Going qual in: Towards methodologically inclusive data work in academic libraries

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Abstract

Data literacy and research data services are a growing part of the work of academic libraries. Data in this context is often presumed to mean only numeric data or statistics, leaving open the question of what role qualitative research plays in services and programming for research data and data literacy. In this paper, we report on the results of interviews with academic librarians about their understanding of data literacy, qualitative research, and academic library infrastructure around qualitative research. From the interviews, we propose a model of data literacy that incorporates both interpretive and instrumental elements. We conclude with suggestions for incorporating qualitative data and analysis methods into academic library programming and services around data literacy and research data.

Keywords

data literacy, research data services, qualitative data, qualitative research, methodology

Introduction

Many academic libraries offer instruction on data literacy and research data services to help researchers collect, analyze, and manage their research data. As social sciences librarians who work frequently with researchers using a wide range of methodological approaches, we have found that work around data literacy and research data services programming often seems based on the assumption that data is inherently quantitative. This observation is supported by recent research by Cain *et al*. (2019), Pearce *et al*. (2019), and Swygart-Hobaugh (2016) on the difficulty of locating support for qualitative research in academic libraries.

In this study we draw on in-depth interviews with academic librarians to examine perceptions of how data is defined in data literacy and research data services work to better understand the existing support for qualitative research and to identify spaces for developing greater methodological inclusivity. Data literacy services and programming that are based on the presumption of quantitative data and post-positivist research paradigms could be failing to address the needs of researchers and students who work with qualitative or mixed data and methods of analysis, which ultimately limits the methodological and epistemological inclusiveness of data-related work in academic libraries.

Specifically, we ask:

1. How do academic librarians define qualitative research?
2. Do academic librarians define data literacy in a way that is inclusive of qualitative data and methods of analysis?
3. How do academic librarians perceive their library's support for qualitative research data literacy instruction and research data services?

Drawing on the results of these interviews, we propose a model of data literacy and research data services work that is both interpretive (related to evaluating others' use of data) and instrumental (focused on developing skills for using data) and conclude with suggestions for incorporating support for qualitative research across data-related work in academic libraries in pursuit of greater methodological and epistemological inclusivity. While we focus here on the type of data and

associated methods of analysis in qualitative research, we see these questions as linked to the broader issue of types of research valued in academic libraries and higher education.

Literature review

Data literacy and research data services

In the past decade, a number of academic libraries have turned their attention towards teaching data literacy and offering research data services, driven, at least in part, by the sense that the growing amount of data available online requires new skills (Corrall, 2012; Throgmorton, Norlander and Palmer, 2019; Burress, Mann and Neville, 2020). Within Library and Information Science, the growth in data availability and access has been seen as an opportunity for library staff to deploy their specific skills and expertise (Shields, 2004; Carlson *et al.*, 2011), with the library as an ideal site of instruction around the use of data (Fontichiaro *et al.*, 2017; Dai, 2019). Data literacy may be embedded into individual course instruction or student projects (MacMillan, 2015; Beauchamp and Murray, 2016; Widener and Slater Reese, 2016). Or, data literacy may serve as the basis for ongoing library programming aimed at researchers or community members interested in using existing data for analysis, or collecting and managing their own research data outputs (Hogenboom, Phillips and Hensley, 2011; Okamoto, 2017; Schöpfel, Prost and Malleret, 2018; Willaert *et al.*, 2019).

Definitions of data literacy often draw on conceptions of data as solely quantitative, such as the definition offered by Dechman and Syms (2014), who point to the lack of training in quantitative methods among those who now have access to datasets available online. Similarly Hogenboom, Phillips, & Hensley (2011) describe a 'shift to quantitative research methods in social sciences' and define data literacy as 'the ability to read and interpret data, to think critically about statistics and to use statistics as evidence' (p. 410). This trend seems to be continuing, as a recently published title from the American Library Association is titled *Data Literacy in Academic Libraries: Teaching Critical Thinking with Numbers* (Bauder, 2021).

This focus on quantitative data is not universal, however. Some definitions are agnostic about the nature of data in data literacy, such as Prado and Marzal (2013) who define data literacy as 'the component of information literacy that enables individuals to access, interpret, critically assess, manage, handle and ethically use data' (p. 126). Similarly, Dai (2019) takes a broad view of data literacy as 'critical thinking applied to evaluating data sources' (p. 2). Dai also explicitly positions statistical literacy as a 'companion' to data literacy (p. 2). Some authors take care to be inclusive about the types of data that may be relevant to data literacy, such as Deahl (2014), who proposes a definition of data literacy as 'the ability to understand, find, collect, interpret, visualize, and support arguments using quantitative and qualitative data' (p. 41).

Qualitative research

We use the phrase qualitative research to refer to any research that makes use of non-numeric data, with recognition of the difficulty of offering a succinct, yet inclusive definition that accounts for the wide range of research that is labelled qualitative (Guest, Namey and Mitchell, 2013; Aspers and Corte, 2019). Small (2021) offers a useful reminder that when we speak of qualitative research, we can be referring to the method of data collection, format of the data, and the analysis approach, with no requirement that all three be used in a single project. Ultimately, the choice of data, collection approach, and analysis strategies rests on the researcher's study design and methodology, which are embedded with theoretical and epistemological assumptions about how new knowledge should be generated (Crotty, 1998; Staller, 2013). Qualitative research is frequently contrasted with investigations using quantitative data, but any type of data could be used within a particular theoretical and epistemological frame, or paradigm (Crotty, 1998).

Qualitative research is often used in critical approaches to research, which use a variety of theoretical frames to explore the construction, maintenance and deconstruction of systems of inequality such as intersectional analyses (Esposito & Evans-Winters, 2022), critical disability studies (Minich, 2016), and the use of Indigeous methodologies (Lilley ,2018). These paradigms recognize that the researcher is inherently embedded in the process of data collection and analysis, and ultimately unable to develop objective observations of social worlds. Research in these paradigms may even be used to challenge the idea of objectivity altogether and 'master narratives of knowledge' (Nadar, 2014, p. 23). By contrast, quantitative research is frequently linked to positivist or post-positivist research that aims to develop ostensibly objective and often generalizable claims about the nature of the world (Crotty, 1998; Williams, 2000). We should be clear, however, that qualitative data and analysis methods can, however, be used in positivist or post-positivist research, particularly when researchers seek to identify causal relationships between research concepts or identifying trends in concepts that cannot be easily quantified (Su, 2018).

The diversity of paradigms in which research can be conducted means that there is no single way to evaluate the quality of new knowledge claims. Qualitative research, however, is sometimes critiqued for not following the same criteria for rigor as work using quantitative data in positivist or post-positivist paradigms (Anfara, Brown and Mangione, 2002; Nadar, 2014). Such messages can lead to researchers viewing their qualitative work positioning them as outsiders within their own discipline (Benton *et al.*, 2012; Roger *et al.*, 2018). Dempsey (2018), for example, surveyed authors of qualitative works in Library and Information Science and found that some believed peer reviewers to be unprepared for evaluating qualitative analyses and that qualitative research would be unfairly dismissed for lacking sufficient sample size or lack of predictive power when undergoing peer review.

Researchers who use qualitative data and analysis methods have articulated criteria on which such work can be assessed. Tracy (2010) has defined eight criteria for assessing qualitative research, with the recognition that different research paradigms and methodologies place value on different criteria. Likewise, Bhattacharya (2017) outlines factors that contribute to assessments of rigor in qualitative work, such as the 'alignment of epistemology, theoretical frameworks, methodology, and methods, data analysis, and representation' or the use of multiple types of data (p. 23). Transparency about the choices that have guided the research design process and researcher reflexivity have also been identified as important elements of rigor for studies using qualitative data or analysis outside of positivist and post-positivist paradigms (Anfara, Brown and Mangione, 2002; Pillow, 2003; Davidson, Thompson and Harris, 2017).

Academic library support for qualitative research

There is currently limited research on library services specifically for qualitative work. Swygart-Hobaugh (2016) has questioned whether qualitative research is the 'Jan Brady' of data services, always receiving less attention than research using quantitative data, based on an analysis of data-related job ads, a survey of data services librarians, and a review of LibGuides on qualitative research. A more recent survey of library websites found that information on support for qualitative work is difficult to locate and can often only be discovered by searching for the names of specific, proprietary qualitative data analysis software programs (Cain *et al.*, 2019).

The few existing needs analyses indicate that qualitative researchers would benefit from a research data infrastructure that supports their work throughout the research cycle, from preparing IRB applications and research design to analyzing data and writing research reports in ways that meets the expectations of readers who may not work in the same research paradigm (Downing *et al.*, 2019). Even when research data services are available for qualitative work, individual researchers are often

unaware of such services and see the library primarily as a site of collections access rather than for active methodological learning (Pearce *et al.*, 2019).

For those providing data-related services in libraries, it may not be clear what role the library or individual librarians can play in the work of qualitative researchers. Librarians interviewed by Downing *et al.* (2019) noted that they did not see addressing questions of research design as appropriate for their role. Similarly, some data services librarians surveyed by Swygart-Hobaugh (2016) were unclear on how they could offer support for qualitative researchers given that qualitative data is not often re-used, indicating a conception of the library's role as primarily for data location rather than data analysis.

In the areas where qualitative support is specifically discussed, the focus is largely on instruction around the use of qualitative data analysis software, such as Swygart-Hobaugh's description of developing an NVivo workshop in collaboration with disciplinary faculty (Swygart-Hobaugh, 2019). Similarly, Røddesnes, Faber, and Jensen (2019) have written about the process of developing NVivo workshops in their library. Hagman (2021) has proposed a model of workshop development that is centered on the qualitative data analysis strategies used by qualitative researchers, even when offering instruction on a specific software tool. Thielen and Hess (2017) provide one exception to this trend, as they recount offering instruction on research data management practices in the context of a graduate course in qualitative research methods.

Methods

Participants and data collection

In this study, we draw on in-depth, semi-structured interviews with academic librarians about their experiences with data literacy, research data services, and qualitative research in their work. Participants were recruited via our personal social media accounts, relevant email lists, and targeted outreach to librarians named as the owners of LibGuides about qualitative research. Potential participants indicated their interest using a Qualtrics form. We also used a snowball sampling technique in which we asked participants to suggest additional names for recruitment, and we followed up with suggested contacts (while not revealing the name of the participant who suggested the contact).

We conducted interviews during October and November 2020. The participants were 13 academic librarians based in the United States. Of this group, 11 worked at research universities, while two were based at liberal arts colleges. Most of the participants (11) had subject specialist responsibilities and five had data services roles within their library. The researchers took turns facilitating the interviews, which were conducted via Zoom. The Zoom live transcription feature provided a rough transcript of each interview, from which we created a corrected transcript while re-viewing the recording of the interview session. Each participant was given the option to pick a pseudonym or to have one chosen for them.

The interview guide is listed in Appendix I. We developed the interview questions based on our reading of the existing literature around data literacy and library support for qualitative research, as well as our own experiences with data literacy and qualitative work on our campuses.

Data analysis

We followed Deterding and Waters' (2021) approach for the collaborative analysis of interview data, first reading through the interviews and coding responses to each interview question, or what Deterding and Waters call *index coding*. Throughout the index coding process, we noted potential concepts that were relevant to our research questions and wrote memos about our initial perceptions

of the data. We drew on these memos in developing the second stage of the analysis process, which involved coding relevant parts of the transcripts using *analytic codes*. In some cases, index codes overlap with analytic codes, as in when we explicitly asked participants to offer a definition of data literacy, though we often found pertinent information beyond the scope of a specific interview question.

The analytic codes we explored to answer the questions for this study included:

1. Definitions of data literacy
2. Definitions of qualitative research
3. Actual support for qualitative research at the participant's library
4. Ideal support for qualitative research at the participant's library
5. Participant's perceptions of others' attitudes towards qualitative work

We used MAXQDA20 for our analysis to iteratively code the data and made use of the summary feature to explore the data within each analytic code and develop an analysis of recurrig ideas and relationships between elements. For example, we were interested in the ways in which participants defined data literacy, both when explicitly asked and in other parts of the interview. By using the summary grid feature, we were able to move through all the answers coded with 'defining data literacy', for example, and pull out the descriptions of the elements that participants said are embedded in data literacy and ultimately develop the interpretive and instrumental approaches to data literacy described in our findings. In the results and discussion below we weave together data from across these analytic codes as we propose answers to our research questions and consider the implications of our analysis.

Interview Findings

Defining qualitative research

We asked the participants to define qualitative research and found that their responses mirrored the complexity of existing definitions in the research literature (Guest, Namey and Mitchell, 2013; Aspers and Corte, 2019; Small, 2021). Their answers included examples of methodologies and types of data that they believed to be qualitative, actions that they considered to be part of qualitative research processes, and characteristics of qualitative research. Three participants explicitly noted the difficulty of defining qualitative research, including Penelope who feared that she'd get the definition 'wrong' even though she had conducted her own qualitative work, and Clarence who saw qualitative and quantitative research to be closely related, often 'mov[ing] back and forth a lot.'

In discussing methods and data types that make up qualitative research, participants frequently pointed to text as a form of data and described the collection of data through interviews, focus groups, and open-ended survey questions. Overall, participants described a wide range of methodologies, including grounded theory, ethnography, interviews, and case studies. Two participants drew on the concept of 'stories' in defining qualitative work, including Jane who referred to qualitative research as examining 'stories, the human side of any question.' Jane continued in this vein when she noted her own interest in qualitative work, as she sees qualitative data as having 'more depth, impact, nuance' in comparison to quantitative research.

Jane's conception of qualitative work as deeper than quantitative mirrors Irene's and Penelope's descriptions of qualitative methods as allowing more exploration of the topic under study, in contrast with research using quantitative data. Comparisons to quantitative work came up frequently among our participants who described qualitative work as 'so much more interesting' (Siobhan), 'more subjective' (Clarence), 'more interpretive' and 'more interactional' (Anya), and 'more about developing, exploring, confirming, understanding themes' (Pheobe). In describing their conceptions

of qualitative research, participants pointed to actions that they saw as central to this in-depth work, including close reading and deep engagement with data. They also described qualitative research as being interested in identifying themes and patterns.

Defining data literacy

Our second research question asked how participants defined data literacy. We explicitly asked participants to define this term, but also identified implicit definitions throughout our conversations with participants. Participants' definitions included elements that we are categorizing as *interpretive* and *instrumental*. Interpretive elements of data literacy definitions emphasize understanding presentations of data by others, while instrumental elements focus on skill-building for an individual's own use of data. We use the term *elements* here, because most of the participants offered definitions that included both interpretive and instrumental aspects, an indication of the complexity of defining a concept like data literacy.

We can see the interpretive elements of data literacy in participants' focus on identifying the context of data. Understanding context refers to examining the provenance of a particular dataset or presentation of data, as well as understanding the general historical, social, and disciplinary landscapes in which different types of data are created. For example, David's definition of data literacy included: 'data is contextual...it's a bit connected to the researcher who collects it and presents it.' For David, data literacy instruction would involve teaching students to 'reflect on why this data exists and its purpose;' a process he related to the Research as Inquiry frame in the ACRL Framework. Arthur echoed this understanding when he defined data literacy as 'thinking more about the context in which that data was collected, the context in which it was curated, and the potential ethical ramifications of that sort of surrounding context of the data set.' Similarly, Irene pointed to the importance of knowing the 'history' of a data set to identify any potential biases.

Beyond the idea of identifying context, we can also see interpretive definitions that focus on identifying and avoiding the use of information that has been improperly manipulated. Cathy saw data literacy as an important skill for students to learn because 'as you know, statistics lie. You can make them say whatever you want. So, data literacy would be that aspect of letting the data be the data.' Like Cathy, David expressed concern about the misuse of statistics and said, 'you hear lots of stuff about people lying with statistics and data,' particularly in the context of social media posts in an election year. In a similar vein, Tracy related data literacy to trusting interpretations of data and learning to 'see what the original underlying data looks like so I can actually trust this statement.'

Instrumental elements of data literacy refer to helping patrons learn to 'work with data' (Anya, Jane, and Tracy all used this phrase) for their own purposes, usually in the context of academic research. Examples of activities that fall into this category come from across the research cycle beginning with developing questions that can be answered with data, as we can see in Sally's definition of data literacy as 'a facility and the ability to ask data related questions…' Participants also frequently mentioned the importance of data management skills, including making decisions about ethically and securely storing data from human subjects. Ethics also played an important role in conversations about building skills in presenting data. Phoebe, for example, wanted to explore presenting data in 'effective, clear, authentic, like honest kinds of ways' while still making presentations of data 'visually interesting.' Cathy, who emphasized the importance of interpreting data to avoid being misled by statistics, also described data literacy as the ability to 'present data in an ethical, truthful way.'

Throughout our interviews, we found that participants shared a belief that *other people* view data literacy as solely linked to numeric data, particularly when we asked them whether their definitions of data literacy were in sync with their colleagues' understanding of the concept. Veronica saw

colleagues as tending to ‘jump to quantitative’ in conversations about data work within the library. Clarence said that her colleagues see data as only numeric content, a 'traditional' but 'limited' view, 'considering how today’s individual’s work. We move between numbers and other symbolic meaning.' Likewise, Tracy saw subject liaisons with which she collaborates with as focusing narrowly on coding, using big data or R (the programming language) in discussions of data literacy, in contrast with her own department which is more broadly focused on data education.

Data literacy work in support of qualitative research

Our final research question asks how participants perceive their library’s data literacy work in support of qualitative research. We asked participants both to describe their existing resources and services for qualitative research and to share what they might like to do if limits on time and other resources were eased. The range of resources and services available for qualitative researchers varied greatly, with some participants describing groups who support qualitative work and others indicating that there is almost no campus or library infrastructure specific to qualitative research. Participants also pointed to barriers that they perceive limits attention to qualitative research on campus, particularly the campus and disciplinary valuing of research using quantitative data rather than the use of qualitative data.

Access to qualitative data analysis software and instruction on use of these tools was the most frequently mentioned way that participants’ libraries address data literacy for qualitative work and support qualitative researchers. David, for example, told us that his campus had recently 'invested' in NVivo, and Jane said that she taught workshops and offered consultations on the use of this proprietary qualitative data analysis software. In Cathy’s case, she believed she was the only person on campus who could advise on the use of qualitative data analysis software. Cathy expected to retire a few months after our interview, meaning that the campus would be without support for the use of software for qualitative analysis.

By contrast, Sally described a five-person 'qualitative user group' that works on issues related to qualitative research, providing workshops and individual consultations, on the use of both NVivo and the open-source tool Taguette. Like Sally, Veronica, Arthur, and Irene all described more robust programming that supports qualitative research. Veronica partners with disciplinary faculty to teach qualitative data analysis software in a way that emphasizes features of the software and the ways it can be used within qualitative methodologies. She sees the outcomes of these workshops helping students learn the logic of the tool and countering the mistaken notion that qualitative data analysis software has a 'magic button' that can output research results without extensive analysis from the researcher.

Similarly, Arthur’s library provides tutorials on multiple software programs for qualitative data analysis, as well as instruction around collecting data. Interestingly, Arthur also described trying to 'slip in' aspects of data literacy into tutorials on qualitative data analysis tools, which are ostensibly focused on the use of the software, as data literacy is 'not necessarily one of the direct research goals or learning goals.' Irene also mentioned that she seeks to integrate data literacy concepts into software tutorials, out of recognition that the concept of data literacy is linked to the library, and not seen as a goal of most patrons.

Many participants, including those whose libraries offer little to no support for qualitative research as well as those with robust programming in this area, pointed to the value, attention, and resources given to research using numeric data on their campuses, in contrast to the lack of attention given to qualitative work. Tracy, for example, believed that qualitative research was 'ignored' in favor of the 'shiny toy' of open data for STEM disciplines. While Jane teaches workshops on NVivo, she thought

that her flagship state university should offer more resources for qualitative researchers and better coordinate what services are available, a situation she attributed to both the lack of state funding and an under-valuing of qualitative work. Even Sally, whose library has a group of staff supporting qualitative work, noted that qualitative research can be seen as 'niche' work that doesn't quite fit within the support offerings for computational methods in research centers around campus.

Discussion and recommendations

In this research project, we have explored how practicing academic librarians understand qualitative research, define data literacy, and perceive their library's data literacy work and data-related services as addressing the needs of qualitative researchers. Analysis of these interviews indicates that while our participants see data literacy as theoretically inclusive of qualitative work and would ideally like to see services developed that support qualitative research, they identify barriers to the full development of a data literacy and research support infrastructure that addresses qualitative work.

In exploring participants' definitions of data literacy, we find both interpretive and instrumental elements, often from the same participant. While this distinction points to the complexity of data literacy as a concept, we contend that approaching data literacy with these two elements in mind means we can draw out more specific ways to build robust infrastructures that are inclusive of the wide variety of methodologies and epistemological approaches used on our campuses.

Interpretive elements of data literacy emphasize the importance of learning to understand the context in which presentations of data were created in order to avoid being manipulated by improper uses of data. While the participants do not use the term 'interpretive' we see the focus on understanding the context of research and evaluating presentations of data as interest in the rigor of research processes. There is, however, no single way to evaluate the rigor of research, particularly the diversity of research using qualitative data and analysis (Tracy, 2010; Staller, 2013; Bhattacharya, 2017). Viewing data literacy as a tool for avoiding being duped by ill-gotten statistics limits the scope and potential of this concept.

We contend that data literacy instruction should, explicitly and intentionally, address broader questions of research rigor with recognition of the multiple ways in which we can evaluate any claims to new knowledge. Instruction should include examples of research that make sense of qualitative data in a variety of methodologies and paradigms. Given how often our participants pointed to others' understanding of data as solely quantitative and the under-valuing of qualitative research, we recognize the potential difficulties of countering such discourses. Maintaining the status quo, however, means capitulating to narrow conceptions of research and ignoring the wealth of knowledge that draws from paradigms that value deep and reflexive exploration of concepts and experiences.

In addition to interpretive elements of data literacy, we also identified instrumental elements, or the resources, services, and instruction provided for researchers who are collecting, analyzing, managing, and presenting their own data. Participants frequently noted that they believe qualitative research is less valued on their campuses, in the disciplines they work with, and even among colleagues in the library and in the Library and Information Science field. While additional research is needed to understand whether patrons share this perception, this study encourages us to think about how our assumptions about what it means to do research and work with data are embedded in our services and instruction. Further research may also consider the impact of broader cultural understandings of how research data is used to understand the world, including in popular media.

Whether the limited infrastructure in support of qualitative research stems from a lack of resources or uneven valuing of research approaches, we believe that services for researchers can be offered and

presented in ways that are intentionally inclusive of diverse research paradigms. For some libraries, inclusive research infrastructure may require the investment in software and other tools for collecting and analyzing data. Library staff members may need additional training or the resources to explore what it means to conduct qualitative research to provide these services, since MLS graduates working in academic libraries often report that their program did not prepare them to conduct original research (Kennedy and Brancolini, 2018).

But the expenditure of additional resources may not be sufficient to develop a more inclusive approach to data literacy and research data services; services may need to be framed in new ways. Given the difficulty of identifying resources for qualitative work on academic library websites (Cain *et al.*, 2019) it may be that researchers using qualitative data may not see themselves as the likely customers for research data services provided by academic libraries. Or, they may share the idea that qualitative research materials do not necessarily constitute the types of data that requires management. To counter this assumption will require targeted outreach to qualitative researchers and updating the language used to describe data services programming to include examples of qualitative data and analysis approaches.

Such outreach does not necessarily require expertise in specific methodologies. Instead, we would argue that librarians' skills in working across disciplinary boundaries in public services roles positions them well to develop an understanding of the diversity of research conducted qualitatively and the ongoing campus and disciplinary conversations about what constitutes rigor in academic research. Exploring these discourses may be a fruitful area of collaboration for those working in data services and subject specialists who can bring knowledge of the types of research conducted within and across academic disciplines.

Conclusion

Academic libraries are a vital part of the research processes, through both the provision of existing information as well as through resources and services that support researchers in developing new knowledge. Research across our campuses is conducted within a wide array of epistemological paradigms and using many different methodologies. Too often, conversations around data within academic libraries emphasize numerical data, which ultimately limits the potential audience for these services to those who see their own work in library communications.

This imbalance is more than just a matter of fairness to library patrons. Academic libraries must consider how their approaches to data literacy and research data services can serve to limit or expand the notion of what counts as research, and even who can bring their research knowledge to the scholarly conversation. Developing services that are ostensibly open to all library patrons but ultimately only serve those whose research uses only one type of data sends a message about what kinds of research are valued and worth supporting. By critically examining the explicit and implicit messages we share about knowledge creation processes, academic libraries have the opportunity to consider their broader role in higher education and even wider social systems (Honma & Chu, 2018).

While we focus here on the use of qualitative data and methods broadly, we recognize that further research is needed to explore the complexity of the scholarship and scholars in this broad category. Future work to understand how to support the work of critical scholarship will be of particular value given the power of these frameworks to explain and develop responses to the persistent and systemic inequalities in our social systems (Esposito & Venus-Williams, 2022; Guyen, 2022; Minich, 2016). The challenges of our collective future require that we embrace diverse approaches to building new knowledge. Academic libraries can be better partners in the process of discovery and innovation by

recognizing and affirming the value of diverse approaches to research and moving toward a more inclusive data work.

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Appendix I

1. Please describe the major roles and responsibilities of your current position.
    a. How long have you worked in this position?
2. What sort of work around data literacy (if any) happens at your library?
    a. Potential follow up probes:
        i. Who works on data literacy? Does this work come out of one department? Or is it something addressed across the library?
        ii. Ask for details on specific programs, instructional approaches, etc to get a full idea of what exactly the library is doing.
        iii. How long has your library been involved with data literacy? Has the work changed over time?
    b. What is your role in addressing data literacy at your library?
        i. How did you come to this role? (e.g. part of your job when you were hired, or something you took on)
    c. Does the library work with anyone else on campus to address data literacy?
        i. If yes, which campus partners? How well do you think this collaboration works?
        ii. Are there any campus partners you would like to see more work with in terms of data literacy?
    d. Does any of your library's work around data literacy explicitly address using data ethically?
    e. Is there anything else you'd like to see your library do to address data literacy, perhaps if there were fewer limitations on time and resources?
    f. Are there other libraries doing work around data literacy that you admire? What are they doing that you think works well?
3. How would you define data literacy?
    a. Do you feel like your definition fits with your colleagues' definitions?
    b. What do you think are the most important elements of data literacy?
    c. Has your understanding of data literacy changed at all over time?
4. What is your understanding of what it means to do qualitative research?
5. Does your library have any services or programming specifically aimed at qualitative researchers?
6. Have you done any research work of your own that you consider to be qualitative?
    a. If yes, follow up probes: ask for types of methods and data for recent projects.
    b. What was it like to manage the data for your qualitative research projects?
    c. What were ethical considerations around the use of qualitative data that you encountered in your own research?
7. Do you work with researchers who use qualitative methods in your individual role? (for example, as a subject specialist).
    a. In what capacity do you work with qualitative researchers? What type of researcher are those researchers doing (e.g. frequently used methods, disciplines).
    b. How much is working with qualitative researchers part of your job?
    c. How did you come to this role? (e.g. part of your job when you were hired, or something you took on).
8. How do you or your library address data literacy for qualitative researchers and if so, how do you do that?
9. Is there anything you'd like to do to address data literacy for qualitative researchers, in an ideal scenario.
10. Have you worked with any researchers (or conducted research yourself) on projects that involved re-using data?

    a. If yes, could you talk about what that process was like for you as a researcher?
    b. And/or what did you perceive that process to be like for the researchers you were working with?
11. Have you ever talked about research data management practices with library patrons?
    a. If yes, have you discussed research data management practices with qualitative researchers?
    b. If yes, what did you talk about?
12. Do you think there are differences in how research data management is addressed, or should be addressed for those conducting qualitative research, compared to other types of research?
13. Is there anything else you think we could consider as we talk about data literacy for qualitative research?
14. Is there anyone else you think we should reach out to for this study?

Endnotes

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