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This study describes a semi-structured interviews of professional researchers located in the North Carolina area. This study evaluates the personal experiences and information seeking behaviors of researchers working with materials dispersed across multiple physical and digital locations. The survey was conducted to determine the strategies researchers use to identify and access all material relevant to their research questions, even if the materials are dispersed across different archival institutions.

Headings:

Archives--United States--Catalogs.

Archives--Use studies.

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USERS' PERCEPTIONS ON SEARCHING, LOCATING, AND ACCESSING DISPERSED MATERIALS IN ARCHIVAL INSTITUTIONS

by
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Introduction

Despite improved access to archival collections through online and digital content management systems, researchers must still navigate multiple institutions to find all relevant resources for their reference questions. This research study examines how users navigate among dispersed archival collections, particularly through digital and online resources. The study examines users' search and use habits, primarily through case studies with archivists at local institutions.

Using semi-structured interviews, manually coded with the assistance of the paper advisor, the study explores how users find and access materials across multiple archival institutions. Subjects are drawn from contact with local archivists and reference librarians who regularly deal with users. Drawing on literature concerning digital content management, collaborative archives, and description standards, the study attempts to situate users' real-world experiences searching and accessing dispersed collections.

Literature Review

Although there is little literature directly related to dispersed collections and researchers' ability to find and access materials across multiple institutions, much of the literature indirectly focused on technological or descriptive methods to improve access to their own institutions collections. The literature reflects a deep concern for providing researchers access to materials, although usually within a single archive, rather than dispersed across multiple institutions. Much of the literature also stressed collaboration between institutions, as well as within individual departments at an institution. Taken

together, the literature provides a useful backdrop to examine this paper's focus on researchers' navigation of materials dispersed across various archival institutions.

The literature reflects the importance, and shifting, requirements needed to ensure users can access materials – whether through identifying users' needs, descriptive standards and unified content management systems, or collaboration between institutions. All of these factors impact a user's search for and access to materials in both singular institutions, as well as across scattered institutions.

Identifying Users' Needs

The literature clearly reflected the need to identify users' needs and information-seeking behaviors when creating digital content management systems to aid in the searchability and accessibility of various collections. The literature indicated that identifying users' needs is very important when promoting accessibility, creating metadata, and enhancing users' experiences with dispersed collection. Though technological changes are important in themselves, the literature frequently referred back to the supremacy of users' needs and expectations when utilizing or creating new technological tools to manage digital collections.

Goulet and Matfei suggested that, as technology increases access to collections, archivists will have to alter their description practices in order to accommodate novice users' needs (51-52). In Goulet and Matfei's study, they found that EAD encoded finding aids could help archivists "attract new users, and…introduce them to the civic and cultural dimensions of archives" (52). Although Goulet and Matfei's study dealt primarily in theoretical concepts, the implications for improving access to archival materials dispersed across collections through standardized EAD encoded finding aids

was clear. The study stressed re-evaluation of use of jargon and archival technical language when describing collections in an attempt to improve users' experiences searching for and accessing materials.

The literature frequently cited different users' needs as a primary concern when managing digital collections. As Marchionini et. al argued that digital libraries "must serve diverse user communities and will need to develop appropriate interfaces for varied users and needs" (553). Marchionini and Goulet's arguments connect to the need for careful planning and evaluation of digital management systems, particularly in regard to users' varying needs and skill levels. When evaluating different users' needs, archivists must also understand that "the view of end users…differs from those of intermediaries" (Birrell 41). The literature frequently cautioned that archivists should not confuse their own expectations of users' needs with actual users' needs. Kaplan extended the arguments about varied users and suggested that archivists will be dealing with "a mix of different types of objects and different types of users" (35). In most of the articles, the authors were working with or writing about collections with varied formats (images, documents, videos, etc.). Kaplan and others recommended considering the needs of managing different types of objects when selecting a management system. The need to carefully decide upon content management systems echoes others' insistence on careful evaluation of users' needs.

Digital Content Management and Descriptive Standards to Enhance Accessibility

Since users' primary method for searching and accessing collections is through a digital platform – whether a library catalog , finding aid, or search engine – the literature

on digital content management and the employment of specific content standards is particularly relevant to the study.

Perhaps most prominent and relevant considering the increasing importance of technology and users' request for digital access to collections, the literature often reflected a repurposing of older archival forms or practices using new technologies or technological combinations in order to improve researchers' access to collections. Several articles focused on the use of encoded archival description (EAD) finding aids in new and unique manners to both speed digitization and provide more description. Anna Sexton and Chris Turner's article suggested linking EAD and the Text-Encoding Initiative (TEI) in order to let a user "find items in archival collections; learn about their contexts; view representations of the items themselves; and read, study, analyze and manipulate their content" (72). By combining EAD and TEI, the authors hope to improve the users' experience with the archives through a novel technological approach, something almost all of the articles touched on in some fashion. Their preliminary study indicated that the goal of the project was to make information more easily exportable to a variety of software or digital content management platforms – enhancing users' ability to access dispersed collections. Sexton and Turner's attempts to integrate several aspects of the digitization process were often reflected in the literature. David Bainbridge et al also worked to develop and present a tool, called "the Gatherer," that will capture "the entire process of building digital library collections" (323).

As technology grows more sophisticated, archivists are streamlining the digitization process and attempting to cut down on the numerous different tools and programs needed to digitize and manage collections. The combination of different

technologies and software platforms presents new challenges to archivists, as well as the previously stated positive benefits. In an article by Shien-Chang Yu et al., 2005, on building an open archive union, the authors stressed the need for "interoperability among distributed archives" (410). Since the digital management systems vary across institutions, Yu suggested creating "a union catalog" that would allow the user to "search all of the collected records from a single search interface" (412). Ensuring interoperability is a challenge to archives, but provides tremendous benefits to users. To ensure interoperability, archives must collaborate and communicate with other institutions, a common theme throughout the literature that related to many different aspects of digital collection management. Similarly, Nicholas Joint argues that university archives must implement a digital asset management system "that can bring all the electronic materials that are available across a university digital campus into a single coherent framework" (91). As part of this framework, Joint repeated the arguments about "the importance of standards, and how these facilitate interoperability in information management" (95). The literature frequently and consistently recommended developing or implementing a digital management system that is unified across platforms, departments, and institutions. Most of the articles did not discuss open-source versus vendor software, although Deborah Kaplan outlines the advantages of both types (39). Most of the articles identified institutions that used a combination of platforms, without regard for rights or copyright issues, and were likely using free or open source software.

Despite the specific platform, new technologies are allowing archives to unite collections or assets in previously unseen ways, while also utilizing past archival tools, like EAD finding aids, simultaneously. Perhaps most successfully and promising, Elias

Tzoc recommended repurposing existing metadata in a variety of ways that simulate popular features from other websites like Google. Similarly, Rieger suggests that archives should strive to expose "the bibliographic records of holdings to search engines and union catalogs" in order to allow "users to discover these valuable resources" (16). Archives should both strive to make their digital presence more similar to platforms users are familiar with, as well as making digital objects discoverable on platforms users currently search, such as Google. Tzoc's arguments could benefit archives that have already invested heavily in creating detailed item-level metadata – the metadata can be reused in a way that will improve the discoverability of collections and improve users' access to digital objects.

In the cost and usability analysis of EAD by Jody L. DeRidder et al., 2012, the researchers performed a quantitative study that found "delivery of digital content via the finding aid (and using stub item-level metadata) [was] extremely cost-effective" (149). Although the study did not combine EAD with another technological tool like Sexton and Turner's article, it showed the common theme in the literature of shifting technology occurring alongside, or even causing, shifts in archivists' standards and thought processes about digital collections. For example, DeRidder's study reflects a concern about a major trend in the literature on digital collections – the "more product, less process" (MPLP) approach. The study marked noted differences in experience and education levels for success in searching for materials. DeRidder's study found results that spoke against the MPLP approach and encouraged more item-level description of collections. The study found that users needed less time searching for materials with a "collection described at the item level than with the finding aid as Web interface" (162). Participants in the study

were much more satisfied with this level of description. The study also noted that "participants required an average of 35% less time and 48% fewer interactions with the collection described at the item level than with the finding aid as Web interface" (162). Without a search option on a digital finding aid, users were likely to be less efficient when searching materials.

Almost all of the authors recommended an MPLP approach to digitization and processing, including Evans, who also suggested creation of an EAD finding aid made available online. This approach – an emphasis on descriptive resources and detailed descriptive resources like finding aids – was a thread shared by Evans and DeRidder. Despite the move towards more MPLP projects, particularly with mass digitization, the literature suggested that time must still be invested in describing collections in order to make them easily discoverable, searchable, and accessible to users. Mass digitization projects often rely on the EAD finding aids to quickly and efficiently upload both items and metadata into digital management systems. Joyce Chapman and Samantha Leonard succinctly summarized the major trend in archives' management of digital collections, stating that "to date, large scale manuscript digitization projects have largely chosen to make digital materials accessible via the traditional tool of the archival finding aid" (406

Collaboration among Institutions

The literature reflected the need for collaboration both within libraries/archival institutions, and among various institutions. The literature's stress for collaboration is particularly relevant when considering researchers' ability to access materials dispersed across numerous different institutions.

The literature surrounding digitization of archival materials and digital content management systems has been rapidly changing over the last decade. Although much of the literature from early digitization projects may not be immediately applicable in the current technological environment, there has been some continuity in approaches to digitization and providing archives' users with digital access to materials. The literature stresses a need for cooperation and collaboration within and among institutions, continuous reevaluation of institutional digital practices, and the primacy of increasing discoverability of digitized items online.

Connected to an understanding of the context a digital collection will be operating in, the literature also suggested that archives should cooperate and collaborate, whether it be with other institutions, departments within an institution, or between different software platforms. Successful implementation and continued management of digital collections requires archives to compare with other institutions, coordinate staff efforts across departments, and ensure interoperability of their technological tools. The need for cooperation and collaboration has been strong since the earliest digitization efforts. Despite somewhat dated digital practices, particularly given the move toward large scale digitization projects, Faye Phillips's account of the Louisiana State University Library's Special Collections digitization projects in the early 2000's stresses the importance of cooperation with outside institutions. LSU's digitization efforts were helped by other local organizations, like museums and science centers. While these partnerships are still valuable, the recent literature reflects a shift toward collaboration with other profit or non-profit groups engaged in mass digitization. Oya Rieger suggests that "massive digitization efforts often necessitate collaborations with commercial or nonprofit

organizations such as Google or the Internet Archives" (21). Rieger suggests that organizations forming partnerships should consider R.K. Johnson's "negotiation checklist," which includes issues such as digital rights, digitization standards, preservation of physical materials during digitization, and the integrity or authenticity of digital files (21).

Almost universally, the literature stressed a need for cooperation and collaboration between individual archivists, institutions, departments, and users. In her straightforward article on "choosing a digital asset management system that's right for you," Kaplan suggested that an archive "will need both software and human solutions" (33). Cooperation can take the form of comparing different institution's digitization processes or, as Norman Reid and others suggested, in the development of a single keyword or vocabulary list shared by multiple collections, platforms, and institutions to ensure consistency (26). The literature frequently referenced cooperation and collaboration with the institution's IT staff as absolutely necessary for a successful digitization project. Although numerous authors stressed the role of IT staff, Chun and Jenkins succinctly and explicitly laid out the literature's common argument that "managing a digital asset management system requires contributions by IT staff with a range of different skill sets" (5). Collaboration is helpful to archives undergoing digitization projects because it combines these various skill sets Chun and Jenkins reference. The literature recommended that collaboration be a continuous aspect of digital collection management, at all stages of the process. This research study will examine how the literature's stressing of collaboration between institutions functions within real-world research with users of archival collections.

The literature provided little to no information on users' firsthand experiences with collaborative search engines or databases specifically targeting or including archival materials. Searches for studies on archival researchers searching WorldCat or ArchiveGrid provided very limited results. Nancy Elkington provided the most valuable overview of the history of OCLC's attempts to create more cohesive cross-institutional searching. She tracked OCLC's "earliest challenges facing libraries" while "the World Wide Web was still in its infancy," particularly "how to describe resources that lived only in the Web environment" (Elkington 709). She follows OCLC's work to improve collaboration among institutions and multi-institutional searching, including the original Dublin Core workshop in 1995, the Dublin Core Metadata Initiative in 2009, and the publication of the PREMIS Data Dictionary for Preservation Metadata in 2005 (Elkington 709-710). While Elkington's summary of the increasing importance of standards and understanding that these standards are particularly necessary for online searching across multiple institutions, the overall literature does not directly show how these standards are affecting users' searches and use of aggregators like WorldCat or ArchiveGrid. Elkington discusses OCLC Research, and the work while "scientists have been mining WorldCat in order to better understand the nature of the global, collective collection" (714). The paper outlines some of the broad implications for community outreach, budgeting, and connecting archives globally, but does not offer perspectives from users or present the results from OCLC research scientists.

Methods

This study evaluates the personal experiences and information seeking behaviors of researchers working with materials dispersed across multiple physical and digital locations.

The researchers' experiences are based on their ability to access materials, any barriers they perceive, and their use of the institutions' access support system – including finding aids, online search engines, and library catalogs. The interview questions will focus on users' information-seeking behaviors when searching for archival materials related to their reference question, the usability of the various search engines/content management system/library catalog when discovering and accessing dispersed materials, and their thoughts on improving accessibility/searchability of archival collections.

For this study, researchers are broadly defined to include both novice and advanced researchers. The study selected participants from major research institutions in central North Carolina, including UNC-Chapel Hill, Duke University, and North Carolina State University. Participants were selected with the cooperation of archivists and reference professionals at the institutions. The researchers identified came from a variety of backgrounds, although all held at least an undergraduate degree. The researchers' specialties focused primarily on archival-related fields – four worked with both genealogical and historical research, with two focusing primarily on genealogical, and one worked almost exclusively with rare books, manuscripts, and manuscript collections. All of the participants classified themselves as experienced researchers – namely, that they were not new to searching for materials in libraries or archival institutions, had been researching their topics for several years, and had developed working relationships with

clients and archivists. One participant stated she had been working with libraries and archival institutions for over 30 years, long enough to witness the adoption of common standards, such as Library of Congress standards and guidelines.

All of the researchers used their findings in some manner – whether to directly answer a client's question or for their own scholarly research and writings. Demographically, four of the participants were female, and one was male; the study did not control for or attempt to isolate age, ethnicity, race, sexual orientation, or gender. For purposes of the study, the subjects primarily focused on their professional research, rather than any amateur or personal research they may conduct outside of their professional life.

Data Collection and Analysis

The study used qualitative methods to determine researchers' perceptions of their research process when attempting to access materials dispersed across institutions. Semi-structured interviews were conducted, following a set of pre-established questions (see Appendix A). Additional questions were added to clarify interviewees responses, delve into their research habits, and gain insight into their search behaviors and use of archival institutions. All interviews were audio recorded and transcribed. One participant's original interview audio was corrupted, so a second interview was conducted and recorded, replicating the first interview's questions. The interviews were then coded by the investigator, using emergent coding and analyzed to identify major themes or keywords in interviewees' responses. The paper advisor assisted in ensuring there is inter-coder reliability.

Results are reported thematically, highlighting participants' thoughts on their searching of, access to, and use of materials dispersed across multiple institutions and

collections. Users are not personally identifiable. All participants noted that their research questions were often given to them by third parties, such as clients looking for more information on their family history or targeted historical questions. One participant noted that she had a very variable blend of questions, however, and not every question had a definite starting point. The variable questions allowed her "more autonomy" during the search process and led her to numerous sources, including card catalogs, digital catalogs, digitized materials such as city directories or historical publications, and, most importantly, finding aids.

Limitations

The study was designed to illuminate professional researchers' searching habits and practices for materials dispersed across various archival institutions; as such, it does not examine amateur research or offer insight into broader strategies to improve searchability and accessibility of archival materials to laypersons, or those unfamiliar with archival research.

Interview subjects were selected primarily through archivists' and reference librarians' contacts with researcher who have worked at one of the local universities in central North Carolina. However, a wide variety of researchers visit the archival institutions at the major Triangle universities – from local students to professional researchers from abroad – so a small and representative sample could be obtained. Because I worked at Duke University as an intern, including reference shifts during which I interacted with archival researchers, I will need to be sure to account for any potential biases or conflicts of interest. I will not interview any researcher that I have had direct contact with or assisted in the research room.

Results

When examining participants' responses to the semi-structured interview questions, several dominant themes emerged, including the importance of existing finding aids and library catalogs, as well as interpersonal connections with archival professionals and, perhaps most importantly, other researchers.

Descriptive Tools – Finding Aids, Library Catalogs

Participants consistently pointed to the importance of proper description, whether it is in a finding aid or a catalog record. One researcher stated that "detailed finding aids are most important for searchability and access" because of the ability for valuable information "hidden" within the basic contents, abstract, or other description. Such "hidden information" in a finding aid often led this researcher to "somewhere new," whether this is another resource in the institution she is currently working at or a completely different collection and a different archive. Other researchers frequently pointed to the importance of the finding aid as at least a base for further research inquiries into other collections and institutions. All of the participants highlighted more detailed finding aids and cataloged records as a way to improve institutions' searchability and access to materials. Since the participants were often researching vague questions or having to sift through a large number of materials to find a certain genealogical or historical connection, they often mentioned the importance of detailed finding aids and records to assess the relevance of materials. One participant stated that it is easier for her to "better assess what the scope is" of the materials she is looking at and whether a certain collection, box, or folder will be useful to her research questions. If the finding aid is more detailed, she can quickly determine if it matches her basic criteria she

generally starts her research process with – primarily location, date, or individual's name. In addition to the term "detail" or "detailed," participants often paired the word "context" or "scope" with finding aids and catalog records. Participants noted that finding aids were most useful when they provided sufficient context for the materials and were not simply listings of titles of a collection without the requisite "who, what, when, where" that one researcher regularly looked for in descriptive resources. She looked to finding aids to go beyond a collection title and provide greater contextual information about the collection and the materials it contained.

When asked about the level of detail most beneficial to research across multiple institutions, one researcher identified the abstract as a particularly important component of a descriptive resource. She felt that the abstract needed "enough context to tell" her something, with other similarly text heavy components of a finding aid (such as a summary, collection overview, or special notes) to quickly identify if the resource was helpful in answering her research questions. She frequently pointed to "context" as the most important and helpful aspect of a descriptive resource. Although more time-consuming description is helpful for context, several of the participants stressed the need for a thorough box, container, or folder list.

Participants did not indicate which level of specificity (container vs. folder) was most beneficial, but identified contents listings as quickly and easily searchable tools to scan across multiple institutions. The contents list of a collection or resource was also more constant across different institutions – although all participants noted that each institution they worked with had differing descriptive practices and searchability/accessibility of materials, contents lists, if created, were all similar. Despite

participants' note that contents lists followed a basic format, one participant did comment that a major obstacle was "lack of detail" in any descriptive resource, from a contents list to a finding aid. She detailed her experiences with finding aid variability across institutions, but also within institutions. Her research often led her to encounter finding aids completed at varying times of an institution's history, so the format and detail fluctuated based on current standards or who was preparing the resources.

While all participants discussed the importance of digital descriptive resources when identifying materials, one researcher also highlighted "legacy" tools as a key component of her search processes. She utilized card catalogs and physical binders containing finding aids at some local institutions as part of her regular research practices. Two other participants also regularly used legacy descriptive resources such as binders of printed finding aids. In addition to the use of physical copies of finding aids or other records, all participants also used secondary physical sources, such as microfilm, microfiche, and scholarly articles and books – to locate archival materials. All participants used these secondary sources as a way of triangulating upon primary resources – most often, this occurred by following citations and footnotes from a scholarly article, but could also occur through anecdotal information provided in microfilmed newspapers or publications. Participants answering genealogical questions often found a specific family by following information on a major business in a particular county or city, locating a family through their patronage of a specific institution.

While all of the participants unsurprisingly made use of finding aids and descriptive resources, they all also used these secondary pathways to information – in tandem, all of these methods were very effective in locating materials relevant to their

research questions. However, all participants did note the necessity of combining these search and access strategies so that they may be somewhat comprehensive in locating relevant materials – combining multiple search strategies across platforms allowed the user to catch as many potentially relevant results as possible. Perhaps most effective in their research, participants also connected use of legacy finding aids directly with the need for interactions with other individuals to locate all relevant materials, even those at other institutions.

One subset of searching for information that participants noted as particularly useful was sorting, filtering, or otherwise ordering search results. The most common method of ordering searches was by date or time period. One participant noted that the most fruitful method for narrowing his search results to locate relevant materials was "ordering results from searches by publication date." He "use[s] that constantly, whether [he's] looking at the British Library or the Folger Library." While this participant was primarily looking at rare books, other participants who worked more closely with manuscript collections and genealogical research also noted the importance of filtering by time. Along with place or location as a filter or indicator of relevance, date was crucial to narrow a genealogical or historical question to a manageable search results list. Once a participant added these filters, they were required to do less manual effort in searching and ascertaining relevance. However, participants noted that the filters were only helpful and accurate if the descriptive resources (catalog or finding aid) included this temporal information.

Somewhat paradoxically, one of the biggest complaints with ArchiveGrid, WorldCat, and other aggregators was the lack of contextual information like dates. The

filtering tools, which all participants noted as useful to their research, were only beneficial to determining materials' relevance if the date or place was included in the catalog record or descriptive resource. As one participant stated, "the most important thing…even when you go through ArchiveGrid…is you eventually have to get to the nitty gritty of that particular institution." At the current time, users are not completely satisfied with aggregators, find individual institutions' catalogs very helpful, and use multiple searches and search platforms to conduct research into a single question. One participant stressed that "a title is just not enough" and that "some context on names, dates, [and] places" is necessary to fully understand a record and make a value judgment on its relevance. This participant's thoughts were reflected by the other participants as well – ArchiveGrid or WorldCat's aggregate search was useful to them, but only if it pulled enough information from the library's descriptive resources. Participants noted that ArchiveGrid, in particular, would often only show a title of a record group or materials, forcing them to visit the library's individual catalog.

Aggregators were often used in tandem with other search methods, particularly searching of the institution's catalog, to locate materials. ArchiveGrid, WorldCat, and other aggregators were never used alone – all participants coupled their aggregate searches with more specialized and localized searches. Due to the variability of the descriptive information provided by aggregators, participants used it as a small part of their research – often as a stepping stone to another search strategy. Aggregators were most useful in providing participants with an *idea* of where to look, or what materials might be relevant – they were most useful in directing and focusing participants'

searches, rather than supplying complete answers or an entirely satisfactory conclusion to the search process.

Interpersonal Communication

Most of the research conducted by participants was heavy on searches they conducted without initially interacting with or contacting archival or library staff. Initial searches were completed by the researchers on their own, often relying on any information the client had provided them, such as a name, date, or location. However, all participants noted the necessity of discussions with other researchers and archivists to fully conduct a search and make it as comprehensive as possible. One participant noted that finding aids directly led her to an interaction with archivists – when researching across North Carolina and Tennessee, the researcher encountered a description of a Tennessee land grant. The descriptive resource contained references to a previous search and delivery systems – the researcher needed to contact the archivist and speak with her directly in order to "make sense" of the old references.

While interactions with other researchers were important, particularly those who had researched similar questions or topics, participants all paid particular attention to their relationships with archival staff. One participant noted her increased ease with archivists and librarians over the years – after she developed relationships with them, they had a mutual understanding of one another's needs. The participant stated that an archivist became familiar with her research interests and her work, and was able to help her more effectively or even preemptively pull materials for her in advance of her visit to

the institution. All of the participants regularly incorporated interaction with archival staff into their routine workflows. One participant noted that she was "more familiar with the archival staff" at local institutions she frequently visited or used and had "no qualms about emailing them, probably a few times a month to ask a question about either a resource or…to ask a question related to the collection that [she] can't tell online." The same participant also relied on archival staff to provide historical context for records," an aspect of the finding aids and other descriptive resources frequently mentioned by participants as highly important to assessing the relevance of materials.

Although the participant did not comment on specific finding aids or other online resources, her comments suggest that regular interaction with archivists is necessary to supplement these resources and provide some needed context or information in order to fully understand the materials. Based on all of the participants' comments on their relationships with archivists and library staff, they are an extremely important part of the research process and can provide information that is unavailable online or, often, within the physical descriptive resources. Participants relied on archival staff to understand their collections and the broader context they are situated within – part of the researchers' process for searching for and identifying relevant dispersed materials includes tapping into the knowledge of archival and library staff. All of the participants added an element of time when describing their (or other researchers') relationships with archivists and library staff – they stressed that the relationships were developed over time and many interactions. One noted that new researchers may feel uncomfortable or reticent to ask archivists questions, but that a level of ease and familiarity comes over time, making researching difficult topics easier as the relationships develop.

Physical interactions, often facilitated by the need or desire to physically visit an archive, were very important to all of the participants, but participants noted the increasing ease of online or digital interactions. One participant, noting that it had gotten much easier to research since she initially started her career, pointed to the fact that she previously "had to make a phone call or write a letter." She juxtaposed these methods of communication with the emergence of email and, now, institutions' "web presence." She suggested this new web presence made it easier to locate materials and research, while letting her "find an answer to a question, [but] there's ten more questions" raised. The necessary mix of interactions, whether it be in-person, through mail or phone call, or through email or a digital web presence, is key to each of the researchers' process for searching for dispersed materials. Just as their search and access habits incorporated both physical and digital (or more traditional and emergent) use of the archive, all of the participants remained almost equally dedicated to communication and interpersonal relationships, no matter what form they take.

Collaborative Efforts and Cross-Institutional Search Engines

All participants used cross-institutional search platforms, such as ArchiveGrid, in their search practices to some degree. None of the participants identified ArchiveGrid as their first source of information on materials – one participant placed it as the second source she consulted. The researcher who turned to cross-institutional searches as a second source noted that she often used tools like ArchiveGrid more often now that her needs are broader. All of the participants also used WorldCat

Multiple researchers noted the variability in access to finding aids and other descriptive resources when working within platforms like ArchiveGrid. One participant

noted her frustration with ArchiveGrid, concluding that she invariably had to visit the library's catalog itself to determine the relevance of materials. Since she would often need to visit the library's catalog after an ArchiveGrid search, she also skipped using ArchiveGrid at all and went directly the individual catalog.

Surprisingly, participants also noted Google or Google Books as one of their primary search strategies, particularly when starting a broader search. One participant noted that Google Books is very useful when examining the secondary sources (footnotes and citation), previously mentioned, to lead to primary sources within the archive. The participant noted that "Google Books has become very useful and has sometimes guided [her] towards things [she] would have missed otherwise." Although not a primary search method for actually finding primary materials, participants used Google and Google Books to find "back doors" into collections, often through scholarly citations and writings. Even if Google was only used to verify a citation or title of a collection, as one participant frequently did, these searches proved very useful for participants, in coordination with other search strategies. Like ArchiveGrid and WorldCat, the monolith searches of Google were used in a broad fashion that led to a narrowing or focusing on a particular institution. Just as with the other scholarly aggregators, participants used Google as a preliminary or refining step, often sending them to an institution's catalog. While some participants did note restrictions on archival materials themselves, three participants also noted copyright laws or database subscriptions determining access to these scholarly sources. When attempting to build from a broader and publicly used platform like Google, participants noted that they had to build upon research that they

were able to access – out of copyright protection, digitized, or made available through an institutions' database subscription.

Most participants noted that the current emphasis among archival institutions seems to be moving towards greater cohesion, standards, and a willingness to cooperate and promote as wide access as possible. However, one participant noted that he encountered difficulty when searching some library catalogs for materials – especially when manuscript holdings were cataloged separately from the general catalog. He noted that some libraries have "a specific manuscripts catalog and…it was more difficult because [he\ had to search by the manuscript name" directly. Since he was not always sure of the manuscript name used in the catalog record, which can be variable, he suggested these materials were particularly difficult to locate. Based on his experiences, he concluded that he felt that some of the libraries utilizing separate catalogs for different materials, or cataloging materials according to varying standards or levels of detail, "actually want[ed] to limit discovery." The participants' feelings that catalog records and other descriptive resources could be purposefully vague in order to discourage discovery is particularly disturbing. The participants' difficulty in searching across various catalogs, leading to this frustration, should continue to be addressed by archivists. Greater collaboration and continued dedication to implementation of wide adoption and adherence to standards is necessary to prevent users from feeling that archival institutions are attempting to limit access to their materials by making the search process difficult. Based on participants' frequent use of Google, WorldCat, and the library's own individual catalog, more research should be done to ascertain how these searches work in tandem. Usability studies for each platform could track users' real-time perceptions of

the ease of searching and gauge their feelings about the archives' willingness and openness to provide access to their materials.

Although participants did not generally feel active interference or withholding access by archival institutions, some hindrances to collaboration and searching multiple institutions incurred these feelings of frustration and limited access. Overall, participants' experiences accessing materials was largely positive and occurred in a variety of formats – little preference was shown between digital or physical, although most initial access occurred digitally.

Accessing Materials

After selecting promising materials at multiple institutions, the researchers in the study used a variety of methods to access the materials to fully determine their usefulness and provide answers to their research questions. All of the participants accessed materials both physically and digitally – none of the researchers exclusively used one method of access or preferred one to the other. Since one participant regularly consulted descriptive resources that only existed in a physical format at the institution itself, she also utilized the physical collection rather than the digital if she was already at the institution.

Participants most frequently used the physical materials when accessing collections local to them. Although each participant's definition of "local" seemed to vary, and no control was made to define local, they generally used the term to describe an archive they felt comfortable visiting within a close geographical area. For one researcher, this meant visiting archives that were within the state and accessing their materials physically. For another, local could include archives within a several state

radius. All participants who were primarily focused on historical and genealogical research regularly combined physical and digital access to materials – one noted that she initially worked "completely online" during initial stages of research, and would access materials on a needed case-by-case bases at local North Carolina institutions. She also noted a middle-of-the-ground approach – if the materials were not in a North Carolina digital collection, she would request the materials be digitized. Then, if the archivists could not provide a digital reproduction, she would visit the institution in-person. The outlier in the research was the participant whose main research questions dealt with rare books. Since his research "make[s] a lot out of use copies, and individual peculiarities in copies," he "look[s] at marginalia and annotations" in specific editions of a text, requiring him to rely heavily on physical access to materials. He did make use of microfilmed or digitized materials, which can show the presence of marginalia or annotations, but often do not provide high-quality resolution that will allow for detailed analysis or interpretation of the textual variants. This is a particularly fascinating aspect of digital versus physical access that will continue to be prevalent among researchers, even researchers studying different formats, editions, or versions of a digital document. Although all of the users utilized digital copies, this participant's experience, shows the continued need for physical visits to the archives. Some details of the materials themselves may only be visible or understandable by physically examining the collection – digital reproductions are excellent for convenience and some initial research or quick understanding of the material. More detailed analysis, or once the researcher has determined the material is relevant, requires supplementing the digital copies with examination of the physical copies. The participants provided examples of their use of

both digital and physical objects – the importance of context, the specific nature of their research question, and the locality of the institution all affected which format they preferred to access materials.

Conclusions

The study reaffirmed some basic archival truths, particularly about the importance of description. Given the rise of MPLP approaches and an ever-growing amount of materials (both digital and physical) that need to be processed and described by archives, institutions may decide to limit the scope of description of collections. Based on participants' responses, descriptive aids are often the most valuable source of information, even if unwittingly. Archival institutions should carefully weigh the balance between rapid processing and minimal description with any benefits researchers may gain from more full description. The study did not delve into the level of specificity required for these unintentionally helpful leads to other archival materials at other institutions, so more research is needed to ascertain if minimal description (such as a container list and brief abstract or historical note) or more full description is most beneficial.

The function of the researcher and their research questions also played a major part in their searching and access of materials dispersed across various collections. Since the researchers were often undertaking questions given to them by a third party, such as clients looking for genealogical information, they often began the search process with some initial information. Since archival materials dispersed across collections are more difficult to navigate and discover all relevant materials to a research question, the study primarily sheds light on how more experienced researchers locate these materials across institutions. While participants noted that they were sometimes beginning the search and

access process with some existing knowledge and information about their question, their search habits reflect strategies similar to those without previous knowledge.

Researchers most often pointed to finding aids and other descriptive resources for information in locating relevant materials across institutions, augmented by interactions with archivists and others. The researchers' insights into the interactions between finding aids (created through a wide range of times and "best practices), interpersonal communication, and emerging cross-institutional searching/digital content platforms are particularly valuable. All participants were familiar with ArchiveGrid and similar aggregate search engines, but their familiarity with the systems did little to mitigate what they viewed as the primary problems of the systems. All of the participants pointed to ArchiveGrid's excellent attempt to pull information from multiple institutions, but suggested that the variability of the information made using this system *alone* inefficient and ineffective for locating relevant materials across institutions. At least in the present, ArchiveGrid and similar platforms are best used in tandem with more traditional methods of searching. Participants found interpersonal communication most effective when teasing out nuances from ArchiveGrid – talking with an archivist at the institutions identified by ArchiveGrid as having potentially relevant materials was almost always necessary during the participants' research. Based on the participants' responses, there are currently no completely satisfactory substitutes for contact with an archivist after initial searches on their own. However, systems that mimic interpersonal interaction or more easily facilitate contacting archival professionals may improve the ability of researchers to quickly and easily locate relevant dispersed materials. Systems integrating Web 2.0 capabilities, social media, and collaborative or community archiving aspects

may provide the same type of information as a direct interpersonal interaction and would require less mediation between finding aids, cross-institutional systems or catalogs, and archivists' knowledge. Further studies should be undertaken to determine the impact integration of these capabilities would have in online search engines, particularly those that draw from many different types of institutions.

Once participants identified materials they considered relevant in multiple institutions, their next hurdle was questions of access. None of the participants indicated major difficulties when obtaining access, whether digitally or physically. It is surprising that participants did not draw a firm distinction or preference for digital access to materials over physically visiting an archival institution. Perhaps due to the focus of several major repositories in the researchers' vicinity, physical access was not an impediment to the researchers. Further study should be undertaken to determine how often researchers prefer one method of access over the other (digital or physical), particularly with different types of materials (photographs, documents and artifacts all have necessarily different characteristics). Although participants certainly utilized digital resources, they had no aversion to physical access and did not view it as a barrier in any of their research questions.

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Appendix A

1. What has been your primary focus of archival research?
2. How do you locate materials at various institutions that are relevant to your research questions?
3. What systems do you find most useful in locating dispersed materials?
4. Are there any obstacles to searching for materials across multiple institutions?
5. Once you've identified materials, describe how you access them?
6. Do you access them digitally or physically?
7. Are there any obstacles to access?
8. Is there a particular research question that has been difficult to research across multiple institutions?
9. How would you improve archival institutions' searchability?
10. How would you improve access?