

The needs assessment took place between March 15th and April 30th. The initial call for participation was sent out to a list of persons who had previously engaged in the Digital Humanities Research Institute, had reached out to the digital scholarship department for a consultation, or who were actively engaged in digital scholarship or digital humanities related research or activities. More names were gathered from participants as the assessment progressed to create a snowball sampling of participants. In addition, a Google form was sent out through Dateline and subject Librarians. There were no responses gathered through that form.

For this round of the needs assessment only faculty, staff, and graduate students were asked to participate. While we considered ways that we could include undergraduates into our study we ultimately decided that focusing the study on faculty, staff, and graduate students was more feasible given the time frame and scope of the assessment. Similarly, the assessment focused on departments and offices on campus that were associated with the digital humanities or digital scholarship more broadly. Our focus for this assessment did not extend beyond Harpur College except for a few related offices, such as the Center for Learning and Teaching, GIS Core, and others, that have either collaborated in or have a direct relationship to digital scholarship and digital humanities initiatives on campus. Additionally, while the assessment tried to reach out to as many departments as possible within Harpur some departments were not contacted as they would be included in a needs assessment planned for the Fall. That assessment will be done by the incoming Digital Scholarship Librarian, assuming a successful search, and will focus on gathering information from fields more closely related to data driven fields than digital humanities.

For the assessment, participants were invited to one on one interviews that took place in-person and over zoom. Interviews ranged from 20 to 60 minutes in length. Questions during the interview focused on participants' work within DS/DH or relevant fields. Participants were asked about their related research, classroom practices, work practices, and personal interest in DS/DH. While there were set topics brought up in each interview, interview questions were dependent on the person being interviewed, their interest in DS/DH, and their experience within such fields. Interviews were more casual than formal question and answer sessions and allowed participants to bring up any concerns or topics that they wanted to discuss. Notes were collected during the interviews that included quantitative and qualitative data.

Qualitative data collected included participants' use, familiarity, and interest in DS/DH tools and practices within their work including research, teaching, and professional development. Following the guidelines for

contextual design, notes were gathered that captured participants' relationship to digital scholarship on Binghamton's campus (Wendell, Holtzblatt, Wood, 2004). Notes were transcribed into digital notecards with one statement, reaction, or quote on each card. Then, cards were organized into a four-part hierarchical structure called an affinity diagram. The first level of the affinity diagram contains the transcribed notes grouped into similar categories, the second level gathers those groupings into a broader category and so on until the last level which contains broad categories of the grouped data. This approach works well with qualitative data and works as a visualization as well as organization of the data. Some of the notes from this data are shown below in figures 1-3. Quantitative data collected included the tools people mentioned they were using, departments or offices people worked within, and whether they were faculty, staff, or graduate students.
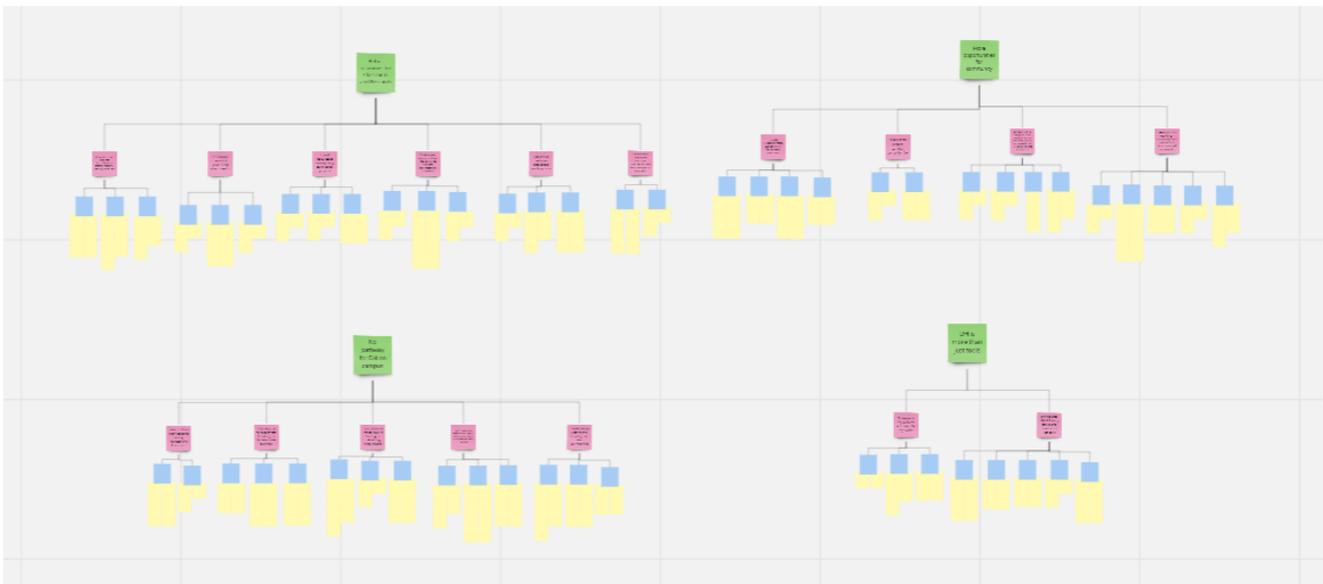

Figure 1: Affinity diagram showing hierarchy of notes

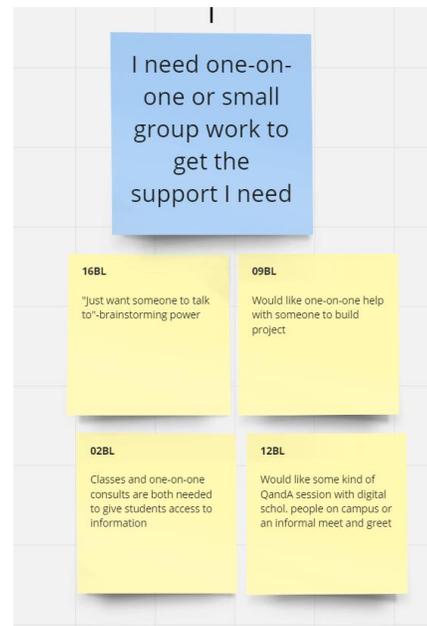Figure 2: Pink, blue, and yellow notes from the affinity diagram

Figure 3: Yellow and blue note from the affinity diagram

Data Analysis

Quantitative Analysis

There were 17 faculty, 6 staff members, and 10 graduate students interviewed over the course of the needs assessment totaling 33 interviews. Departments or offices on campus represented within the needs assessment were: History, Comparative Literature, TRIP, Sociology, English, Anthropology, Comparative Literature, Art and Design, Art History, Asian and Asian and American Studies, Center for Learning and Teaching, Disability Services, Geography, Harpur Edge, Public Administration, Research and Development, and Romance Languages. The breakdown of these departments can be seen in Figure 1.
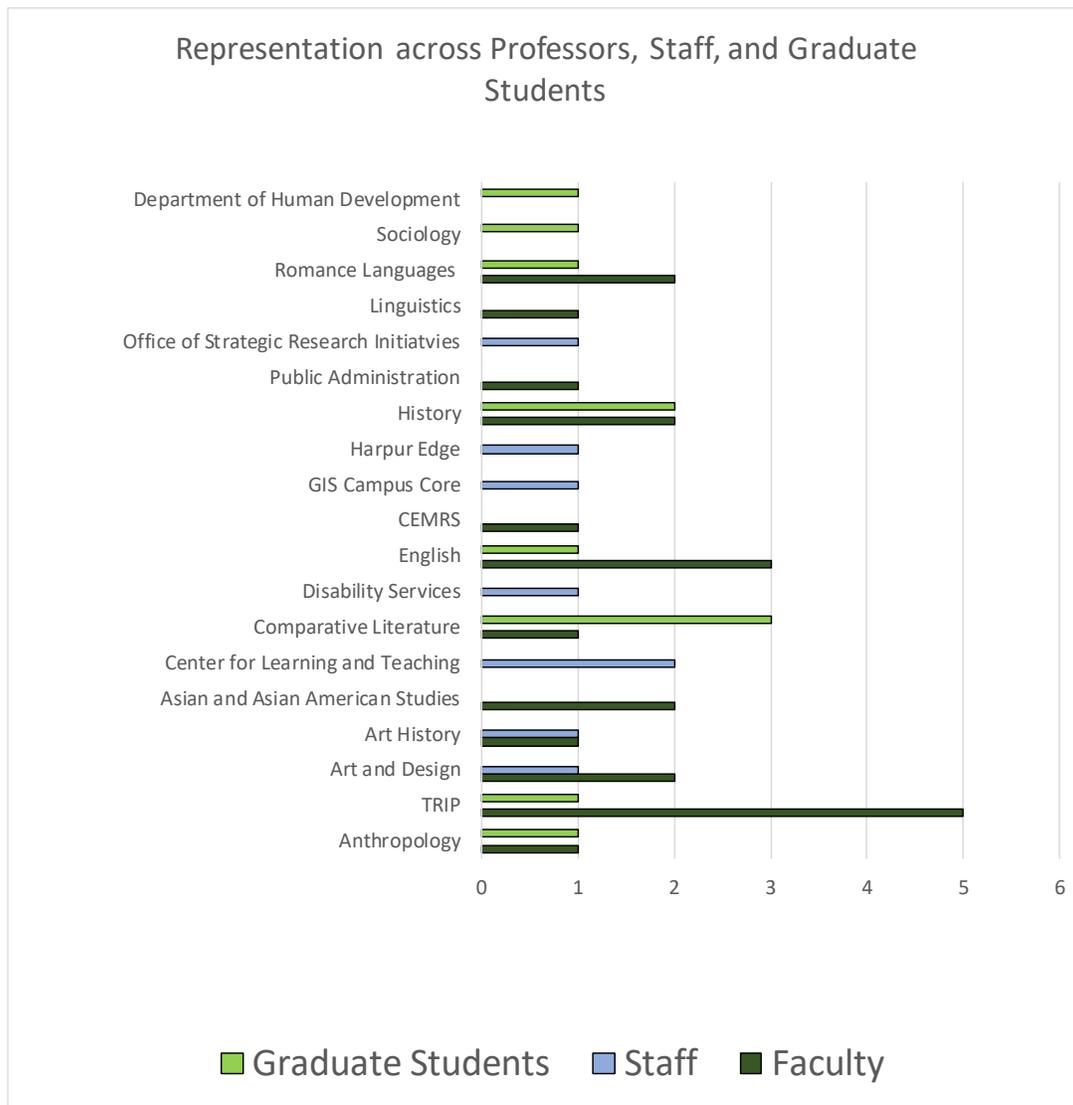
Figure 4

The most represented department was TRIP with a total of 5 faculty and 1 graduate student representing that department. However, faculty who were cross-listed across departments were listed in each area of study. Because TRIP is an interdisciplinary program that can account for why it is so widely represented in the study. The next most represented departments are History, English, and Comparative Literature.

In addition to departmental data, the study also collected some data about tools participants were engaging with. Each time participants mentioned using or potentially using a specific tool or digital method it was noted down. Tools were not included if they were mentioned as something the participant was aware of, but had no interest in using. Podcasting and mapping, particularly ArcGIS, were the most popular digital methods and tools discussed in this context. The word map (figure 5) and graph (figure 6) below represent

the frequencies of how often tools were noted across interviews showing top methods and tools to be podcasting, ArcGIS, followed by a tie between Wordpress, Timeline JS, and Storymaps.
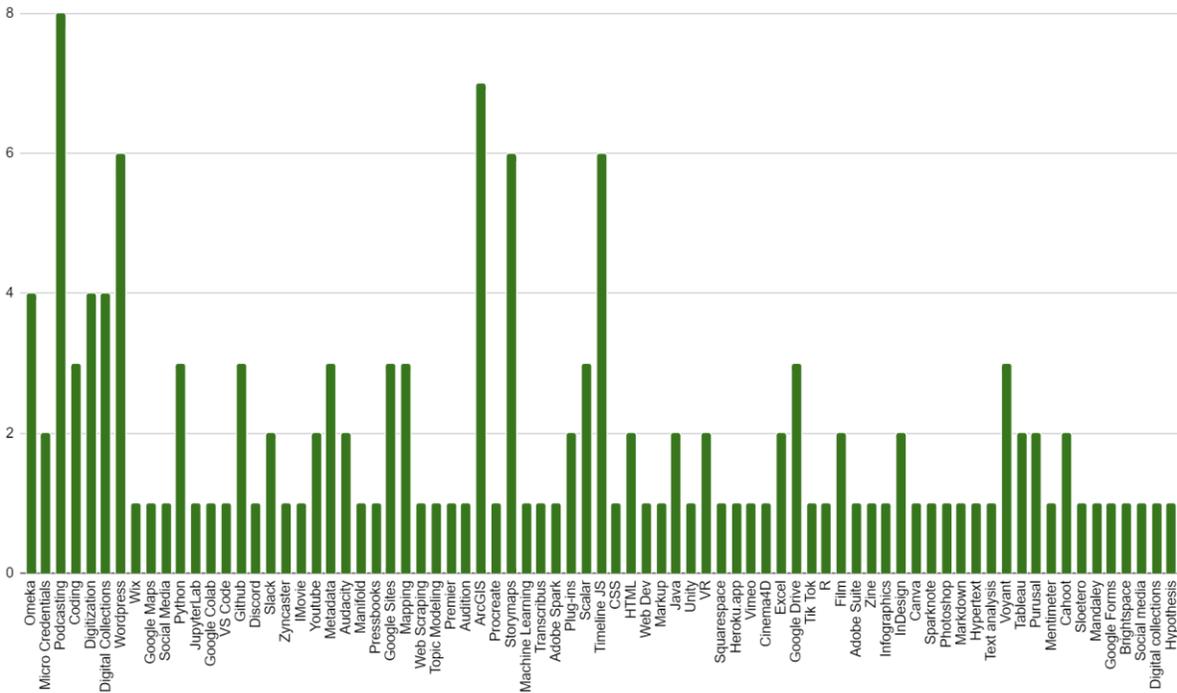

Figure 5: Word Cloud of tool frequencies

Figure 6:Bar Graph of frequency of tools mentioned during interviews

The other thing to note is that many of these tools were only mentioned once across 33 interviews. While there are plenty of resources currently supported and promoted by the libraries, participants tend to explore tools on their own. However, when things are popular on campus, like podcasting or mapping, they become part of a trend. The graph shows this happening with tools like Omeka, Wordpress, and ArcGIS. While the data does not reveal how participants learned about the tool, we do know that these tools are being used by many researchers on campus, have been shown in the DHRI and similar workshops, and show up frequently in consultations. Therefore, it is not wholly without foundation to say that many of the popular tools on campus are ones that are promoted or supported on campus already either through the libraries or other groups, such as the Spatial Humanities Working Group. A more in-depth study of tool use on campus may help the digital scholarship team on campus understand how people learn, choose, and use digital tools to support their work and if these trends in tool use are measurable in any way.

Qualitative Analysis

The affinity diagram resulted in four major categories of data: access to DS/DH resources on campus, building a stronger sense of community, providing a better system of support for those starting and sustaining long-term projects, and creating a holistic approach to engaging in DS/DH research and pedagogy. Altogether, these categories reveal barriers to accessing digital scholarship on campus whether that is accessing tutorials, collaborations, teaching support, or digital literacy. Additionally, a lack of visibility of digital scholarship resources, ongoing projects, and practitioners is present throughout the data. As faculty, staff, and graduate students begin to incorporate digital platforms, tools, and methods into their research, work, and pedagogy they struggle to know where to go for help planning, building, and teaching digital tools and methods.

Better Resources

Throughout the assessment participants brought up a need for better resources that support digital scholarship on campus. These resources include online tutorials or recorded workshops for self-teaching, better infrastructure for digital publishing, and access to classroom support for teaching digital methods and tools. The type of support also varied widely between those seeking introductory help for learning basic skills and those needing more in-depth support for long-term and sometimes already established digital projects. However, while the type of support requested was different, participants all requested better ways of finding support online through the libraries' web pages. Participants also expected the libraries to provide access to digital tools and materials by purchasing licenses and databases for participants to use.

While the libraries and other departments on campus have some resources available for researchers and instructors, these resources are hard to find and not very visible. Many participants recounted learning about digital scholarship 'by accident'. One participant recounted how they found out about the digital scholarship department in the libraries because they were reaching out to their subject librarian for information about copyright and happened to be connected to the digital scholarship librarian when mentioning it was for a digital project. While this is a good example of library colleagues collaborating together there is room to improve the accessibility of digital scholarship resources on campus and make them more discoverable.

The lack of available resources on campus made many participants feel unprepared to teach digital methods or tools in their classrooms. Participants mentioned not knowing who they could reach out to get classroom support for a classroom visit or more in-depth questions about designing courses around digital scholarship pedagogy. Instructors often brought up questions about how to design courses that balanced teaching tools, research methods, and creating accessible content without being overwhelming. Many felt limited by their own knowledge expressing that they were not good at explaining technology or felt stuck teaching methods and tools in one way that they felt limited their student's experience with digital scholarship. Participants asked for resources that might help them build their own pedagogical approaches or information about who they can contact on campus for better in-class support. Participants also asked for resources that would help them learn digital tools and methods to improve their own skills and research. Related to classroom support, participants felt if they had a better grasp of the methods and tools themselves it would be easier for them to fit it into their classrooms. Tutorials, self-guided lessons, and workshops were all brought up across multiple interviews where participants mentioned it would be useful if the libraries created these resources and made them available online. While there are currently some workshop materials on the ORB and listed on pages across Binghamton's website there is no singular source listing all available materials.

In addition to providing learning and teaching support, participants frequently mentioned needing more focused support for their personal projects such as purchasing tools or advising on grant funding. While some participants brought up specific tools and platforms they wished the libraries had access to, many other participants wished the libraries had more information about open access and free software options they could use or teach instead. In both cases, the libraries were seen as a potential hub for these tools either as purchaser or supporter. Funding support was asked for not only in terms of purchasing tool and software licenses, but also, more generally, for help obtaining grant funding for digital projects. In these cases, support concerned what type of information scholars might need to include in the grant and how much of a role a digital scholarship librarian should or could take on individual grants. Currently the digital

scholarship department in the libraries is not equipped with the staff or resources to be able to offer long term commitments to individual projects. However, there is some room for collaboration that would be beneficial to clearly delineate. Altogether, these inquiries show participants see the libraries as a key collaborator and source of support for long term projects and research.

Opportunities for Community

The second category on the affinity diagram concerns participants observations on the digital scholarship community on campus. Participants' needs and expectations for that community varied somewhat. Some participants were more interested in collaborative initiatives on campus that would help boost classroom practices while other comments were more concerned with the effect silos across campus are having on digital scholarship. Many participants felt that barriers to building collaborations or a better community of digital scholarship on campus resulted from digital scholarship's poor visibility. Also, there were some participants who did not realize the work that they were doing might be considered DS/DH related work and were not even sure what digital scholarship and digital humanities were. The lack of visibility or any sort of formal network of DS/DH on campus may be part of what is creating the silos on campus and making it difficult to recognize digital scholars and digital scholarship.

Participants who discussed wanting to build or participate in collaborations around DS/DH on campus described a few different types of collaborations they were interested in. Some participants wanted to build stronger ties within their department between those who were doing digital scholarship and those who weren't. By collaborating more within their department, they might be able to break down some of the silos that existed there. Other participants called for more interdisciplinary collaborations and finding ways to merge STEM experts and humanities experts to build projects that were technically and thematically sound. Many others sought teaching partners and ways of creating collaborative events to entice a wider campus audience and promote digital scholarship and digital/data literacy more generally. Others wanted more one-on-one or cohort type collaborations that would help with their accountability and growth as a digital scholar and keep them on track as they learned a new skill or worked on a project. Whatever form of collaboration they were seeking, participants saw the libraries as a potential conduit for collaborations and building up the community of digital scholars on campus.

Besides looking for collaborations, many participants struggled to feel accepted or have their research accepted as digital scholars on campus. While some participants felt supported by their advisor or department, whether or not digital scholarship is valued is highly dependent on participants' area of study or work. Currently many of the barriers faced on campus for participating or focusing on digital scholarship

and digital humanities work do not have to do with Binghamton's campus in particular, but the general acceptance of digital work in academia. While Binghamton is making space for digital projects and research many participants feel stifled by their departments' privileging of traditional research practices for tenure, full professorship, and doctoral work and focus. For graduate students especially, whether or not they are given time to work on digital projects depends entirely on their advisor. Overall, this led to participants feeling like they were often in-between spaces on campus and struggling to find a way to resolve what they wanted to do with their research versus what they needed to do with their research to be promoted or graduate.

Of course, there are many faculty and staff on campus involved in digital scholarship, but many of these persons are already tenured and therefore feel a little freer to direct their research beyond traditionally accepted means of publication. However, many participants worry about how push back against DS affects Binghamton's ability to create a community of digital scholarship on campus. Currently there are a few 'champions' of DS/DH on campus and participants feel wary that losing one or more of them may cause a huge setback to the current initiatives on campus. Indeed, when asking for names at the end of needs assessment interviews participants would often list all of the persons who were often referred to as the "DH people" on campus. It would be beneficial to grow this circle to include more people to solidify the presence of digital scholarship on campus and build a network of collaborators, advocates, and practitioners of DS/DH across campus.

Starting and Sustaining Digital Projects takes a lot of Resources

Investment, sustainability, and interest were topics that also affected faculty, staff, and graduate students' personal commitment and ability to start and maintain digital scholarship or digital humanities projects. Learning new skills, investigating new software, and building long-term sustainable digital projects all require immense time, labor, and sometimes monetary commitments that DS/DH practitioners found they did not have the correct support for. Some of these barriers are similar to those mentioned above, where there is no real incentive or reward for doing DS/DH on campus. It is difficult for faculty and graduate students to invest their resources into scholarship that will not be given real consideration for tenure, promotional, or doctoral review. That said, there are many things the digital scholarship team is doing and can build on to help faculty, staff, and graduate students stay invested in their digital projects.

Many participants mentioned attending the DHRI, Digital Humanities Research Institute, as their first real foray into digital scholarship and the digital humanities. Participants enjoyed the DHRI and felt that it helped them understand DS/DH a little better and get a good introduction to many of the tools and projects within

the field. At the same time, participants felt overwhelmed by the material covered by the DHRI and had a hard time grounding what they learned in their own work and research practices. Many participants remarked that they wished they had had a project to bring to the DHRI or work on during the DHRI to get a better experience from the tools and methods they were encountering over the course of the week. Relatedly, when participants left the DHRI they did not feel like they could remember enough or knew enough to implement what they learned. Since the DHRI is often an introduction to DS/DH it is important to ensure it equips people with the knowledge or resources necessary to sustain their interest and needs.

This is connected to a general sentiment from participants that starting and sustaining digital scholarship projects on campus is difficult. Many people are burnt out from work and a pandemic, meaning barriers to creating or learning new things are too much to work through in the current moment. That is true for faculty, staff, and graduate students new to digital scholarship trying to find time to dedicate to learning new skills and people who are currently working in the DS/DH space but do not have time to seek out the necessary funding, platforms, and communities they need to sustain that work. The digital scholarship team in the libraries need to find ways to support DS/DH practitioners across this spectrum of need and interest.

Supporting a holistic view of Digital Scholarship and Digital Humanities
Despite the many barriers to doing digital work participants encountered they found many reasons to be involved in the field. One example participants gave was learning to code. Even if they were not able to devote a large amount of time to becoming an 'expert', participants mentioned that knowing the language, questions, and some of the infrastructure of coding and data analysis helped them be better collaborators on projects and better communicators with experts. Many graduate students also mentioned that learning digital methods and tools made them feel more competitive both within and outside of academia. They felt that if they did seek jobs in industry or non-profit areas that their DS/DH skills would be extremely relevant to their job search. Even though some graduate students may struggle to have their work recognized in an academic sense, they still feel like the work is worth it for their personal professional growth and ability to navigate and collaborate within that space.

Many participants also noted the importance of understanding the holistic benefits of DH/DS research and pedagogy. Instructors, especially graduate students, discussed ways they were implementing digital tools and methods within their classrooms to increase student engagement and collaboration. One graduate student described creating a class Timeline-JS site where students collaboratively added events to the timeline as part of class participation and then used the final timeline as a study guide for their exams. Instructors also noted how digital projects encourage themselves and their students to think about

information in new ways. Turning data into dynamic stories requires thinking about how others read data and how to make it more approachable and understandable. In the same vein, teaching students how to create projects for the public requires a different set of storytelling and writing skills than those required for writing research papers and encourages them to explore more facets of the information they are gathering and analyzing.

Additionally, participants pointed out a need to prioritize teaching foundational aspects of DS/DH work instead of only teaching tools. A few participants noted that when their students made blog sites or similar final digital projects the structure and look of the projects was good, but the research and quality of the written content was lacking. The breakdown between focusing on teaching students the tools to create digital content while also continuing to teach them writing and research skills can be a lot to cover in class and finding the balance is difficult. There is also an overall need for more data literacy on campus. Establishing foundational skills like data collection, metadata, and data management was a concern for many participants. Even more basic introductory materials about what digital scholarship and the digital humanities are in general was requested by participants not only for their students, but for themselves. It is also a priority for researchers and instructors to learn more and implement more lessons on data ethics, social justice, and diversity into their DS/DH work to build a more holistic approach to DS/DH on campus.

Limitations of Research

This assessment and following report were meant to be an informal process that would lead to actionable steps the libraries' digital scholarship department could undertake to grow and support digital scholarship on campus. As such, there are many ways the assessment could be improved for further iterations. A survey of tools given during each interview would allow for more quantitative information that would fill in some gaps in our current knowledge, for instance: what tools did people learn from the DHRI compared to what tools they are using in their research, work, and classrooms.

Rapid contextual design tools were used to facilitate the analysis of needs assessment data, but was not incorporated as a complete method. Rapid contextual design is usually done in a small team of people. Much of the process depends on bouncing ideas off of others and collaborating on the affinity diagram and allowing in different perspectives while grouping notes. The diagram for this assessment was done by one person which may have resulted in slightly less explorative and creative categories by the end of the process. While it helped in the process of organizing a large quantity of qualitative data it is important to note that the process for Rapid Contextual Design involves much more than the affinity diagram and benefits from, as stated, a small team of people implementing the method rather than just one person. Perhaps a future

study done by the digital scholarship team using the method would give a more robust image of DS/DH work on campus, but the current study has given us many useful insights and potential action points.

Also, future iterations of needs assessments will hopefully include communities not represented in the current study. There is also no undergraduate perspective captured within this assessment. There was a consideration of reaching out to undergraduates, but ultimately it did not fit into the time limitations or scope of the assessment, but future surveys or assessments should consider ways of involving undergraduates.

It should also be noted, given the lack of comprehensive representation of campus communities, this assessment cannot be generalized for all groups on campus or digital scholarship on other campuses. However, it does provide the digital scholarship department important information about how digital scholars on campus perceive their work, the libraries' involvement in that work, and the barriers to doing digital scholarship and digital humanities work for many of Binghamton's campus community members. Hopefully, by addressing some of those barriers and concerns the digital scholarship department can facilitate the growth and visibility of digital scholarship on campus and benefit all of Binghamton's campus and off campus communities.

SUMMARY

Action Plan

As the digital scholarship team within the libraries continues to expand our resources and offerings we are also collaborating more with other offices and departments on campus to build a better network and community of digital scholarship on campus. While many digital humanities and scholarship centers are placed within libraries as a central and departmentally neutral space that does not mean the full work of digital scholarship does or should exist fully within the libraries or the digital scholarship team. Our efforts and plans to create a community of digital scholarship are community focused and hope to continue to build on relationships within that community such as with the Center for Learning and Teaching, the Spatial Humanities Working Group, and many of the TAEs across campus.

That said, participants from the needs assessment often looked to the libraries or the digital scholarship team as important resources and conduits of DS/DH technology, knowledge, and initiatives. As such, there are many ways that the digital scholarship team can help improve access to resources, be an advocate for DH/DS methods being used in research and teaching, and promote the work being done on campus in DS/DH. The following action plan is broken down into the same categories from the affinity diagram and discusses how barriers brought up in the needs assessment might be addressed. These ideas are not prioritized in any way at this point and would still need some workshopping and brainstorming to determine their efficacy. Therefore, this next section is a jumping off point for the digital scholarship team for considering our next steps and initiatives towards building a better digital scholarship community on campus.

Better Resources

The digital scholarship team has already begun planning ways to increase the number and types of resources on offer to the campus community. We are considering ways of working to increase the visibility and availability of digital scholarship related resources and content on campus including a regular workshop series, blog posts, and collaborations with campus groups. There are also many resources that the digital scholarship team will be working on to consolidate and create guides for as a way of showcasing and making them more discoverable and accessible to the campus community.

Action Items for Creating Digital Scholarship Resources

-Create a series of online tutorials and workshops for common DS/DH tools used on campus

-Create lib guides covering DS/DH topics including ones about open source and open access tools

-Create blog posts that include information about tools/digital methods, FAQs, and tips for digital project management

-Collaborate with other centers, working groups, and programs more to hold joint workshops

-Launch the pilot Digital Scholarship Center and hold more open office hours

Opportunities for Community

Concerns that arose within this category were about the legitimacy of digital scholarships as scholarship on campus. Many of the participants stated that they felt digital scholarship and digital humanities research is not valued as 'true' research and that digital projects, collaborations, and publications are still not counted towards tenure, full professor promotions, or PhD research. However, this varies widely on campus depending on the department people work within and, for graduate students, who their advisors are. While the libraries cannot directly affect the policies that create these barriers, we can work to showcase, promote, and advocate for the value of digital scholarship and digital humanities work on campus and a need for policy changes that make this work more feasible. We can also focus on actions that will facilitate collaboration on campus and build-up networking among digital scholars across disciplines.

Action Items for supporting the community of digital scholars on campus

-Write blog posts that feature digital projects from across campus

-Hold guest lectures in the Digital Scholarship Center

-Create networking events to connect scholars across campus (speed dating for humanists and data scientists?).

-Create a Digital Humanities Working Group

-Create reading group/project review group

Starting and Sustaining Digital Projects takes a lot of Resources

Many of the action items from creating better resources would hopefully also be relevant in addressing the concerns that were discussed within this category of the affinity diagram. In addition to those, there are some things the digital scholarship team is considering changing about the DHRI to address the feedback that it was too overwhelming. We will also be trying to develop space within the workshop for people to bring in their own projects or work on projects from the community to help focus learning and make it even

more hands-on. We hope that by addressing those issues we can create a better trajectory for people leaving the DHRI both in terms of knowing how they can apply what they learned to their own research and also in terms of having a better idea of who they can contact for help or collaboration.

Action Items for starting and sustaining digital projects

-Create a workshop series to take place over the semester to follow DHRI

-Include sessions in the DHRI that are more project specific

-Create a Digital Humanities Working Group (repeated)

-Collaborate more with the Office of Strategic Research initiatives to get grant writing support for faculty, staff, and graduate students

Supporting a holistic view of Digital Scholarship and Digital Humanities

This section was the most holistic concern that came up during the study. There is no one way that we can address this within the libraries, but there are ways that we can be more intentional when developing resources or workshops that ingrain data ethics, social justice, and diversity into our presentations and projects. Also, we hope that our partnership with the Center for Learning and Teaching (CLT) will lead to instructors feeling more confident about teaching digital tools in ways that add to student's learning outcomes and research instead of feeling like digital projects result in poorer scholarship.

Action Items for supporting the wholistic areas in DS/DH

-Collaborate with the Center for Learning and Teaching to hold joint workshops and teach faculty ways of implementing digital scholarship without compromising on research quality

-Develop workshops, class sessions, and tutorials that incorporate data ethics

-Create a reading group that focuses on articles or books that focus on data ethics, social justice, and diversity

Further Research

As discussed in the introduction, the digital scholarship team will be conducting needs assessments every three years. We feel this is worth the work involved because digital scholarship is always changing with new tools and digital methods becoming popular every few years. Binghamton is also quickly developing a community of DS/DH scholarship. Digital scholarship is becoming more popular on campus, the libraries' digital scholarship team is growing, and the Digital Scholarship Center is being built. Altogether, this means

that digital scholarship is becoming more visible on campus and with that visibility comes growth and potential that the libraries need to be aware of to stay on top of the needs of the campus community. Additionally, there are two more planned needs assessments that will be carried out by the digital scholarship team. The first will focus on scholarly communication needs on campus and the second will be similar to this assessment but focused more around data science heavy fields and less on the digital humanities.

Besides those future assessments, there are other ways the digital scholarship team should expand our understanding of DS/DH practices on campus and off. Those other areas included a potential survey gathering more specific data about the digital tools and methods campus community members use. Also, as the digital scholarship team expands it would be good to increase our reach to include more undergraduate voices in our assessments as well as community members from the wider Binghamton community.

Tools

While the needs assessment gathered some data about which tools were being used by scholars more data about tool use on campus would be beneficial to the digital scholarship team. Data about how people learn about new tools, when they seek them out, and who they reach out to for support would help the digital scholarship team understand when and how scholars approach digital projects. We would also be able to track what tools scholars learn in workshops and how/if they continue to engage with those tools afterwards and why. Keeping track of popular tools on campus would also give us a better understanding of current trends in DS/DH on campus and what workshops or initiatives we should be holding or involved in to support those interests.

Undergraduate Involvement

This needs assessment only focused on faculty, staff, and graduate students experiences with digital scholarship on campus. Including undergraduate voices in the assessment would add more depth to our overall picture of digital scholarship on campus and help us track what undergraduates are hoping to get out of their experiences in digital scholarship courses or related areas of study.

Community Involvement

As the digital scholarship team gets more staff (and therefore more time and resources to build the department) we want to start building better community relationships within the surrounding area. As we begin to talk more about digital equity, accessibility, and community-centered approaches we want to put

those ideas to practice by making campus resources more accessible to those outside of our campus and academic boundaries. We recognize this kind of relationship building takes time, trust, and practice and hope that now we have more resources ourselves we can begin to be more involved with the larger Binghamton community in this way.

Conclusion

Digital Scholarship is often a serendipitous experience for campus members. Instructors and graduate students stumble across digital scholarship in their classrooms or through emails to other departments on campus. Researchers learn one tool and then begin to ask what else might be possible to push their research in new and different directions. These clandestine encounters elicit excitement about the possibilities of new ways of teaching or publishing research. However, these encounters often leave researchers to work through any barriers they discover on their own. Without resources, community contacts, and incentive to engage in digital scholarship DS/DH practitioners become distanced from or disinterested in DS/DH work. The digital scholarship team in the libraries, as an integral part of the larger digital scholarship community on campus, hopes to address some of these barriers.

We hope to develop a series of workshops and resources that will meet the needs of our campus community and continue to grow the overall visibility of digital scholarship on campus. We are especially excited to grow as a team of digital scholarship librarians ingrained within the digital scholarship community on campus. While we are also excited about the creation of the Digital Scholarship Center, we are mindful that building such a space is a privilege and that to sustain such a space takes careful and consistent work with our community of DS/DH scholars.

REFERENCES

Bond, E. L. Preparing, facilitating, assessing: A reflection on digital humanities consultations. *International Information & Library Review*, 50(3): 244-250. DOI: 10.1080/10572317.2018.1506873

Bucknell, T. (2018). Digital partners-An incremental approach to supporting digital scholarship on your campus. *Against the Grain*, 30(5): 26-28. http://www.against-the-grain.com

Cummings, R., Roh, D., Callaway, E. (2020). Organic and locally sourced: Growing a digital humanities lab with an eye towards sustainability. *DHQ: Digital Humanities Quarterly,* 14(3). http://www.digitalhumanities.org/dhq/vol/14/3/000470/000470.html

Eichmann-Kalwara, N., Carey, F., Hart Cantrell, M., Gilbert, S., White, P. B., & Mika, K. (2021). Is digital scholarship meaningful?: A campus study tracking multidisciplinary perceptions. *KULA: Knowledge creation, dissemination, and preservation studies*, 5(1). https://doi. org/10.18357/kula.130

Graban, T. S., Marty, P., Romano, A., Vandegrift, M. (2019). Introduction: Questioning collaboration, labor, and visibility in digital humanities research. *DHQ: Digital Humanities Quarterly,* 13(2). http://www.digitalhumanities.org/dhq/vol/13/2/000416/000416.html

Hannah, M., Heyns, E., & Mulligan, R. (2020). Inclusive infrastructure: Digital scholarship centers and the academic library liaison. *portal: Libraries and the Academy*, 20(4), 693-714. https://doi.org/10.1353/pla.2020.0033

Huet, H., Alteri, S., Taylor, L. N. (2019). Manifesto: A life on the hyphen: Balancing identities as librarians, scholars, and digital practitioners. *DHQ: Digital Humanities Quarterly,* 13(2). http://www.digitalhumanities.org/dhq/vol/13/2/000418/000418.html

Hurrell, C. (2019). Aligning the stars: Understanding digital scholarship needs to support the evolving nature of academic research. *Partnership,* 14(2), 1-17. https://doi.org/10.21083/partnership.v14i2.4623

Kasten-Mutkus, K., Costello, C., Chase, D. (2019). Raising visibility in the digital humanities landscape: Academic engagement and the question of the library's role. *DHQ: Digital Humanities Quarterly,* 14(2). http://www.digitalhumanities.org/dhq/vol/13/2/000420/000420.html

Li, B., Song, X., Lu, X., & Zhou, L. (2020). Making the digital turn: Identifying the user requirements of digital scholarship services in university libraries. *The Journal of Academic Librarianship*, 46: 1-10. https://doi.org/10.1016/j.acalib.2020.102135

Longmeier, M., Murphy, S. (2021). Framing outcomes and programming assessment for digital scholarship services: A logic model approach. *College & Research Libraries*, 82(2). https://crl.acrl.org/index.php/crl/article/view/24829/32666

Miller, A. (2018). Innovative management strategies for building and sustaining a digital initiatives department with limited resources. *Digital Library Perspectives*, 34(2): 117-136. https://doi.org/10.1108/DLP-08-2017-0029

Munoz, T. (2016). Recovering a humanist librarianship through digital humanities. In J. W. White, H. Gilbert (eds.), *Laying the foundation: Digital humanities in academic libraries* (pp. 3-14). Purdue University Press.

Newman, J., Bonefas, S., Trenthem, W. (2018). Creating capacity for digital projects: A case study in identifying and building upon strengths. *Digital Library Perspectives*, 34(1): 9-19. https://doi.org/10.1108/DLP-08-2017-0026

Oiva, M. (2020). The chili and honey of digital humanities research: The facilitation of the interdisciplinary transfer of knowledge in digital humanities centers. *DHQ: Digital Humanities Quarterly,* 14(3). http://www.digitalhumanities.org/dhq/vol/14/3/000464/000464.html

Roemer, R. C. (2019). Introduction. In R.C. Roemer, V. Kern (eds.), *The culture of digital scholarship in academic libraries* (pp. ix-xv). ALA Editions.

Webster, J. W. (2019). Digital collaborations: A survey analysis of digital humanities partnerships between librarians and other academics. *DHQ: Digital Humanities Quarterly*, 13(4). http://www.digitalhumanities.org/dhq/vol/13/4/000441/000441.html

Wendell, J., B., Holtzblatt, K., Wood, S. (2004). *Rapid contextual design: A how-to guide to key techniques for user-centered design*. Morgan Kaufmann Publishers.