CNI Workshop Report
Digital Scholarship Centers: Trends & Good Practice
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Introduction/Overview

The Coalition for Networked Information's Digital Scholarship Centers Workshop, held on April 2, 2014 in St. Louis, Missouri, brought together individuals representing a variety of centers in order to identify good practice and key challenges. Workshop attendees included 35 participants from 24 institutions, including some from research universities and some from liberal arts colleges. CNI's Executive Director Clifford Lynch welcomed them and noted that they represented the forefront of an emerging phenomenon in higher education institutions. The majority of attendees were from academic libraries (including individuals with a wide variety of titles); others included faculty, information technologists, academic staff, and one graduate student. This report summarizes the workshop itself; in addition, CNI has developed a website that includes profiles of each center represented at the workshop and the presentations by speakers at the program. In order to participate in the workshop, each institution completed a template with information about their program, describing the center's mission, an example of a project supported by the center, the services offered, the types of staff in the center, and links to the center's homepage and projects; these are available on the workshop website (www.cni.org/go/cni-dsc-workshop-2014/).

One of the key points of discussion throughout the workshop was how to conceive of a digital scholarship center (DSC); there were varying points of view about the definition, purpose, and characteristics of such centers. Often DSCs are compared to or assumed to be the same as digital humanities centers. Almost all of the centers represented at this workshop were located in libraries in colleges or universities while digital humanities centers are typically located in academic departments. A major advantage of housing a center in the library is that it provides a mechanism for the democratization of expensive technologies and a means to experiment with new forms of scholarship without making a personal or departmental monetary investment. A few of the centers represented at the workshop focus on humanities projects, but most work with a wide array of disciplines in the humanities, social sciences, and, in some cases, sciences. Joan Lippincott, Associate Executive Director of CNI and workshop facilitator, seeded the discussion with a comparison of DSCs versus digital humanities centers. Lippincott posited that DSCs have a different administrative home (e.g. the library), wider set of clientele, a service mission, and often a broader disciplinary focus than digital humanities centers. The challenges to that point of

view centered more on what a DSC **is** than on the distinctions between that type of organization and a digital humanities center. A primary point of contention was referring to what centers offer as "services" rather than "partnerships," "expertise," or other terminology that did not suggest that the center staff was there to "serve." While definitional questions surfaced throughout the workshop, the primary purpose of the event was to understand what is actually happening on the ground in institutions today. CNI plans to hold a discussion in the future that will focus on the definitional aspects of DSCs.

Over the past few years, CNI has included presentations about DSCs (also sometimes called digital scholarship labs, research commons, or other variations) at membership meetings and has promoted discussion of this emerging trend to support digital scholarship through a coordinated set of services, often in a physical space in an institution's library. As research practices are changing to incorporate new technologies and tools, some institutions have found that creating a center to support digital scholarship in a centralized place like the library can have benefits for the institution. Many DSCs serve a wide range of disciplines (not just humanities), provide expensive hardware, software, and tools for all members of the campus community, and offer expertise and a program of support for both novices and experts. Some of the high-end technologies may exist elsewhere on campus but are often restricted to members of an institute or lab or a particular department or school. When libraries offer these technologies, they provide a means for a wide spectrum of individuals and teams to use new tools and technologies and also encourage cross-disciplinary use of those resources, thereby promoting campus-wide innovation in research, teaching, and learning. These centers make it much more possible for those without research grants (whether faculty, graduate students, or undergraduates working on capstone projects), for example, to employ new types of tools in their research.

At the workshop, a number of participants were invited to give brief presentations on a topic (establishing a center, working with constituencies, services and staffing, and teaching and learning) and then all participants were encouraged to add their perspectives. This report summarizes the points made in these presentations and discussions; presentation materials are available on the workshop website.

Establishing a Center

Regardless of how they developed, a striking commonality of almost all of the centers represented at the workshop was that they were located in a library and had a strong library presence. A small number of centers represented at the workshop date back to the 1990's, but many are relatively new. Some resulted from disparate departmental or school programs merging into larger, formalized centers, others were established as new entities. Just as their longevity and origins vary, numerous factors contribute to the establishment of DSCs depending upon the institution, including things like influential champions, partnerships between faculty and librarians, new leadership within the library, and growing awareness of the kinds of skills graduates would need upon entering the workforce. Sometimes a DSC is established in the library because it is seen as a growth area by the

library, or in some cases, researchers or students themselves identify the library as a potential resource for the kinds of services they seek. One center was established by a task force whose members included library staff, representatives from the institution's central information technology (IT) unit, faculty, and graduate students.

Workshop participants identified these additional factors that led to the establishment of a center at their institution:

- Growing awareness of students graduating without necessary skills, and competition with peer institutions providing relevant training. One center was founded specifically because the university was losing graduate students to other institutions that were providing digital scholarship services and learning opportunities.
- An assessment conducted by the university determined the need for an operation that could offer a suite of services for digital scholarship.
- New construction at the institution offered the opportunity to build a DSC.
- A major infusion of funds led to the center's establishment.
- Reallocation of existing resources enabled a DSC to come into being.

Working with Constituencies: Successful Collaborations and Relationships

For many workshop participants, engagement with constituents as *partners*, not as clients, has been key to success and growth; several attendees expressed the need to move away from the legacy "client" model because a partnership model has been more likely to lead to positive, sustainable results. Being alert to the particular factors impacting the institution and the "on the ground reality" within the organization has been a key factor in establishing centers where staff and constituents have effectively collaborated with one another. Some institutions lack good pathways or mechanisms to reach certain sectors of the campus community, whereas at others, outreach has been relatively straightforward; overall, communication strategies have depended upon the culture of the organization. While outreach has been important, it has been also critical to have a plan for sustainability and follow-through in order to avoid a disaffected constituency. Planning a course of action for each stage of the process can help avoid trouble down the road.

Beyond the importance of long-term planning, making contact with constituents has been vital to success. There are many ways to reach target audiences, but workshop participants recounted how, literally, going to where potential constituents are, and meeting them there, has been a particularly effective strategy for getting their attention and winning their trust. Attending departmental talks and parties, and engaging with faculty substantively, has helped center staff establish credibility. Some centers have encouraged student involvement by enlisting their assistance: hiring a graduate student to organize an event, for example, or inviting an undergraduate to speak to peers about the center and its work have been very effective ways to reach those populations.

At the University of Virginia, the year-long Praxis Program, run by the Library's Scholars' Lab, is a library-funded fellowship, developed to have similar characteristics and remuneration as

other departmental fellowships, that serves as an introduction to digital humanities for students with varied backgrounds and at different stages of their graduate careers. Programs like Praxis have helped to foster both the community of fellows it supports, as well as the center staff, who eventually come to regard the program participants, whom they mentor, as colleagues. The Praxis Fellows have helped disseminate information about digital projects and the work of the Scholars' Lab to faculty and other graduate students in their home departments.

Some suggestions regarding building successful relationships shared by workshop participants, based on their own experiences and observations were:

- Make outreach relevant to faculty priorities and demonstrate understanding of the stressors faculty face. Be aware that there are substantive reasons why faculty can be difficult to reach, including the fact that, increasingly, there are fewer tenured faculty available to do the work required of them.
- Other people count, too: faculty can bring in great ideas, but so can many others, including staff, students, librarians, etc. Centers should support those research agendas as well.
- Some centers elect to discontinue relationships with faculty who seek a service provider, infrastructure, labor and/or space, but have no firmly formulated research objective or interest in genuine partnership.
- In talking about potential projects with faculty, it is useful to begin with a substantive conversation regarding scope; this kind of dialog also helps determine if there is a different place on campus better suited for the project.
- Look for opportunities to partner with faculty within stages of the research cycle: one institution communicates directly to researchers what they offer relative to where they are in their cycle.
- Faculty who want to educate their graduate students about digital scholarship present ideal opportunities because they know center staff can fulfill this teaching and training need. Collaborating with faculty to design a curriculum ideally suited to the students' needs can result in successful partnerships.
- Strategic staff management can make a difference: referring to DSC staff as experts (not staff) lends credibility.
- Institutional initiatives to hire clusters of faculty to work in digital humanities has been effective in bringing great ideas for projects that involve teaching and undergraduates.

Developing partnerships at a number of the institutions represented at the workshop have led to center staff being written into grants. In some cases, some center staff have been invited to be co-authors on faculty grants, and in other cases faculty ask to be listed as co-authors on centers' grants; periodically faculty members arrive with grants in-hand.

While the workshop did not include a detailed discussion of the physical spaces in DSCs, some noted that creating an informal space where faculty, students, and center staff can

enjoy a cup of coffee together has served as an effective strategy to foster casual conversations, which lead to ideas and collaborations; the gathering place draws people into the center.

Perspectives on Services, Activities and Staffing

The types of services offered in DSCs, and the profiles of the staff who provide them, can vary widely, depending upon myriad factors, such as funding sources, availability of resources (both tangible and intangible), local needs and priorities, institutional size and type, etc. Situations can be quite different even across comparable organizations so it is difficult to generalize. Some services and activities are one-time consultations or events; others may involve semester or years long commitments. Based on the results of a survey of the participants, the most common services offered by centers were:

- Consultation on digital technologies
- Consultation on digital preservation/curation
- Workshops
- Consultation on digital project management
- Intellectual property consultation

In some cases, frequently mentioned services were offered as a combination of physical space, specialized equipment and tools, and consultation services; for example:

- Makerspace
- Media production studio
- Visualization studio

Many offered credit courses and/or certification programs and hosted conferences. A number of center staff discussed their efforts to build a community among all of those working on projects in the center: staff (including students), graduate students, and faculty.

Additional services or activities mentioned by a smaller number of centers included:

- Grant writing assistance
- Repository development/management
- Working as partners on project development
- Data services
- Imaging
- Text analysis
- Internships
- Graduate student fellowships
- Consultation in pedagogy/instructional technologies
- Usability lab
- Seed grants

In discussions among participants, it was clear that both large and small institutions involved staff with a range of expertise depending on what type of project or service was being addressed. Teamwork and flexibility seemed to be key attributes of flourishing programs, which often had to respond quickly to changing needs and new requests for assistance or partnerships and the emergence of new tools and technologies. Most centers included a variety of staff that brought particular expertise. Most frequently mentioned in our survey were:

*   Librarians
*   Information technology professionals
*   Graduate students
*   Multimedia professionals
*   Faculty

Two institutions provided in-depth perspectives on their staffing and services. At the University of Oregon (UO), a large, research institution, establishment of a DSC was conceived, in part, as a vehicle to help further many of the University Library's strategic directions, and it continues to help advance numerous organizational objectives. For example, the DSC is seen as an important component in supporting the lifecycle of scholarly content, in providing support for instruction, in improving the user experience, in helping the institution become a learning organization, and in improving diversity. Staffing for the center originally came from a number of library departments that converged and some of these, or parts of them, flowed into the center. Reorganization of the central university information technology group also impacted the DSC.

The staffing situation at UO's center is very dynamic, reflecting changes in the field; Oregon struggles with recruiting skilled developers and programmers due to local competition with other non-university prospective employers who can easily beat salaries offered by the university. The DSC has had to be creative in finding, recruiting, and keeping talent; their strategies have included developing in-house expertise, looking to non-traditional sources for talent, building strong teams, and offering interesting training and professional development opportunities.

DSC's are also feasible, and, indeed, can serve as critical components of advancing core agendas, at small liberal arts colleges. Lafayette College's center grew out of its special collections unit, but today it is its own department, offering services such as digital imaging, preservation, geographic information systems (GIS), and workshops, all focused on scholarship. Liberal arts colleges are committed to having students learn by doing, and to providing ways for students to engage with faculty doing research; the center lends itself to the interplay of teaching and research that, in part, define institutions like Lafayette. Staffing for the center came from the reallocation of resources for existing positions elsewhere in the organization, and most of staff time is spent on digital project development and management. Currently the unit is running a service-oriented operation with some funding from The Andrew W. Mellon Foundation, primarily used to develop faculty projects.

Workshop participants noted that with regard to the type of staff and the skills they possess, it is more important to have the proper mix of abilities overall across personnel than it is to have any one particular type of staff member. The ability to learn new skills, adaptability, and agility are qualities in personnel that can be even more important than the expertise that they initially bring to the position. One suggestion was to require staff to periodically spend a fixed amount of time mastering something new.

Digital Scholarship Centers Supporting Teaching & Learning

Many centers have an explicit teaching component in their program, and there are different models of how this aspect of the center's work is manifested. There was not adequate time to discuss the relationships between the teaching and learning initiatives of the represented centers and the work of other teaching and technology initiatives on their campus that might have a home in the institution's center for teaching and learning or even the information literacy program of the library. At the workshop, two presentations focused on teaching and learning initiatives, but through the subsequent discussion it was clear that most programs had some connection with undergraduate and/or graduate education.

The staff of Occidental College's Center for Digital Learning + Research (CDLR) has worked hard to build relationships with faculty, and to establish its own credibility as teaching faculty. Hosting a summer digital institute for faculty allowed for talks, visits to other centers, and project work. Thematically linked faculty learning communities sponsored by the center brought participants together for regular interactions over the course of a semester, and the center has also hosted conferences and speakers. Using these kinds of strategies has helped the CDLR reach about a third to half of the college faculty. In the course of using faculty outreach strategies, naturally, interactions were occurring with students. Some center staff, including post-docs, taught courses at the college in various disciplines, reinforcing the perception that the CDLR understood the institution's academic program.

The CDLR regularly engages with students using scholarly tools to work on their own projects, including capstone projects and summer research projects. Additionally, the CDLR provides consultations and instruction (usually lasting about one to four weeks) to classes at the college. The next phase of the center's work includes two new initiatives. A faculty fellows program will give faculty needed time to explore digital technologies in their own work. A digital liberal arts labs program will provide the option for students to add a lab credit to specified courses, to provide students with a hands-on experience in digital technologies related to their course; many of the workshop participants were particularly interested in this approach.

By contrast, the University of Richmond's Digital Scholarship Lab uses a project-driven model, where the focus is on production of various projects at any given time. Learning does take place within the context of producing projects, although that may not be the explicit goal of the lab's role in any one project. Students who work on the center's historical

projects, for example, develop real research skills as they investigate materials and make decisions about their findings. Those working on literary projects gain experience with textual analysis and close reading. Sometimes students develop their own research projects based on their work in the university lab. Students are learning as part of their interactions with the projects, but the majority of the lab's work with undergraduate students is as employees.

A successful example of faculty collaboration, integrating digital projects into the curriculum, and working directly with undergraduates on projects is a semester-long class at the University of Rochester River Campus Libraries. There, the center's director has worked with a professor from the English department to create a "co-curriculum" on narrative temporalities. Technical skills came from the center staff, and the faculty member brought his research ideas. As part of the course, students worked collaboratively to create data models to show the temporal narrative of a work of literature, for example. So far, results of the collaboration have been very positive.

Reported Top Successes and Challenges

During the workshop attendees were asked to complete cards indicating what they perceived as the greatest success and the greatest challenge of their center. Very little guidance was provided to the participants regarding the types of activities or issues that might be listed, and yet there were many commonalities among the successes and challenges identified by the group. By far the largest number of individuals identified building community and partnerships on campus as their greatest success. Other frequently identified successes that focused on the center's projects and activities included their work on projects, outreach and awareness to the campus community, developing and implementing tools, and integration of the digital scholarship center with library/librarian services and research. Some of the successes noted by participants focused on administrative or operational aspects of their center, including their training program for their own staff, developing a great and diverse staff, and becoming an integral, not peripheral, part of the library's services.

While the enumeration of successes provided indications of robust and growing programs, most DSCs also face some daunting challenges. Those identified most frequently focused on administrative issues, including staffing, especially regarding recruitment/retention, the need for ongoing training and agility, achieving buy-in and support from the library administration and/or other parts of the library, and space needs. Challenges related to the program of the center included managing priorities, offering services at scale, articulating and developing a shared vision, managing relationships with other campus units, and outreach within the institution.

One area that will be of future interest to CNI is to understand what types of assessments these centers are doing of their programs and how they conceive of "success."

Key Themes and Observations

Donald Waters, Senior Program Officer for Scholarly Communications at The Andrew W. Mellon Foundation, provided his observations on the workshop's presentations and discussions in the context of his own work with digital scholarship and digital humanities scholars. His comments focused on the need to view the support of digital scholarship in an institutional context, not narrowly in a library context. In his view, digital humanities centers and faculty institutes are often the places that bring new ideas in – they are at the leading edge of developments; in contrast, the kinds of centers this workshop focused on allow new tools, methods, and infrastructure to move from the edge to the center, making those things available to more individuals and to a broader range of disciplines than the faculty institute serves. As DSCs develop, they will always have more demands on them than resources, and Waters suggested that developing a peer review process that emphasized such factors as the benefit of the project to the institution's mission, the potential applications of the outcomes of the project to other scholarship, the potential inter-institutional dimensions of the project, and the development of robust tools that could be used in teaching and learning environments as well as in research, would assist in identifying priority projects.

Moving Forward

The vibrancy of programs in the centers represented at this CNI workshop was palpable. They represented deep engagement with the mission-critical work of higher education institutions: research, teaching, and learning. All of the programs have aspirations for ongoing growth and change. For example, several of those with makerspace initiatives have been very successful, but are currently too limited considering the demand; they need additional resources. Others stated that they would like the ability to offer sandbox space where constituents could experiment with new ideas and the latest technologies. Overall, many noted the great need for a budget structure that could respond more quickly to requests and needs; having to plan years in advance does not fit well with the current pace of plans and projects. Sustainability over time, including offering preservation services, specifically of the center's own products, are an ongoing concern. Support for projects requiring high performance or enterprise level computing and data management are challenges; some noted that while those types of services might be available through the institution's central IT department, often faculty found working with them to be so complex that the center had become a "translator" for faculty. It is also possible that some centers will become liaisons or brokers between their faculty and national or international cyberinfrastructure programs or large digital repositories of content. Others suggested that perhaps the library could participate in providing high performance or cloud computing services as part of a start-up package for new faculty.

DSCs depend on a cohort of faculty and students who actively pursue new modes of doing research. Concerns about achieving tenure and promotion represent some of the biggest roadblocks to faculty working on digital projects. Some scholarly societies are addressing the lack of recognition of digital scholarship evident in many institutions' promotion and tenure guidelines; these efforts can be influential, but decisions ultimately are made at the institutional level. The University of Nebraska-Lincoln formed a task force, made up primarily of faculty from academic departments doing work in digital humanities, to provide guidance to promotion/review committees on how to evaluate digital scholarship. The group issued the document *Promotion & Tenure Criteria for Assessing Digital Research in the Humanities* (cdrh.unl.edu/articles/promotion_and_tenure.php), which was ultimately approved by the University Library and, later, by the Department of Arts and Sciences. A librarian from the university's DSC was active in this task force.

The workshop provided a means for the participants to learn about each other's programs and to share ideas and perspectives. It is likely that many will return to their institutions and work on replicating or adapting some of the ideas they learned about from colleagues. The workshop website is another mechanism for sharing the ideas discussed at the workshop with a wider audience.

CNI is planning two follow-on activities addressing DSCs: a small workshop to assist in developing a framework or way of describing what such centers do, and how they do or do not differ from other entities such as digital humanities centers. In addition, we will offer a workshop in spring 2015 for those institutions that are planning DSCs or are in the early stages of implementation; this workshop will be co-sponsored by the Association of Research Libraries. Additional information on these activities will be made available on the CNI website.