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Capturing the Narrative: Understanding Qualitative Researchers' Needs and Potential Library Roles

Introduction

Over the last decade, as research data services have matured from cutting edge endeavors to standard services, academic librarians have recast existing narratives about the value that we bring to our campus communities. These new narratives reflect librarians' roles as collaborators throughout the entire research life cycle, emphasizing services for everything from grant-seeking and comprehensive literature reviews to data management, dissemination, and research impact. As libraries have invested in diverse research services and developed expertise to support scholars across the research life cycle, they have also shifted service models toward a proactive approach characterized by campus and community outreach and engagement. Rather than waiting for researchers to find their way to the library, librarians are reaching out to individuals, departments, and programs with the message that they are ready collaborators.

Though libraries have done an admirable job using the model of the research life cycle to develop and offer valuable research data management services, many libraries struggle to provide equitable support for qualitative research.[1] This challenge may reflect broader privileging of quantitative methodologies on campuses and the preferences of external funders.[2] Many campuses that routinely provide access to quantitative analysis tools do not provide the same level of support for qualitative tools. On our four-year research intensive campus, the library and other research support units have offered formal services for qualitative analysis with less frequency and consistency than services supporting quantitative approaches.

However, engagement with qualitative research methods and mixed-methods research is growing and evolving.[3] On our campus, we routinely see researchers from all disciplinary backgrounds using qualitative methods to illuminate research questions that require in-depth

exploration and understanding. As libraries continue to refine and centralize services that support the full research life cycle, they will do well to recognize the varying needs of qualitative and quantitative researchers at every stage.

In this study, we investigate unmet needs of qualitative researchers and explore the utility of the research life cycle model for understanding opportunities for support and developing appropriate and relevant services. Accordingly, our discussion of preliminary findings is organized around research life cycle themes and stages.

Literature Review

The Rise and Importance of Qualitative Research

Research shows that engagement with qualitative methods continues to rise across disciplines, including in fields that have traditionally relied on quantitative approaches. Pertti Alasuutari has argued that the use of quantitative methodologies has been historically privileged due to "neoliberal principles" that have pressured "public policies and practices" to be supported by "evidence-based, scientifically validated research...since the early 1990s."[4] Despite this privileging of quantitative research for validation purposes, the literature continues to observe an increase in qualitative studies.[5]

In addition to qualitative methods, the literature shows that mixed methods research has also grown. Pertti J. Pelto delineates a variety of fields in which mixed methodology is used, including anthropology, economics, ecology, and health care.[6] The literature suggests that not all researchers identify solely with quantitative, qualitative, or mixed methods approaches. For example, in 2014 the University of Kansas Libraries surveyed researchers from multiple disciplines to understand how researcher needs and data practices differed based on methodology. Given the option to select all the research methodologies that applied to their work, "55 percent of quantitative researchers also responded that they were qualitative researchers and 63 percent of qualitative researchers responded that they were quantitative researchers."[7]

Mixed methods research has proven to be useful in studies that have involved social programs or health sciences.[8] Many researchers have turned to qualitative methodology in order to remedy problems related to racial inequality that quantitative approaches may not discern or may amplify. For example, Gilborn utilizes critical race theory to illustrate the biases of quantitative data, and thus any ensuing statistical analysis, and the consequences for contributing to racial inequalities and colorblind policies by giving more weight to quantitative as opposed to qualitative measures.[9]

Qualitative Researcher Needs Throughout the Research Life Cycle

In spite of the growth in qualitative or mixed methods research, support for researchers using qualitative methods has not kept pace. Several studies demonstrate a continuing need to better understand the circumstances of qualitative researchers in areas such as funding, engagement with institutional review boards (IRB), and data collection and sharing procedures.

Early in the research life cycle, qualitative researchers must consult the literature in order to situate their studies within existing evidence, to learn which theoretical constructs have been used and newly developed, and, sometimes, to ground their own protocols against existing or previous examples. Given the pace of change for digital research and literature discovery, even these seemingly basic tasks can present challenges, especially given the variability in availability, awareness, and use of methodological search filters across disparate platforms.[10] Maria J. Grant found that a significant percentage of researchers were concerned about their ability to undertake a comprehensive literature review of qualitative research in their area of inquiry.[11] Furthermore, Shanda L. Hunt and Caitlin J. Bakker found that while most researchers were confident in their literature searching abilities, those from fields such as public health, who relied heavily on grey literature, required more "in-depth training on [...] search strategies than other professions."[12]

Once a study has been situated and research design choices have been considered, the researcher must apply to their institution's IRB for exemption or approval, if human subjects are involved.[13] Yvonna Lincoln and William Tierney reported several case studies that exemplified how IRBs may disrupt qualitative research, citing a report published by the American Association of University Professors that suggested this was due to applying "'standards of clinical and biomedical research to social science research, to the detriment of the latter.'"[14] They further postulate that IRBs find it difficult to assess level of risk in comparison to benefits for qualitative research, while in biomedical research, weighing risks against benefits may be more straightforward.[15] These findings are consistent with several recent studies, reporting on IRB reviewers' lack of familiarity with qualitative methods. For example, Carrie S. Tucker King and colleagues conducted a series of case studies in 2018, finding that IRB reviewers "who are trained strictly in biomedical models of research may not understand what health communication researchers do."[16]

Qualitative researchers are also challenged to find adequate support for data collection and sharing procedures, especially given the characteristic differences between qualitative and quantitative data. Prior to the implementation of the Australian Qualitative Archive (AQuA), Alex Broom, Lynda Cheshire, and Michael Emmison conducted six focus groups with Australian qualitative researchers. These focus groups elucidated the difficulties of qualitative data archiving and sharing, based on the general nature of qualitative research as well as questions of ownership. During the focus groups, researchers explained that while quantitative data was more anonymous and distant, qualitative data was more relational, describing it as an art form.[17] To divorce the qualitative data from the researcher would raise issues related to intellectual property rights for researchers as the producers of that data. Furthermore, ethical questions of protecting the privacy and confidentiality of participants were raised.[18]

Louise Corti and Veerle Van den Eynden also address a gap in training for both novice and professional researchers in data management skills.[19] There is a need not only for new research methods literature to incorporate data management and sharing, but also professional training on data preservation tailored for researchers.[20] They conclude by identifying data librarians, research skills courses at academic institutions, and research offices as potential entities responsible for teaching and training researchers on data management and sharing skills.[21]

Additionally, the lack of repositories that support the intricacies of qualitative data presents challenges to qualitative researchers who may seek to share or publish their data. Linda L. Rath explains that funding agencies in the "big sciences" require data to be made accessible to the public, contributing to greater demand for these datasets; conversely, the "small sciences," receiving a smaller level of funding, produce datasets that are smaller and not optimal for reuse, by comparison.[22] University repositories tend to be designed for the well funded "big sciences" while "small" science datasets are often in formats that are not acceptable for deposit.[23]

Qualitative researchers encounter challenges with data analysis as well. Bernadette Dierckx de Casterle et al. provided a discussion of the Qualitative Analysis Guide of Leuven (QUAGOL) in an attempt to address the lack of "theoretical attention" in qualitative data analysis.[24] They concluded that QUAGOL is a tool that can be used as a guideline for qualitative researchers.[25] However, the literature shows the wide variety of methods used in qualitative data analysis by different disciplines, which suggests a possible reason for a lack of support in qualitative data analysis.[26]

Later in the life cycle, qualitative researchers face added difficulty and complexity as they seek to publish their findings. In medicine, qualitative research was dramatically underrepresented in prominent journals in the late 1990s and 2000s.[27] In 2016, a survey of 859 medical researchers revealed that 68 percent had conducted at least one qualitative study that remained unpublished in a peer-reviewed journal.[28] Within the qualitative content of primary care journals, a 2017 study found that some key methods were underrepresented.[29]

Even in fields where qualitative research is relatively well represented, manuscripts submitted for publication may be evaluated through a post-positivist paradigm. In a comprehensive analysis of qualitative content in education journals, Romina da Costa and colleagues found "a clear trend [...] in which the researcher remained a neutral, non-participant," reflecting a post-positivist detachment of truth from context rather than a constructivist awareness of the potential influence of the researcher on study participants.[30] Writing about the challenges qualitative researchers face in psychology, Brendan Gough and Antonia Lyons noted how qualitative research had to conform to "traditional principles and practices" for inclusion into "highly rated psychological journals."[31] In a survey of authors published in organizational and management journals, respondents agreed that "there are no standard ways to evaluate qualitative research," opening a gap in which "quantitative standards are inappropriately applied to qualitative research."[32] In such an environment, it is not hard to see how publishing qualitative research can become, in the words of one faculty member interviewed by Marilyn Geller, a "source of burden."[33]

Finally, throughout the qualitative research literature, a recurring theme emerges about the need for communities of practice and collaboration.[34] In a series of focus sessions and interviews in 2013, Amalia Monroe-Gulick, Greta Valentine, and Jamene Brooks-Kieffer found that collaborating with colleagues to gain expertise and research support was a primary need for researchers.[35] Marilyn Geller found that faculty employed both face-to-face and virtual means to find and collaborate with other researchers.[36]

Based on the literature, it is evident that qualitative and mixed methods researchers encounter challenges finding support throughout the research life cycle, even as engagement with

qualitative methods expands across disciplines. This study investigates the needs of qualitative researchers in order to inform library efforts to develop and revise research life cycle services to be more methodologically inclusive.

Methods

To further engage with themes emerging from the literature, we asked the following research questions:

1. How do qualitative researchers perceive their work and the research infrastructure on campus and beyond?
2. How might the library better support and collaborate with qualitative researchers?

Our team took a phenomenological qualitative approach to these questions, seeking a deep understanding and contextualization of qualitative researchers' needs. We have engaged in an ongoing series of semi-structured interviews, in order to understand how qualitative researchers make sense of and navigate their research environment. We began by identifying key stakeholder groups which included librarians, faculty, and doctoral researchers. Interview participants were selected using convenience and snowball sampling; we attempted to include researchers from diverse disciplinary and methodological backgrounds. We tailored interview protocols for each category of participant, in order to discern the needs and perceptions of researchers and to understand how librarians have viewed the evolution of their roles providing research support and partnership. All participants were asked about the library's role in supporting qualitative research, including what tools and services are currently offered or most appreciated, and what aspects of qualitative scholarship present challenges. This latter point was assessed with emphasis on identifying potential areas for increasing library support.

Our primary data was derived from our interviews, which we began conducting during the 2017-18 academic year. To date, we have completed interviews with 23 participants. Of these, 11 participants were faculty researchers, 8 were doctoral researchers, and 4 were librarians. Questions were adapted dynamically to allow for engagement with and investigation of emerging insights throughout the interview process. This paper provides preliminary analysis across all completed interviews to date.

All interviews were recorded, anonymized, and transcribed. Though we have begun an extensive coding and interrater agreement process using NVivo software, we ran free text queries across the transcripts for this paper to capture insights across the research lifecycle, in order to engage with emerging themes and share preliminary results.

Limitations

There are two main limitations to this research. First, while data collection has progressed beyond an initial phase, the breadth of views on qualitative research needs representing the full spectrum of researchers at our institution is still being explored. Second, the prevalence of any particular theme cannot be inferred from our findings, as no quantitative measures were used. More structured coding may shift the emphasis of these findings as the research continues.

Findings

Findings are generally organized around stages of the research life cycle, as we found that each stage presents unique challenges for qualitative researchers. These difficulties can include

identifying funding sources and complying with funder requirements, obtaining access to and learning to use data analysis tools, and engaging with the ethics of data sharing.

Funding

Discussions around funding for research included all of our participant types. Graduate students spoke about the need to be budget conscious, particularly in the beginning of their research careers: "...traditionally when you're...a doctoral student, you can get funds to pay for you to go out and do this research...when you have that, it's almost like a job where you can focus solely on your research. But I think when you're a master's student or you're not getting funding through a fellowship or a grant, you have to just kind of make do." (F06) Having funding to cover expenses such as transcription can free up valuable time to continue other aspects of the work.

Faculty, who are frequently in the role of principal investigators on research projects, spoke repeatedly about adhering to funder requirements for sharing data and having a data management plan. This mandate was echoed by a librarian participant who voiced the concerns frequently heard around funding: "With faculty, I see more of, 'I'm being told by the NSF or by the NEH, that I have to share my data. What does that even mean? And how do I do that?' So it's more sort of the latter stages of sharing and the preservation aspects that are now being required by funding agencies and publishers that tend to drive faculty interaction with us." (L04)

Research Design

Research design was not discussed explicitly in many of the interviews, but several participants mentioned factors that influence research design. Faculty as well as doctoral researchers described feeling challenged to bridge gaps in knowledge between disciplines or across methodological backgrounds in order to enable collaborative research. F11 described a need to improve understanding of disciplinary approaches and conventions during the early stages of collaborative research projects. Similarly, D06 highlighted a need for "discipline focused methods training" that would enable collaboration between qualitative and quantitative researchers who may not have had exposure to each other's methodological training, even within the same discipline. Other researchers focused on the role that specific tools or analytical approaches may play in the research design phase. For example, F03 described efforts to learn NVivo early in their process to ensure that data analysis as envisioned would be possible and because forming a plan for analysis "helps find holes in your study design."

Researchers and librarians described barriers to library engagement around research design, though for different reasons. F05 described a need to prepare for a consultation with a librarian "in advance" and a general lack of time to do so. L01 and L03 felt that research design was beyond the scope of their expertise and capacity, with L03 remarking that they would not feel comfortable commenting on whether a design choice was "inappropriate."

Data Collection and Analysis

Faculty and doctoral researchers described a diverse range of methods for qualitative data collection and analysis, including semi-structured interviews, open-ended survey responses, observations, case studies, and other ethnographic methods for capturing the nuance of human subject responses. Many projects incorporated pre-studies and pilot sessions to collect initial

data which would guide subsequent data collection. The interviews reflect diverse approaches to analysis, including varying emphases on textual or discourse analysis, application of grounded theory, statistical modeling, and network analysis, among others. A range of tools and software were discussed, including NVivo, Dedoose, R, and MAXQDA.

Many participants described intermingled collection and analysis phases and conveyed a need to remain attentive to analysis considerations throughout the life cycle of a project. D04 remarked, "Research questions shift, and therefore your analysis of the data may shift." Similarly, D05 described how initial reflection and analysis can lead to a revised sense of objectives: "a couple of really good interviews can really change the plan." Several researchers described efforts to remain thoughtful about the context of their source material. D03 asked, "Where is the line between data and analysis?" while F01 asked, "How do you use a data source that was not collected with your research questions in mind?"

Some participants undertook analysis during the collection phase of their research. One faculty researcher (F04) developed "generic vignettes" of their subjects that became the anchor for their later research. Other participants described similar approaches to both refining and recognizing increased complexity in their collected data as they developed secondary data sets (F09) and statistical models (F06).

Researchers' concerns for protecting their human subjects were prevalent during discussions of their approaches to data and analysis. They described planning for if or how they would share and manage their survey data and potential approaches to de-identification simultaneously during the data collection phases of their work. F03 and D03 commented on the difficulties of sharing survey answers or qualitative interview responses and expressed a need to develop protocols for translating and representing this data in the literature.

While several researchers commented on the relationship between their analytical needs and the tools they would select to fulfill those needs, some level of frustration with available tools was a common theme. Multiple participants expressed frustration trying to use NVivo for collaborative research. F01 described group management of an NVivo file as "cumbersome" and conveyed feeling "paranoid" that a collaborator "would somehow overwrite the wrong file." F03 described the entire qualitative analysis phase as a "nightmare" and had abandoned the software, preferring to code with Microsoft Word and Excel instead. Several doctoral students referred to the high cost of qualitative software. D01 obtained a small grant from their department to obtain access to Dedoose while D03 described feeling "lucky" to get some departmental funding to purchase NVivo. Several researchers described their efforts learning to use qualitative analysis software, commonly referencing online tutorials and peer learning among departmental cohorts. Attitudes toward workshops varied. Some researchers welcome them but had trouble finding them offered on campus while others did not value workshops.

Data Management

All 23 interviewees responded to questions on data management. When reflecting on their data management practices, the faculty and doctoral students discussed a number of different topics. However, most saw data management through the lens of a single issue, and most frequently with security and sensitivity of data in mind (10 faculty and doctoral students). The range of

topics included the following: security and sensitivity of data, backup processes (5), organization (2), data in proprietary software (1), and sharing (1). We also asked specifically about data management plans. Some researchers understood this as a term related to grant funding but others did not, perhaps reflecting the different ways in which qualitative research is funded. Overall, none of the researchers discussed data management in a comprehensive manner and two admitted that it was ad hoc. D07 noted, for example, "The data management plan is invented as I go along."

Researchers associated data management most frequently with secure storage and sensitivity. D02's response is indicative of the other researchers: "It was a lot of what we focused on was sort of safe storage of data to keep the privacy and the reputations of our interlocutors secure. That was what we focused on a lot. We've thought a lot about the ethics of data management, but not really the process used."

The librarians had different views on data management depending on their closeness to assisting faculty with this task. Interestingly, L02 talked about how data management services varied depending on the stage of the research life cycle during which her services were tapped, "it does kind of run the entire spectrum of the research life cycle". She continued by presenting a nuanced view of the different researcher needs at each stage and her intervention.

Data Sharing and Reuse

All interviewees were asked about data sharing and reuse of qualitative data. Few of the researchers had personal experience in either qualitative data sharing or reuse. Researchers cited various reasons for not sharing: the sensitivity of the data and the difficulty in anonymizing them, the inability to provide sufficient context to ensure the data would be reusable, and the proprietary nature of some data from social networking sites. F01 reflected that, "I feel like qualitative data, qualitative research in general, is usually very context specific. A lot of times, qualitative data may not be as useful without it having a bunch of contextual information with it."

Most of the researchers noted that data sharing was not specified in their IRB application. Only seven participants discussed data reuse at length, six researchers (three doctoral students and three faculty members) and one librarian. Several others noted that they did not reuse qualitative data but volunteered that they had reused quantitative data. L02 articulated a vision of helping qualitative researchers engage in data management activities that both let them pursue their own research questions and prepare data for reuse, stating, "...we really want to make sure that we make recommendations that help them do their own research, but then also allow others to reuse that data later, if they're able to, kind of contribute to the long tail of the research, if we can." However, this vision was far from reality. F08, who had reused qualitative data, had a personal relationship with the data producer and noted, "...we all piggyback on different projects, so you might jump in on a project halfway through like I did for the focus groups for the caregivers."

Scholarly Communication

Twenty-two of our interview subjects discussed scholarly writing. Participants described many aspects of their writing process, including pain points, and opportunities for support and library engagement. Access to library collections emerged as a theme, as researchers described

needing to consult articles and books for literature reviews and archival materials as primary sources. Some participants talked about accessing foundational and theoretical texts while writing, while others focused on more obscure items: "I worry that that's the kind of stuff that'll disappear out of collections because of disuse...even if I only want four pages out of the middle of the book...That book is the only place anyone wrote it down, as far as I know." (D01)

More technically, researchers described needing support for learning to write review articles and identifying venues for publication, noting that qualitative work tends to produce longer manuscripts. They also described needing support for learning the unique structure of qualitative research writing.

Researchers described feelings of isolation that can characterize qualitative writing, noting that it does not tend to be collaborative and produces single-authored monographs and dissertations. In order to encourage collaboration, researchers noted the potential of incentives for mixed methods approaches, which could create deeper bonds between qualitative and quantitative researchers.

Researchers also described challenges that accompany the "messiness" of qualitative research files and artifacts (field notes, pdfs, interview files, transcripts), specifically linking support for organizational schema and data storage practices to more streamlined writing.

Discussion

Given the increasing prevalence of qualitative research, the continued evaluation and development of relevant library services is timely. However, as both the literature and our research bears out, "current library science literature on data support services reflects a predominantly quantitative focus."[37] This study's findings suggest opportunities to expand data support services for qualitative researchers throughout all stages of the research life cycle, a finding that is consistent with previous studies.[38] This study's interview participants, to date, have reported feeling underserved; identified opportunities for greater support; and described being unaware of existing relevant services, with respect to all stages of the research life cycle. These reflections corroborate Mandy Swygart-Hobaugh's study and point to opportunities to improve library support for qualitative research, using the research life cycle model that has taken hold in many libraries.

Our findings suggest that the research life cycle model resonates with qualitative researchers. However, our analysis to date also suggests that for many qualitative researchers, their work is iterative, inhabiting a more fluid cycle than our existing models may be designed to recognize. Interview participants described making decisions related to funding, data analysis, data management, and scholarly writing, throughout the life cycle of their projects. They also described the interdependence of the stages, noting, as described above, that remedies for the "messiness" of qualitative data would be beneficial for writing and that approaches to data analysis would lend insight to the soundness of overall study design. Researchers reflected thoughtfully on the preliminary analysis that might prompt them to shift their research questions and were astute in recognizing that decisions at any one stage would impact the success of the entire cycle.

Even in cases where best practices are well known or prescribed, such as data management, researchers reported varying levels of formal and informal planning. Where data management plans are explicitly required, the process is highly formalized, but in the predominance of cases, this is not so; it becomes an eventual, recurring consideration as needed, demanding a flexible library service model. Similarly, discussions related to funding indicated a complex range of formal and informal considerations, ranging from proposal writing to compliance, inviting libraries to develop and evaluate multi-dimensional support services.

Given the iterative nature of qualitative research, it may be useful for libraries to recognize some nuance in the research life cycle model, rather than translating directly from existing stages and services that resonate with quantitative practices. While our findings suggest utility for the research life cycle model, a prescriptive approach would fail to accommodate the co-mingling of stages and layers of complexity reflected in our interviews. An expectation for fluidity and flexibility in support models should be at the forefront of library service development, in order to appeal to and best serve qualitative research.

In addition to flexible engagement with the research life cycle, libraries should be thoughtful in their understanding of qualitative researchers' attitudes toward data sharing and data sensitivity. Interview participants at all levels reported a low level of data reuse in their own fields. Concerns for subjects' privacy and wariness of sharing data out of context were especially prominent in the interviews. Though libraries may be challenged to scale and centralize their services, recognizing that standards and recommendations for qualitative data sharing will be distinct from those that apply to quantitative data, respect for the range of attitudes toward sharing and reuse expressed by qualitative researchers will result in more meaningful service provision and engagement.

Finally, we recognize a need to investigate needs and opportunities around research design and methodological orientation more thoroughly. Researchers were very open in describing their needs for more informed engagement with disciplinary and methodological conventions early in the life cycle of a project. Librarians, however, were reticent to engage on questions informing study design. Given the researchers' experiences relying on peers and colleagues to learn tools and software for analysis, sometimes by chance, we see opportunities to bolster communities of practice, a model which may be more comfortable for librarians to join or help facilitate, at least initially. Drawing on the expertise of senior researchers and librarians alike in a community of practice model may be one avenue for fostering a stronger, more collaborative research network.

Conclusion

As information services evolve and expand, academic librarians continue to recast their roles as research collaborators. Our interview participants' readiness to engage thoughtfully in conversations about areas of potential library support and involvement is a testament to libraries' outreach efforts and to qualitative researchers' openness to community engagement. Our examination of the research life cycle model, originally imagined as a more linear path, revealed that many researchers move fluidly in and out of stages as tasks related to data analysis, data management, and research design influence and redefine one another over time.

We observed qualitative researchers designing and implementing both formal and informal practices throughout their work, extending to their efforts to seek out help and support, whether through formal training or informal peer networks. Though our interviews suggest that this hybrid model of finding support has been effective for many researchers, participants also expressed willingness to explore and utilize library services. As libraries seek to recast their narratives as mindful collaborators, they will do well to design and develop services that acknowledge a more fluid and methodologically inclusive research life cycle and that engage with peer and community networks of learning and practice.

Acknowledgements

[1] Mandy Swygart-Hobaugh, "Qualitative Research and Data Support: The Jan Brady of Social Sciences Data Services?" in *Databrarianship: The Academic Data Librarian in Theory and Practice*, eds. Kristi Thompson and Lynda Kellam (Chicago: Association of College and Research Libraries, 2016), 153-178.
[2] Norman K. Denzin and Yvonna S. Lincoln, *The SAGE Handbook of Qualitative Research*, 3rd ed. (Thousand Oaks: SAGE, 2005), 8-9; Patti Lather and Elizabeth A. St. Pierre, "Post-qualitative Research," *International Journal of Qualitative Studies in Education* 26, no. 6 (March 2013): 629, http://dx.doi.org/10.1080/09518398.2013.788752; Carolyn Ells, "Communicating Qualitative Research Study Designs to Research Ethics Review Boards," *The Qualitative Report* 16, no. 3 (May 2011): 881-891, https://nsuworks.nova.edu/tqr/vol16/iss3/14.
[3] Pertti Alasuutari, "The Rise and Relevance of Qualitative Research," *International Journal of Social Research Methodology* 13, no. 2 (April 2010): 141-42, https://doi.org/10.1080/13645570902966056; Joan M. Eakin, "Educating Critical Qualitative Health Researchers in the Land of the Randomized Controlled Trial," *Qualitative Inquiry* 22, no. 2 (2016): 109, https://doi.org/10.1177/1077800415617207; Kerstin Stieber Roger and Gayle Halas, "Building Interdisciplinary Qualitative Research Networks: Reflections on Qualitative Research Group (QRG) at the University of Manitoba," *The Qualitative Report* 17, no. 1 (2012): 122, https://nsuworks.nova.edu/tqr/vol17/iss1/5; Martha A. Starr, "Qualitative and Mixed-Methods Research in Economics: Surprising Growth, Promising Future," Journal of Economic Surveys 28, no.2 (2014): 238, https://doi.org/10.1111/joes.12004.
[4] Alasuutari, "Rise and Relevance," 139.
[5] Alasuutari, "Rise and Relevance," 142; Pertti Alasuutari, Leonard Bickman, and Julia Brannen, *The SAGE Handbook of Social Research Methods* (London: SAGE Publications Ltd, 2008), 6, https://doi.org/10.4135/9781446212165.
[6] Pertti J. Pelto, "What Is So New About Mixed Methods?," *Qualitative Health Research* 25, no. 6 (June 2015): 734–45, https://doi.org/10.1177/1049732315573209.
[7] Travis Weller and Amalia Monroe-Gulick, "Understanding Methodological and Disciplinary Differences in the Data Practices of Academic Researchers," *Library Hi Tech* 32, no. 3 (September 2014): 472–73, https://doi.org/10.1108/LHT-02-2014-0021.
[8] Starr, "Qualitative and Mixed-Methods Research in Economics," 238; Sarah Gabriella Hernandez et al., "Oral Histories as Critical Qualitative Inquiry in Community Health Assessment," *Health Education & Behavior* 44, no. 5 (October 2017): 705, https://doi.org/10.1177/1090198117728546.
[9] David Gillborn, "The Colour of Numbers: Surveys, Statistics and Deficit-thinking about Race and Class," *Journal of Education Policy* 25, no. 2 (March 2010): 253–76, https://doi.org/10.1080/02680930903460740.
[10] Sophie Beale et al., "Choosing and Using Methodological Search Filters: Searchers' Views," *Health Information & Libraries Journal* 31, no. 2 (June 2014): 133–47, https://doi.org/10.1111/hir.12062; Carol Lefebvre et al., "Assessing the Performance of Methodological Search Filters to Improve the Efficiency of Evidence Information Retrieval: Five Literature Reviews and a Qualitative Study," *Health Technology Assessment* 21, no. 69 (2017): 1–148, https://doi.org/10.3310/hta21690.
[11] Maria J. Grant, "How Does Your Searching Grow? A Survey of Search Preferences and the Use of Optimal Search Strategies in the Identification of Qualitative Research," *Health Information and Libraries Journal* 21, no. 1 (2004): 21–32, https://doi.org/10.1111/j.1471-1842.2004.00483.x.

[12] Shanda L. Hunt and Caitlin J. Bakker, "A Qualitative Analysis of the Information Science Needs of Public Health Researchers in an Academic Setting," *Journal of the Medical Library Association* 106, no. 2 (April 2018): 191, https://doi.org/10.5195/JMLA.2018.316.

[13] At the time of submission, we are not aware of evidence to suggest that recent changes to the Common Rule, effective January 21, 2019, have ameliorated qualitative researchers' IRB experiences, though we recognize the potential for these changes to ease some of the hurdles described for low-risk human subjects research. https://www.hhs.gov/ohrp/regulations-and-policy/regulations/finalized-revisions-common-rule/index.html

[14] Yvonna S. Lincoln and William G. Tierney, "Qualitative Research and Institutional Review Boards," *Qualitative Inquiry* 10, no. 2 (April 2004): 223, https://doi.org/10.1177/1077800403262361; American Association of University Professors, "Protecting Human Beings: Institutional Review Boards and Social Science Research," *Academe* 87, no. 3 (June 2001): 55-56, https://www.jstor.org/stable/40252022.

[15] Lincoln and Tierney, "Qualitative Research," 223.

[16] Carie S. Tucker King et al., "IRB Problems and Solutions in Health Communication Research," *Health Communication* 33, no. 7 (July 2018): 914, https://doi.org/10.1080/10410236.2017.1321164; Brent Harger and Melissa Quintela, "The IRB as Gatekeeper: Effects on Research with Children and Youth," in *Researching Children and Youth: Methodological Issues, Strategies, and Innovations*, vol. 22 of *Sociological Studies of Children and Youth*, ed. Ingrid E. Castro, Melissa Swauger, and Brent Harger (Bingley: Emerald Group Publishing Ltd, 2017), 26.

[17] Alex Broom, Lynda Cheshire, and Michael Emmison, "Qualitative Researchers' Understandings of Their Practice and the Implications for Data Archiving and Sharing," *Sociology* 43, no. 6 (December 2009): 1169, https://doi.org/10.1177/0038038509345704.

[18] Broom, Cheshire, and Emmison, "Qualitative Researchers' Understandings," 1173.

[19] Louise Corti and Veerle Van den Eynden, "Learning to Manage and Share Data: Jump-Starting the Research Methods Curriculum," *International Journal of Social Research Methodology* 18, no. 5 (September 2015): 549, https://doi.org/10.1080/13645579.2015.1062627.

[20] Corti and Van den Eynden, "Learning to Manage," 549-52.

[21] Corti and Van den Eynden, "Learning to Manage," 549-54.

[22] Linda L. Rath, "Low-Barrier-to-Entry Data Tools: Creating and Sharing Humanities Data," *Library Hi Tech* 34, no. 2 (June 2016): 270, https://doi.org/10.1108/LHT-07-2015-0073.

[23] Rath, "Low-Barrier-to-Entry Data Tools," 270.

[24] Bernadette Dierckx de Casterlé et al., "QUAGOL: A Guide for Qualitative Data Analysis," *International Journal of Nursing Studies* 49, no. 3 (March 2012): 361, https://doi.org/10.1016/j.ijnurstu.2011.09.012.

[25] Dierckx de Casterlé et al, "QUAGOL," 370.

[26] Nollaig Frost et al., "Pluralism in Qualitative Research: The Impact of Different Researchers and Qualitative Approaches on the Analysis of Qualitative Data," *Qualitative Research* 10, no. 4 (August 2010): 441–60, https://doi.org/10.1177/1468794110366802; Nancy L. Leech and Anthony J. Onwuegbuzie, "Qualitative Data Analysis: A Compendium of Techniques and a Framework for School Psychology Research and Beyond," *School Psychology Quarterly*, No. 4 (2008): 587-604, http://dx.doi.org.proxy.lib.umich.edu/10.1037/1045-3830.23.4.587.

[27] Anna R. Gagliardi and Mark J. Dobrow, "Paucity of Qualitative Research in General Medical and Health Services and Policy Research Journals: Analysis of Publication Rates," *BMC Health Services Research* 11, no. 268 (2011): 1–7, https://doi.org/10.1186/1472-6963-11-268; Kerem Shuval et al., "Is Qualitative Research Second Class Science? A Quantitative Longitudinal Examination of Qualitative Research in Medical Journals," *PLoS One* 6, no. 2 (February 2011): 1–6, https://doi.org/10.1371/journal.pone.0016937.

[28] Ingrid Toews et al., "Extent, Awareness and Perception of Dissemination Bias in Qualitative Research: An Explorative Survey," *PLoS One* 11, no. 8 (August 2016): 1–16, https://doi.org/10.1371/journal.pone.0159290.

[29] Jane C. Richardson and Jennifer Liddle, "Where Does Good Quality Qualitative Health Care Research Get Published?," *Primary Health Care Research & Development* 18, no. 5 (September 2017): 515–21, https://doi.org/10.1017/S1463423617000251.

[30] Romina B. da Costa, Stephanie M. Hall, and Anne Spear, "Whose Reality? A Meta-Analysis of Qualitative Research in International and Comparative Education," *Qualitative Report* 21, no. 4 (April 2016): 673, https://search-proquest-com.proxy.lib.umich.edu/docview/1790518595.

[31] Brendan Gough and Antonia Lyons, "The Future of Qualitative Research in Psychology: Accentuating the Positive," *Integrative Psychological and Behavioral Science* 50, no. 2 (June 2016): 236, https://doi.org/10.1007/s12124-015-9320-8.

32 Michael G. Pratt, "Fitting Oval Pegs Into Round Holes: Tensions in Evaluating and Publishing Qualitative Research in Top-Tier North American Journals," *Organizational Research Methods* 11, no. 3 (2008): 489, https://doi.org/10.1177/1094428107303349.

33 Marilyn Geller, "Faculty Information and Research Needs: A Qualitative Study of Lesley University and Episcopal Divinity School Faculty," *Library Reports* 2 (June 2013): 39, https://digitalcommons.lesley.edu/library_reports/2.

34 Geller, "Faculty Information and Research Needs," 1-129; Amalia Monroe-Gulick, Greta Valentine, and Jamene Brooks-Kieffer, "'You Need to Have a Street Beat': A Qualitative Study of Faculty Research Needs and Challenges," *Portal: Libraries and the Academy* 17, no. 4 (October 2017): 777–802, https://doi.org/10.1353/pla.2017.0046; Andrea Malone et al., "Center Stage: Performing a Needs Assessment of Campus Research Centers and Institutes," *Journal of Library Administration* 57, no. 4 (2017): 406–19, https://doi.org/10.1080/01930826.2017.1300451; Joan M. Eakin, "Educating Critical Qualitative Health Researchers in the Land of the Randomized Controlled Trial," *Qualitative Inquiry* 22, no. 2 (2016): 107–18, https://doi.org/10.1177/1077800415617207; Layal Shuman et al., "Developing a Researcher Identity: Commonplace Books as Arts-Informed Reflective Process," *Qualitative Report* 23, no. 6 (2018): 1270–81, https://search-proquest-com.proxy.lib.umich.edu/docview/2062626030; Roger and Halas, "Building Interdisciplinary Qualitative Research Networks," 120–30.

35 Monroe-Gulick, Valentine, and Brooks-Kieffer, "'You Need to Have a Street Beat'," 784.

36 Geller, "Faculty Information and Research Needs," 20.

37 Swygart-Hobaugh, "Qualitative Research and Data Support," 154.

38 Swygart-Hobaugh, "Qualitative Research and Data Support," 154.

Appendix A Interview Protocol

Faculty and Graduate Students Interview Questions

1. Introduction
   a. What are the main research questions you are pursuing?
   b. Tell me about your research and the methodological approaches you use?
   c. What types of qualitative data do you create/collect?
      i. Format
      ii. Degree of sensitivity of the data
   d. How does your research process intersect with the library?
      i. How do you interact with your subject librarian? With other librarians or library staff?
      ii. Do you make use of research guides or other library expertise?
2. Expertise/Support/Assistance
   a. When were you first exposed to qualitative methods?
   b. How did you gain research expertise in qualitative data research?
3. Needs
   a. What are your greatest needs as a qualitative researcher?
4. Proposal stage
   a. In developing research proposals, have you had to create data management plans?
   b. What is your experience creating data management plans? (Can I see a typical one)?
5. Project set up
   a. When setting up a project, what are your initial needs?
   b. What type of literature review is needed in the beginning?
   c. Do you seek assistance from the library?
   d. IRB – Does your IRB allow for data sharing at the conclusion of your project?
6. Data analysis
   a. At what point do you begin thinking about data analysis?
   b. What types of decisions affect
      i. Data analysis?
      ii. Tool selection?
      iii. Data management?
7. Data management
   a. Do you have a "standard" data management protocol?
   b. Where do you store different types of data?
      i. Probe: Is secure storage an issue for you? Do you back up data?
   c. Do you use a file naming convention?
8. Tools
   a. Do you use any data analysis tools?
      i. Which ones?
      ii. How did you learn to use this tool?
      iii. Why did you select this tool?
   b. Do you have difficulties using this tool? Do you have difficulties accessing this tool?
   c. Who or where do you go to when you have questions about this tool?
9. Project conclusion
   a. Is qualitative data sharing common in your discipline? (Probe if they share if not stated)
   b. Do you share your qualitative data?
   c. What barriers are there to sharing data?

      d. Have you reused qualitative data generated by others?
         i. Would you talk about that experience?
      e. Is there anything we didn't ask you that you would like to talk about?

Information Professionals Interview Questions

1. Tell us about your role in the library.
2. How often do you interact with faculty and students engaging in qualitative research?
3. At which stage in the research life cycle do you most often interact with qualitative researchers?
    a. Probe depending on what they say, e.g., proposal stage, data analysis (look above to see the areas in which we asked students and researchers) – intuitive probe response
4. What are the typical questions from faculty? Students?
5. How familiar are you with different approaches to qualitative research? Could you talk about different you've witnessed or experienced?
6. How familiar are you with different qualitative analysis software applications? Have you personally used any of these analysis tools?
    a. Which ones does your library support (either instructionally or actually provide access to the software)?
    b. Why did you select these tools to support?
    c. Who or where do you go to when you have questions about this tool?
7. Could you talk about your familiarity with other services offered by your library to support qualitative research (data deposit, tools, databases)?
    a. What about data management?
    b. What about literature review?
8. How about other services on campus?
9. Do you refer qualitative researchers to other librarians? Which librarians?
10. What things impede you in offering qualitative data analysis support?
11. Is there anything we didn't ask you that you'd like to talk about?

Research Administrators Interview Questions

1. What is your role and central responsibilities in your position?
2. How do you interact with qualitative researchers?
3. Is there a difference in your office's approach to qualitative researchers?
4. How often do you interact with faculty and students engaging in qualitative research?
5. At which stage in the research life cycle do you most often interact with qualitative researchers?
6. What are the typical questions from faculty? Students?
7. How familiar are you with different approaches to qualitative research?
8. [If applicable] How familiar are you with different qualitative analysis software applications?
9. Do you refer qualitative researchers to other campus units? Which campus units?
10. How familiar are you with other services offered by your library to support qualitative research (data management, data deposit, tools, literature review / search, databases)?
11. How about other services on campus?
12. What things impede you in offering qualitative data analysis support?
13. Is there anything we didn't ask you that you'd like to talk about?