Qualitative research in evidence-based practice: a valuable partnership

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Abstract
Purpose – The purpose of this paper is to discuss the nature of the qualitative research paradigm, with a particular emphasis on the marginalization of qualitative approaches within the current discourse of evidence-based librarianship.

Design/methodology/approach – The paper presents examples of qualitative research in the field of library and information studies, reviews the discourse of EBL as it relates to qualitative research, and also draws on debates in the health sciences on the role of qualitative research in evidence-based practice.

Findings – EBL levels of evidence must evolve to include qualitative research, as these methods best suit many of the research questions addressed in LIS contexts.

Originality/value – There is currently little acknowledgement of the value of qualitative research for EBL; this paper dispels this notion, and calls for EBL to embrace these methods.

Keywords Qualitative methods, Evidence-based practice, Research methods

Paper type Conceptual paper

Introduction
Evidence-based librarianship (EBL), or evidence-based information practice as it has more recently been labeled (Booth and Brice, 2004), has gained a solid footing in the research literature in library and information studies (LIS) over the past few years. Although the history of research in the field dates back many decades, this relatively new movement seeks to formalize approaches for integrating research results into everyday library and information practice. Crumley and Koufogiannakis (2002) state that EBL is intended to:

… improve the profession of librarianship by asking questions, as well as finding, critically appraising and incorporating research evidence from library science (and other disciplines) into daily practice. It also involves encouraging librarians to conduct high quality qualitative and quantitative research (p. 62).

Similarly, Eldredge (2002) states that the EBL movement:

… seeks to improve library practice by utilizing the best available evidence in conjunction with pragmatic perspectives developed from librarians’ working experiences. The best available evidence might be produced from quantitative or qualitative research designs, depending upon the specific posed EBL question. EBL nevertheless encourages using more rigorous over less rigorous forms of evidence, when appropriate, while making decisions (p. 72).
Although both of these definitions explicitly include qualitative research in the LIS evidence-base, there remains some confusion and uncertainty in the field about the value of qualitative results for informing practice. Most definitions of EBL point to the value of “high quality” research, yet calls for “more rigor” often open qualitative methods to heightened (and unwarranted) criticism. This paper explores some of the debates around these issues and examines the nature of qualitative research as it applies to the LIS context, including an exploration of the criteria for rigor that are most appropriate for assessing qualitative work.

Qualitative research – a rich history

Qualitative research has a rich history in the social sciences and humanities (in such disciplines as sociology and education), and in some areas of the health sciences (such as nursing). In the field of library and information studies, many research questions are best answered by qualitative approaches – and the influence of this research paradigm is seen in the vast number of publications that use qualitative methods to explore library and information-related topics. It is important to note, however, that there is often some confusion about how best to define “qualitative” research and to draw boundaries around the types of methods that fall within this area. As the notion of quality evidence sits at the heart of EBL, it is important to first define qualitative research and to explore how this work fits in relation to other approaches for gathering research evidence.

There are many different research designs that can be used by individuals asking research questions in LIS contexts, all of which provide credible evidence for improving practice. Qualitative approaches have been used in library and information settings to assess patron perceptions about library services (e.g. Johannsen, 2004), to examine the effectiveness of information literacy strategies (e.g. Holliday and Li, 2004) and to address a host of other questions related to library and information work. In addition, a number of qualitatively based textual approaches (such as critical theory and discourse analysis) have been used to assess policy documents and organizational discourses (e.g. Tuominen, 1997), the construction of classification systems (e.g. Clevette et al., 2004), and other questions that require an exploration of textual forms of data. Increasingly, researchers are also using these approaches in conjunction with one another (i.e. a “mixed methods” approach) to give a more complete picture of the state of LIS practice; for example, a recent study of mature university students used qualitative interviews with students in conjunction with a textual discourse analysis of campus texts, as well as a manipulation of quantitative census data, to provide a broad contextual picture of students’ academic information behaviors (Given, 2000). In order to focus this discussion on qualitative research, in particular, it is necessary to draw lines between these different paradigms and to then examine qualitative work in more detail. However, it is important to note that research paradigms are quite fluid, and that many researchers are now trying to expand beyond a single approach to obtain the best possible evidence.

The nature of qualitative research

It is important to start, then, with a brief reflection on the nature of research questions. Research of high quality, regardless of paradigm, demands that appropriate methods are used to address the research problem at hand. However, in order to select appropriate methods researchers must first understand the types of data (and therefore the type of answers) that they will obtain when using particular research methods. To assess patron
satisfaction with the online chat reference experience, for example, a researcher should start by asking “what do I want to know?” and “what method will guide me in that direction?”. However, many librarian-researchers may start by saying “I want to use an online questionnaire” – even if that approach may not be the best one to provide data on the types of research questions that need to be addressed. Understanding the intended goals of qualitative research is an essential starting point in selecting appropriate methods, and in assessing the results of studies that use those methods.

Qualitative research, by nature, can address many of the “why” questions that librarians and LIS researchers have in mind. Where quantitative approaches are appropriate for counting incidents related to human behaviour (e.g. How many books did a patron borrow in the past year? How many times did a patron use the library’s website?), these approaches cannot explain why these behaviours occur. Quantitative approaches are best used to document characteristics of the world around us – i.e. what we see, and what the implications are when we test particular hypotheses related to these phenomena. As Palys (1997) notes, quantitative researchers prefer the deductive method, where a researcher deduces a hypothesis from a theory, gathers data to test the hypothesis, and then revises (or discards) the theory, or looks for another situation in which to test the theory again; here, the “true experiment” is the method of choice, as this allows the effects of certain variables to be assessed while all other influences are held constant (p. 16). Qualitative approaches, on the other hand, are commonly used to describe phenomena about which little is known, to capture meaning (in the form of individuals’ thoughts, feelings, behaviours, etc.) instead of numbers, and to describe processes rather than outcomes (Mayan, 2001, pp. 5-6). In defining the nature of qualitative research, Silverman (2000) provides an overview of the preferences of qualitative researchers to gather qualitative data that are naturally occurring, to explore meanings rather than behaviours, to reject the natural science model, and to craft studies that are inductive and hypothesis-generating, rather than ones that involve hypothesis-testing (p. 8).

In drawing these boundaries around qualitative research, it is also important to understand the distinction between qualitative “data” and a qualitative perspective or “paradigm” that informs research design and implementation. Open-ended questions used as part of a questionnaire, for example, allow respondents to provide their opinions, attitudes, or even a single word that represents how they feel about the topic under study. This type of qualitative data is often used in conjunction with more quantitative measures (such as response to questions that use a scale to assess whether people “strongly agree” or “strongly disagree”), and are used to elicit information that is not captured by the quantitative measures on the questionnaire. However, including open-ended questions (or even designing a questionnaire that is constructed entirely of these sorts of questions) does not make the research method “qualitative” by nature.

Rather, qualitative research may be best defined by considering this (and other forms of) research as reflecting a particular world view, one that informs researchers’ approaches to the design, implementation and analysis of a research project. Qualitative research advocates a “human-centred approach” (Palys, 1997, p. 22), where researchers seek to understand how individuals make sense of the world around them by asking people, directly, what they think is important about the topic or issue under study (p. 18). In this context, knowledge (at both an individual and cultural level) is socially constructed and inextricably linked to individuals’ backgrounds, personal
histories, cultural place, and other contextual elements that define the human condition. Where quantitative methods (in attempting to maintain objectivity and reduce bias) strive to eliminate these elements of contexts so that they will not “contaminate” the variables under study, qualitative researchers embrace these elements, and examine the issues under study in light of these points of context.

**Rigor in qualitative research**

As qualitative inquiry allows a researcher to examine a topic in great depth, the data tend to be very rich in scope. Hundreds of pages of transcripts may result from only 25 in-depth interviews, or dozens of field journals may be completed in a study employing ethnographic observation. Data collection and analysis may occur over a period of months, even within one setting or with only one small group of participants; these research activities can also be quite costly when compared to other (quantitative) approaches. The sample sizes used in qualitative research must be manageable to accommodate financial costs as well as the time involved in gathering and analysing data. As researchers often use multiple methods to explore one research problem (a process known as triangulation), the length of time to complete a study may be much longer than with other research approaches.

Given this research context, it is interesting (and troubling) to note that qualitative research often comes under fire for its use of small sample sizes or methods that, on the surface, appear to gather “anecdotal” or “biased” data – charges that imply sloppy design and research results that are of little value to practice. Silverman (2000) notes, for example, that questions are often posed about a qualitative study’s reliability or validity when these quantitative measures of rigor are simply inappropriate for judging qualitative research (p. 7). Indeed the “trustworthiness of qualitative research” (Bradley, 1993, p. 436) seems to be an ongoing point of debate in LIS, which is heightened by the levels of evidence used in EBL which privilege particular (quantitative) methods over other (qualitative) methods (see, for example, Eldredge, 2004, p. 43). Advocates and practitioners of EBL must understand that the intended goals of qualitative research (and of the criteria used to assess that research) are markedly different from those of quantitative studies. In representing the naturalistic, qualitative paradigm, for example, Mellon (1990) notes that:

… total objectivity is impossible for researchers who are, after all, human beings. The difference between the [quantitative and qualitative] research traditions is not that one has and one lacks objectivity. The difference is that [qualitative] researchers systematically acknowledge and document their biases rather than striving to rise above them (p. 26).

Qualitative research acknowledges bias and embraces it as part of the investigation, rather than pretending that bias does not exist or can simply be overcome with “better” research design. Other qualitative researchers have published on this same topic, and note that it often falls to the researchers themselves to defend their work in light of charges from others who sit outside of this paradigm. As Lincoln and Guba (1985) point out:

… The [qualitative] naturalistic inquirer soon becomes accustomed to hearing charges that naturalistic studies are undisciplined; that he or she is guilty of “sloppy” research, engaging in “merely subjective” observations, responding indiscriminately to the “loudest bangs or brightest lights.” Rigor, it is asserted, is not the hallmark of naturalism (p. 289).
Given the vast number of qualitative studies published over the last 20 years (i.e. since Lincoln and Guba first made these remarks), nothing could be farther from the truth. Rather, the criteria that we use to assess the quality and rigor of quantitative and qualitative research studies are vastly different, and grounded in each paradigm’s specific (and often contradictory) end-goals. In quantitative research, the hallmarks of rigor are validity, reliability, generalizability, and objectivity. Quantitative results are intended to be free from bias, to be replicable across contexts, and to generalize from the sample under study to the full target population (e.g. to all undergraduate students using Canadian academic libraries, or to all seniors using public library websites). Qualitative research has its own, separate hallmarks of rigor, which Lincoln and Guba (1985) termed credibility, transferability, dependability and confirmability (pp. 301-328). These criteria are no less rigorous than those used to assess the trustworthiness of quantitative data; they are simply different, and require different steps and measures to ensure quality data. These steps include:

- prolonged engagement in the field;
- persistent observation;
- triangulation of methods;
- negative case analysis;
- peer debriefing;
- member checks; and,
- many other techniques that are often used in conjunction with one another.

Qualitative results are not designed to generalize or be replicable as with the results of quantitative studies. Rather, qualitative results often point to areas where a single representation of reality does not hold, or where specific sub-populations have particular needs that are not reflected in broad generalizations (e.g. Saumure and Given’s (2004) finding that university students with visual impairments require special services in the academic library).

**Qualitative research in the context of EBL**

It is unfortunate that Lincoln and Guba’s (1985) statement about the “charges” that qualitative researchers must face still holds true today. As David Silverman (2000) notes, qualitative research is:

... often treated as a relatively minor methodology [and] it is suggested that it should only be contemplated at early or “exploratory” stages of a study. Viewed from this perspective, qualitative research can be used to familiarize oneself with a setting before the serious sampling and counting begins (p. 9).

This trend, to downplay the value of qualitative work by “damning by false praise” (Silverman, 2000, p. 11), does appear in the current EBL discourse and serves to marginalize qualitative research. Crumley and Koufogiannakis (2002) note, for example, that “librarianship tends to reflect more qualitative, social sciences/humanities in its research methods and study types which tend to be less rigorous and more prone to bias” (p. 61), while Eldredge (2004) points out that “most research evidence from the LIS field occupies the lowest levels of evidence [presented in
his table ‘EBL Levels of Evidence’)” (p. 44). In an earlier work Eldredge (2002) raised the same concerns about the nature of research methods typically used in librarianship:

Over the past 30 years the library literature has consisted of reports based upon less rigorous research designs such as case studies, surveys, and a limited number of qualitative approaches […] EBL seeks to introduce more quantitative research designs such as cohort studies, randomized controlled trails, meta-analyses, and systematic reviews into service for answering important questions in need of rigorous evidence (p. 71).

In other EBL publications, qualitative research is simply excluded from the discussion in favor of experiments, randomized controlled trials (RCTs), or other quantitative measures that are considered to carry a great deal of weight in assessing quality evidence. Although questionnaires and other quantitative methods are appropriate and heavily used in library contexts, RCTs are far removed from the types of research questions librarians ask; and yet, this method is touted as one that should be applied outside of medical contexts. This disjoint – between the methods that are best for LIS-related research, and those that are held up as the “best methods” for evidence-based practice – is perhaps most noticeable in the hierarchies of acceptable evidence used in systematic reviews. As Law (2005) notes, “the systematic review process clearly lays out a hierarchy of evidence, which demonstrates the high value placed on a positivist, quantitative research methodology” (p. 7). Although Eldredge (2004), for example, does note that qualitative approaches are best for exploration-type research problems, he simultaneously notes that these are “excellent designs for formulating hypotheses for testing with more quantitative research methods or for constructing theories” (p. 44). Juxtaposing an acknowledgement of the value of qualitative research alongside a reiteration of the idea that quantitative, theory-testing approaches are of greater merit only serves to further disenfranchise qualitative researchers from the EBL process, and to discredit the results of qualitative work without further (quantitative) investigation of the conclusions that those studies draw.

Other advocates of evidence-based approaches do come to the defense of qualitative research, noting that it is not the methods themselves that are of concern, but the quality of the evidence and the use of appropriate methods in obtaining that evidence. Booth and Brice (2004), for example, point to the marginalization of qualitative research as the result of a “misunderstanding” in the field; they note:

EBIP [evidence-based information practice] does not assume the innate superiority of any particular research design. Instead it echoes the advocates of evidence-based medicine in reasoning that the selection of an appropriate study design will be determined by the nature of the question being asked […] In fact, the centrality of the user perspective to many information contexts will immediately recommend more qualitative approaches. Nevertheless the compatibility of naturally occurring teaching groups to more deterministic and quantitative designs such as cohort studies, or even randomized controlled trials, together with the plentiful nature of routine observational data, means that EBIP will draw on the widest possible variety of evidence sources (p. 9).

In reviewing publications in this area, and in noting the contradictory voices related to the role of qualitative research in EBL, one has to wonder – why does qualitative research often fall to the margins? And why is qualitative research often considered to be of lesser value than quantitative research? To address these questions it is important to consider the roots of EBL: evidence-based medicine. In the health sciences, qualitative
research has also come under scrutiny on questions related to rigor and value of the evidence. Many qualitative researchers are currently struggling to give voice to their research paradigm and to help it find its rightful place within the evidence-based practice movement. As Sandelowski (2004) points out, questions about the utility of qualitative health research emerged in the 1980s based on the premise “that qualitative research was largely useless because it was not objective and could not yield generalizable findings” (p. 1367). Further, she notes that while qualitative research and evidence-based practice are both strong trends in health care today, “advocates of qualitative research are especially incensed by the use of hierarchies of evidence that assume the randomized clinical trial as the gold standard in inquiry, which thereby devalues or frankly excludes qualitative research” (p. 1369). Morse (2005), raises similar concerns with attempts to privilege one research discourse over another:

... the assumptions underlying evidence-based medicine are a poor fit with the assumptions of qualitative inquiry. Furthermore, we have contrary research agendas: Whereas the epidemiological and experimental designs for clinical drug trials seek to decontextualize, qualitative research asks them to consider the context. We have different definitions and agendas for “providing care”: their focus is on the pill and if it works; our focus is different – why patients might decide whether to swallow the pill or to accept, reject, or modify the prescribed treatment, or how it affects patients’ lives. Both perspectives are equally important for “efficacy” but produce complementary information rather than information that may be incorporated into the same [research] reviews (p. 3).

In looking at EBL, then, and in understanding the historical path that this movement has taken in our field (i.e. moving through the ranks of health librarianship to try to find a stronger voice across library contexts), it is little wonder that the controversial baggage about the quality of qualitative evidence has been transported along the way. However, a shift is occurring in the health sciences, as evidenced by the number of publications that now recognize the error of not incorporating qualitative research into systematic review protocols and other mechanisms for assessing evidence (e.g. Barbour, 2000; Dixon-Woods et al., 2001; Greenhalgh, 2002). It is vital that EBL makes the same shift, to include qualitative research in the evidence base as a valuable partner in the move to improve library and information practice.

**Qualitative methods – a brief overview**
The range of methods available to qualitative researchers is extremely broad. However, a number of approaches are commonly used in LIS contexts; the following sections provide brief descriptions of these methods, as well as examples from the literature of the field.

**Interviews**
In-depth, qualitative interviews allow researchers to examine issues at length, from the interviewee’s personal perspective. The data gathered during interviews typically consist of verbatim responses to the interviewer’s questions, which are designed to elicit opinions, feelings, attitudes, descriptions of personal behaviours, and other elements related to the research problem. As Seidman (1998) notes, the purpose of this type of research is to understand individuals’ experiences, the meanings they make of those experiences, and to put their behaviours in context in order to understand the actions they undertake (pp. 3-4). Interviews typically last from 60 to 90 minutes, though the
length will vary depending on the scope of the project and the availability of participants. Common themes and patterns emerge from the data derived from qualitative interviews that can guide librarians in the assessment of existing programs and services and the design of information services. Transferable data generally occurs at the point of repetition (or “saturation”) of themes, which typically occurs with a minimum of 15-18 participants. Increasing the number of interviewees is one way to enhance rigor in data collection. However, it is also worth noting here that anomalies in the data—such as single individuals reflecting on an experience that is unlike that of other interviewees—can also be extremely valuable to qualitative researchers. These singular experiences can highlight the individual needs of patrons, particularly in settings where policies and practices have been designed for a majority of patrons—with the unintended effect of marginalizing those with special needs. Interviews have been used in many different LIS contexts to explore a range of topics, issues and patron behaviours (e.g. Bryant, 2004; Eskola, 2005; Given, 2002; Voelck, 2003). In usability testing, qualitative interviews can be combined with explorations of library websites (or databases, or other technological tools) to assess users’ preferences and expectations regarding navigation and information retrieval (see, for example, Branch, 2000; Kari and Savolainen, 2004).

Focus groups
Focus groups also fall into the qualitative interviewing category, but in this case, the interviews occur with groups of individuals (typically between five and eight people, with one or more groups in total) and are generally focused on a particular issue of interest to the researcher. As Patton (1998) notes, participants are “typically a relatively homogeneous group [who are] asked to reflect on the questions asked” (p. 335). These interviews can be more challenging to conduct than individual interviews due to the need to manage group dynamics (e.g. ensuring that all group members are able to speak their mind, without feeling silenced by others); these interviews are best run by a trained facilitator, often require a more formal setting (such as a boardroom), and may take more time to coordinate. Von Seggern and Young (2003) provide a useful overview of this method in library-related contexts.

Observation
Observing human behaviour in natural settings (such as watching patrons as they interact with reference librarians) can elicit insightful data that cannot be captured using other data collection methods. The data gathered using observational approaches “consist of detailed descriptions of people’s activities, behaviors, actions, and the full range of interpersonal interactions and organizational processes that are part of observable human experience” (Patton, 1998, p. 10). Observational techniques may be covert or overt, or the result of the researchers being participant observers where they are “involved in the lives of those they are studying while still maintaining the objectivity of an [outside] observer” (Mellon, 1990, p. 40). Researchers employing observational methods not only document details about the individuals within the setting under study (say, within a public library), but also examine the physical (e.g. reference desk placement) and organizational (e.g. management hierarchies) structures within that setting. Data collection may involve only one site, or may involve multiple sites, but typically extends over a long period of time in order to gather credible data. McKechnie (2000), for example, used ethnographic observation to examine preschool
children’s activities in the public library. As she notes, “methods commonly used in public library research such as interviews and questionnaires are not suitable for use with young children whose oral and written language skills are not well developed” (p. 61), making observational approaches the most appropriate methods for research with these particular library patrons.

**Personal journals and diaries**

Asking individuals to document their information-related activities (such as how, and for what purposes, they use the library’s website), can be an effective way to examine patron behaviour without relying on individuals’ memories (as in interviews or other methods where people are asked to recall past behaviours). This method has been used in health care by physicians and nutritionists, who ask patients to track meals and other activities related to daily health, but is also useful for examining the effectiveness of library services. This approach allows individuals to document quantitative elements of their activities (such as how often they borrow library books), but also to note their more qualitative thoughts about the experience of locating books on the library shelves. Participants typically need some instruction about how much to write, how often, and on what topics, but journals can often produce much more detail than the interview method, or other approaches, will allow. Individuals may keep diaries for one week or more, and may write on a variety of topics, which can then be further explored through other, complementary methods (e.g. personal interviews). Julien and Michels (2004), for example, used the diary method in an in-depth study of one individual’s personal information behaviours.

**Conclusion**

As the EBL movement continues to gather momentum in LIS, it would be ideal to put the controversies to rest regarding the value of qualitative evidence to support change in practice. The value of qualitative studies is without question, as the proliferation of this type of research can attest; and yet, the debates in the field continue to find their way into the literature. Although questionable research certainly exists (in both quantitative and qualitative paradigms), and although this research does find its way into the published literature, there are a number of steps that EBL practitioners can take to ensure that the research they use – and conduct – is of the highest caliber. First, researchers must focus on the research problem at hand and select research methods that will provide quality evidence to address those problems. Selecting methods in isolation from real problems, or privileging particular methods over others – without completely understanding the paradigmatic underpinnings of those approaches – will only continue to exacerbate the quantitative versus qualitative divide that seems to separate some researchers from others in our field. Second, researchers must not only design sound projects, using techniques that will ensure credible, confirmable, dependable, and transferable results, but researchers must also talk about these techniques in their publications. Further, readers of qualitative research must not presume a lack of rigor when researchers do not address these elements explicitly; rather, this may simply reflect a difference in writing conventions between the quantitative and qualitative paradigms. Third, as Law (2005) notes, the hierarchical levels of evidence used in EBL practice (such as the systematic review process) “should be redefined, perhaps as a continuum, in recognition of different research cultures” (p. 7). Dispelling valuable evidence does little to guide effective
practice, so practitioners of EBL must continue to revise their processes to fit the nature of research in LIS. Finally, researchers using quantitative and qualitative approaches should collaborate on projects in order to learn from each of these areas of expertise. At the heart of evidence-based practice is a belief that librarianship and library practice can be advanced through the application of quality research. As qualitative and quantitative approaches are complementary paradigms, examining the world from two very different vantage points, perhaps our “best practice” is one where these two worlds come together, using different methods to illuminate the best evidence across LIS contexts.

References


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