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Stacy M. Carter

University of Wollongong, stacyc@uow.edu.au

Miles Little

University of Sydney

Publication Details

Carter, S. M. & Little, M. (2007). Justifying knowledge, justifying method, taking action: epistemologies, methodologies, and methods in qualitative research. *Qualitative Health Research*, 17 (10), 1316-1328.

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Keywords

methods, methodologies, epistemologies, action:, taking, method, research, knowledge, qualitative, justifying

Disciplines

Education | Social and Behavioral Sciences

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Postprint

This is an author-produced PDF of an article published in [*Qualitative Health Research*] after peer review. The definitive publisher-authenticated version [Carter SM, Little M. Justifying knowledge, justifying method, taking action: epistemologies, methodologies and methods in qualitative research. *Qualitative Health Research* 2007; 17(10): 1316-1328. doi: 10.1177/1049732307306927] is available online at <http://qhr.sagepub.com/content/17/10/1316.abstract> (paywalled).

Please cite as:

Carter SM, Little M. Justifying knowledge, justifying method, taking action: epistemologies, methodologies and methods in qualitative research. *Qualitative Health Research* 2007; 17(10): 1316-1328. doi: 10.1177/1049732307306927

Justifying Knowledge, Justifying Method, Taking Action: Epistemologies, Methodologies, and Methods in Qualitative Research

Stacy M. Carter & Miles Little (2007)

Stacy M Carter BAppSci, MPH(Hons), PhD, is a postdoctoral research fellow at the Centre for Values, Ethics and the Law in Medicine and a conjoint lecturer in the School of Public Health at the University of Sydney, Australia.

Miles Little MD, MS, was the founding director of the Centre for Values, Ethics and the Law in Medicine at the University of Sydney, where he is an emeritus professor.

Abstract

In this article, the authors clarify a framework for qualitative research, in particular for evaluating its quality, founded on epistemology, methodology, and method. They define these elements and discuss their respective contributions and interrelationships. Epistemology determines and is made visible through method, particularly in the participant—researcher relationship, measures of research quality, and form, voice, and representation in analysis and writing. Epistemology guides methodological choices and is axiological. Methodology shapes and is shaped by research objectives, questions, and study design. Methodologies can prescribe choices of method, resonate with particular academic disciplines, and encourage or discourage the use and/or development of theory. Method is constrained by and makes visible methodological and epistemic choices. If we define good quality qualitative research as research that attends to all three elements and demonstrates internal consistency between them, standardized checklists can be transcended and innovation and diversity in qualitative research practice facilitated.

Keywords:

Qualitative research, research design, epistemology, methodology, method, research quality, evidence-based medicine

Authors' Note: This article was inspired and supported by conversations about methodology with Dr Wendy Lipworth at the Centre for Values Ethics and the Law in Medicine. Professor Kathleen Montgomery of the University of California Riverside generously provided detailed and constructive criticism. We are indebted to two anonymous reviewers, whose supportive feedback significantly

improved the finished product. Responsibility for any faults lies squarely with us. As this work is not empirical, ethics review was not required.

In this article, we present a model for thinking about qualitative research. We argue that three fundamental facets of research—epistemology, methodology, and method—should provide the framework for planning, implementing, and evaluating the quality of qualitative research. We clarify each of these research facets, their interrelationships, and their contributions to research practice and appraisal.

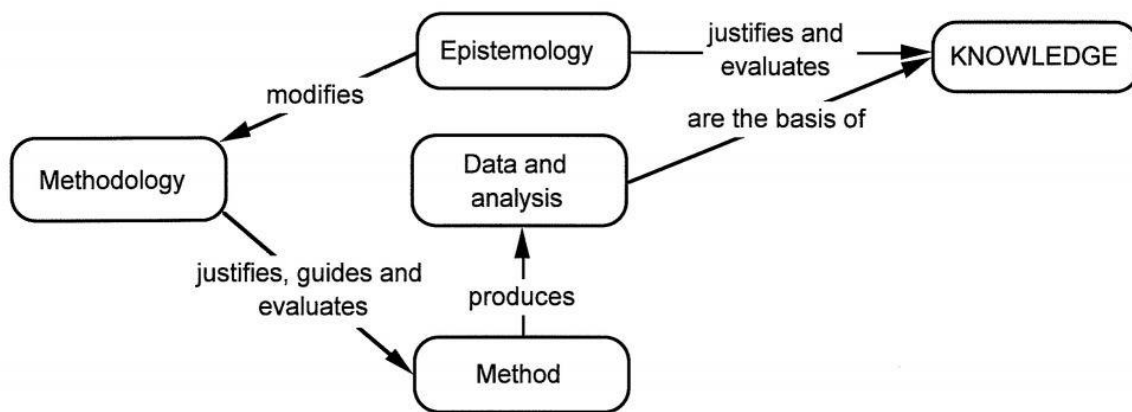
In general, when we speak about "qualitative" research, we mean social research in which the researcher relies on text data rather than numerical data, analyses those data in their textual form rather than converting them to numbers for analysis, aims to understand the meaning of human action (Schwandt, 2001), and asks open questions about phenomena as they occur in context rather than setting out to test predetermined hypotheses. The assessment and synthesis of such research, especially in health, is an increasingly pressing issue (Cochrane Qualitative Research Methods Group, 2006; Pound et al., 2005), as reflected in discussions at qualitative research conferences in 2006, including the International Institute for Qualitative Methodology's Advances in Qualitative Methods conference, and the Cochrane Qualitative Methods Group Regional Symposium. The urgency around quality and synthesis results in part from the rise of the evidence-based medicine movement, which promotes the use of standardized assessment criteria and checklists, and the resulting concern of qualitative researchers that inappropriate measures will be used to evaluate their work. There are, in addition, long-standing tensions within the qualitative research community over the most appropriate means by which to evaluate rigor (Angen, 2000). In this article, we add to the debate by explicating, in detail, a systematic way of thinking about and assessing qualitative research that transcends checklists. In particular, we wish to avoid didacticism, instead seeking to be as inclusive as possible, reflecting the flexibility and diversity that exist across qualitative research practice.

Definitions and Explanations

Method, methodology, and epistemology are defined in conflicting ways in the research literature. For the purposes of this article, we will define them as follows. Epistemology is "the study of the nature of knowledge and justification" (Schwandt, 2001, p. 71), and epistemological issues are "issues about an adequate theory of knowledge or justificatory strategy" (Harding, 1987, p. 2). As shorthand, epistemology can be thought of as justification of knowledge.

A methodology is defined as "a theory and analysis of how research should proceed" (Harding, 1987, p. 2), "analysis of the assumptions, principles, and procedures in a particular approach to inquiry" (Schwandt, 2001, p. 161), or "the study—the description, the explanation, and the justification—of methods, and not the methods themselves" (Kaplan, 1964, p. 18). In short, methodology provides justification for the methods of a research project. Methods are "techniques for gathering evidence" (Harding, 1987, p. 2) or "procedures, tools and techniques" of research (Schwandt, 2001, p. 158). Methods can be thought of as research action. In the simplest terms, methodology justifies method, which produces data and analyses. Knowledge is created from data and analyses. Epistemology modifies methodology and justifies the knowledge produced (Figure 1 – next page).

Figure 1: The Simple Relationship between Epistemology, Methodology, and Method



Epistemology: Justifying Knowledge

Epistemology is theory of knowledge. Some philosophers are specialist epistemologists who study the components, sources, and limits of knowledge and of the justification of knowledge (Moser, 2002). Philosophers of science study the nature of scientific knowledge, that is, the claims made by various empirical disciplines and the way in which researchers' beliefs are formed and sustained (Kitcher, 2002). Discussions of philosophical epistemology are beyond the scope of this article. Formal theories' of knowledge can enrich but are not the sole determinant of research epistemologies, and the praxis of social inquiry is an important means by which theories of knowledge can be constructed (Mauthner & Doucet, 2003; Schwandt, 2000). Accordingly, we will discuss epistemic questions, questions regarding research practice as knowledge creation and the status of the knowledge created, as academic researchers informed by the qualitative research literature.

Methodology: Justifying Method

In his 1964 book *The Conduct of Inquiry*, Kaplan highlighted an important tension between what is actually done in research and the way we talk about what is done. Kaplan used the term logic to mean "what [researchers] do when they are doing well as [researchers]" (p. 8). He used the term *logic-in-use* to refer to the logic a researcher uses to produce knowledge and the term *reconstructed logic* to refer to attempts to explicitly formulate, articulate, analyse, or evaluate logic-in-use. Reconstructed logic is based on logic-in-use, can influence logic-in-use, and also idealises logic-in-use. Kaplan drew a metaphor to physiology: We all have it (physiology-in-use), but only some of us also think and write about it (reconstructed physiology). This article is reconstructed logic: It is our analysis, evaluation, and idealization of the process of qualitative research. The notion of reconstructed logic is also important to an understanding of methodology.

In the literature, the term *methodology* is used loosely. Various authors, for example, refer to formal theories, schools of thought or movements such as symbolic interactionism or feminism, whole disciplines such as anthropology, or methods such as focus groups or observation as "methodologies." In contrast, and along with other writers, Kaplan (1964) defined methodology as "the study—the description, the explanation, and the justification—of methods, and not the methods themselves" (p. 18). In his terms, the aim of methodology is

to describe and analyse . . . methods, throwing light on their limitations and resources, clarifying their presuppositions and consequences . . . to help us to understand, in the broadest possible terms, not the products of scientific inquiry but the process itself. (p. 23)

A methodologist is, thus, someone who sits outside methods and describes, explains, justifies, evaluates, and helps us understand them. Researchers can act as methodologists (we are acting as methodologists now); theoreticians from various disciplines can also act as observer–methodologists.

Over decades of such activity, methodologists have articulated a number of distinct strategies for approaching qualitative research: a set of reconstructed logics of qualitative research. Consistent with other writers (Harding, 1987; Schwandt, 2001), we refer to these reconstructed logics, the product of methodological work, as methodologies. These methodologies justify the methods used in qualitative research. They include:

1. grounded theory approaches (Charmaz, 2006; Clarke, 2005; Glaser & Strauss, 1967; Strauss & Corbin, 1998);
2. narrative, life history, testimonio, and biographical methodologies (Beverley, 2000; Hurwitz, Greenhalgh, & Skultans, 2004; Lieblich, Tuval-Mashiach, & Zilber, 1998);
3. various ethnographies (Carspecken, 1996; Hammersley & Atkinson, 1995; McCall, 2000);
4. participatory action research traditions (Dick, 2003; Kemmis & McTaggart, 2000);
5. various phenomenological or phenomenographic traditions (Giorgi, 1985; Moutsakas, 1994; Valle & Hailing, 1989); and
6. case study approaches (Stake, 1995; Yin, 2002).

Other writers have used different terms to refer to these qualitative methodologies. Denzin and Lincoln (2000), for example, use strategies of inquiry; Creswell (1998) has used traditions of inquiry. These reconstructed logics are based on the logic-in-use of qualitative research but can also influence it. Indeed, we will argue that researchers can benefit in specific ways from the guidance provided by these methodologies. However, it is also important to recognize that these reconstructed logics are idealizations that will always be somewhat abstracted from researchers' diverse logics-in-use. Some of the methodologies listed above are more prescriptive about method than others, but all of them provide the researcher with an overall strategy for formulating, articulating, analysing, and evaluating their methods.

Although examples from different methodologies will be provided in the following discussion, they will not be explained, as they are expounded elsewhere. Creswell's (1998, 2007) important text is particularly useful, in that he compared and contrasted several methodologies in detail. Each of these methodologies is internally heterogeneous, dynamic, and evolving, and we will argue, as others have (Atkinson, 1995; Johnson, Long, & White, 2001), for an approach to methodology that is thoughtful, historically and theoretically situated, and flexible rather than dogmatic.

Method: Research Action

Method is research action. Research methods are the practical activities of research: sampling, data collection, data management, data analysis, and reporting. Qualitative research samples purposively; that is, samples are selected to serve an investigative purpose rather than to be statistically representative of a population (Ritchie, Lewis, & Elam, 2003). Purposive sampling methods include theoretical sampling (Charmaz, 2006), sampling for maximum variation, and time- or place-based sampling (Ritchie et al., 2003). Qualitative data collection methods include observation, interviews, focus groups, collection of extant texts (such as organisational records), elicitation of texts (such as participant diaries), and the creation or collection of images (such as photos and video). Increasingly, data collection includes Internet-facilitated methods (such as e-mail interviewing, or inviting participants to create blogs). Data management methods include recording, transcription, transcript checking, and the use of computer-assisted analysis software. Data analysis methods include constant comparison, memo writing, and theory building (Charmaz, 2006; Glaser & Strauss, 1967), narrative analysis techniques (Cortazzi, 1993; Lieblich et al., 1998), and microlinguistic analysis techniques (Fairclough, 1992; Gee, 2005). It is commonly recognized that writing and reporting in

qualitative research are part of the analytic process, in that a researcher's thinking and interpretation generally develops via the writing process (Richardson, 2000). Qualitative research reporting can include articles for the peer-reviewed literature, advocacy, conference presentations, performances, and creative writing.

The Need to Reconsider these Basic Principles

Epistemology, methodology, and method are fundamental concepts. Any experienced qualitative researcher should have wrestled with each of them during her or his career. However, qualitative research reporting is frequently insufficient in all three areas, and although this might be partly due to word length limitations in some journals, it also suggests a lack of engagement with these important concepts. Methods are generally the best reported. Articles are often silent and, worse, sometimes internally inconsistent with regard to epistemology. Several methodological problems can be observed. One is methodological fundamentalism: insistence that a particular methodology is somehow the "one true" qualitative research and should never be changed or combined with elements of other methodologies. Another is the common post hoc application of a methodological label to a study design at odds with even the most relaxed interpretation of that tradition. Finally, there is sometimes a sense, at least in health research circles, that research that is guided by a methodology is more esoteric, less "practical," and thus less fundable, indicating lack of understanding of the value of methodologies for qualitative research. All of these problems underline the need for work that engages and clarifies methods, methodologies, and epistemologies. Their importance and contribution, as illustrated in Figure 2, will now be discussed.

The Contribution of Epistemology to Qualitative Research

The epistemological contribution to research is essentially theoretical: It has to do with theories of knowledge. Epistemology is inescapable. A reflexive researcher actively adopts a theory of knowledge. A less reflexive researcher implicitly adopts a theory of knowledge, as it is impossible to engage in knowledge creation without at least tacit assumptions about what knowledge is and how it is constructed. We will illustrate with an example.

Imagine a qualitative researcher named Anna from an academic public health department. She wishes to study school-aged smoking on the grounds that 80% of smokers become addicted as teenagers and this should be prevented. To do this, she will engage with people who have experience of school-age smoking, such as young smokers and non-smokers, their teachers, and/or their parents. Anna's supervisors are Professors Rachel Rose and Peter Jeffery. These fictitious professors do not illustrate the entire range of possible epistemic positions but do demonstrate two very real possibilities.

Professor Jeffery believes that Anna, in her project, will be jointly creating knowledge about school-age smoking in collaboration with her participants. He advises that this knowledge will be a product of the specific interactions and relationships between Anna and those participants in the specific context of their study. The knowledge that Anna constructs in relationships with these participants in this place and time will be different from the knowledge that would be constructed with different participants in a different place and time (although there might be some commonalities). Anna will be an active creator of the research, inextricably imprinted on it from beginning to end, and it will be important for Anna to constantly reflect on this process; that is, Professor Jeffery believes that one strength of qualitative research is that engages with people's subjectivity and that Anna should be transparent about her own subjectivity to enable readers to make judgments about it. Professor Jeffery does not believe that the words that the participants speak will provide access to their internal states or phenomena: he does not, for example, believe it possible for Anna to access the attitudes, motivations, or beliefs of participants as static, measurable entities. Rather, he advises Anna that she will be recording and studying interactions and the dynamic way in which people bring issues and problems to life by talking about them or acting around them.

Professor Rose's beliefs are very different. She argues that Anna's proper task is to understand the reality of school-age smoking in a way that is as generalisable as possible. Professor Rose believes that Anna can access participants' real beliefs, attitudes, and knowledge: that Anna can, for example, elucidate the essence of the experience of school-age smoking or that she can determine what teenagers believe about smoking risks. Professor Rose disagrees with Professor Jeffery's position about subjectivity and transparency in qualitative research; in contrast, she strongly advises Anna to avoid introducing bias and thus inaccuracy to her study. Professor Rose thus argues that Anna should ask questions in a non-leading, depersonalized manner to make sure that she is observing the real attitudes, motivations, and beliefs of her participants, and try to set aside what she already knows about school-age smoking to avoid influencing the study. Professor Rose believes that another qualitative researcher should be able to approximate Anna's results in the same or a similar setting.

The literature is replete with both kinds of professors, who are thoughtful, productive, and rigorous according to their respective standards (Mantzoukas, 2004; Rolfe, 2006). These two very different epistemologies represent internally coherent and workable approaches to research practice. They are, however, more or less incommensurable. There are four territories, one methodological and three to do with methods, in which epistemology becomes visible and in which Professor Jeffery and Professor Rose are likely to disagree. These will now be discussed.

Epistemology Influences Methodology

Methodologies justify methods, and methods produce knowledge, so methodologies have epistemic content. As a result of this, Professor Jeffery and Professor Rose, with their differing epistemological positions, will be drawn to different methodologies and different variants of the same methodology. A phenomenological study based on Husserlian philosophy might be attractive to Professor Rose but epistemologically untenable to Professor Jeffery (Creswell, 1998). Professor Rose might be drawn to a form of grounded theory that focuses more on repeatable, specific procedures (Strauss & Corbin, 1998), whereas Professor Jeffery would be more likely drawn to later forms (Charmaz, 2006; Clarke, 2005) that assume an epistemic position similar to his (through their links to formal theories such as social constructionism and poststructuralism). Professor Rose might be attracted to forms of ethnography that seek to map the structure and function of a culture with specific methods (Hammersley & Atkinson, 1995), whereas Professor Jeffery might prefer a performance ethnography (McCall, 2000) that brings the participants, the researcher, and the audience together in a single place and time.

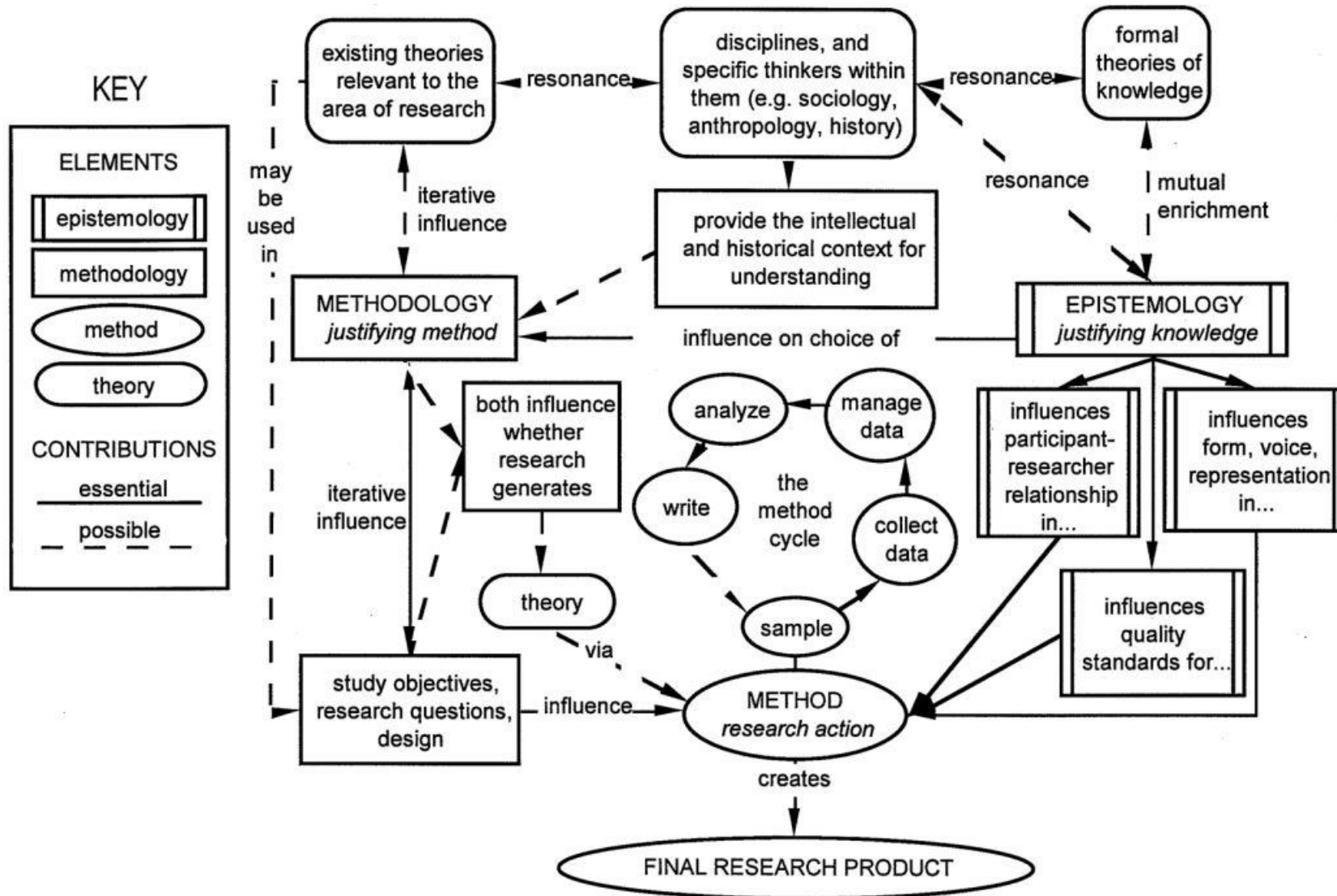
Epistemology Influences Implementation of Method

Epistemology has three main influences on the method of research, as shown in Figure 2 (next page); through these pathways, method makes epistemology visible.

Epistemology Influences the Relationship between the Researcher and the Participant

Epistemology profoundly shapes the researcher's conceptualization of the participant in data collection and analysis. In short, Professor Jeffery is likely to think of the participants as active contributors; Professor Rose will think of them as subjects being studied. Accordingly, Professor Rose is likely to advise Anna that she must attempt to get inside her participants' heads. Anna will have done a good job if she can report her participants' beliefs, attitudes, and values accurately: if she sees the world through their eyes. In her dealings with her participants, Anna should be as invisible, as contained, as unobtrusive as possible. Anna should be alert for deception, inconsistency, or error on the part of a participant, as these might confound Anna's findings or reveal something about the participant's cognition (for example, that they are experiencing cognitive dissonance).

Figure 2: The Contributions of Method, Methodology, and Epistemology to Qualitative Research



Alternatively, Professor Jeffery will argue that Anna's job is to engage with her participants to jointly create an understanding of school-age smoking. He is more likely to encourage her to interact freely with them, to be herself (within the constraints of what is ethically and socially appropriate), to form a caring relationship with them, to allow the unexpected to happen, and to be alert to multiple ways of seeing. He will emphasize that she cannot get inside participants' heads: that all Anna can observe is the way people interact with her and with one another, including through language, to create meaning. If Joe, a young smoker, contradicts himself, this is unlikely to mean that Joe is untrustworthy or experiencing cognitive conflict. Instead, Professor Jeffery expects that Joe will construct meaning differently in different times and contexts. Professor Jeffery might advise Anna to talk through these different constructions with Joe to try to understand the context for the differences observed. In both Professor Jeffery and Professor Rose's formulations, participants can be respected, taken seriously, and treated ethically. However, in Professor Rose's formulation, the participants are passive in the research process—they are being studied—whereas in Professor Jeffery's formulation, participants have agency in the research process and are co-creators of the study.

Epistemology Influences the Way in Which Quality of Methods is Demonstrated

Epistemology is key to assessment of the quality of data and of analysis (Angen, 2000). Many of the fights over quality in qualitative research are thinly veiled epistemological battles. Professor Rose and Professor Jeffery should both advocate making good recordings and detailed, evocative transcriptions that are carefully checked against the recordings. Data quality is essential from either epistemic position. However, on many other quality issues they are likely to differ.

Professor Rose, for example, is likely to advise Anna to use multiple observers to verify or correct her own observations. She might suggest that the study participants be sent their transcripts so that they can correct them. Professor Rose might also suggest triangulating several different data sources; for example, she might suggest combining observational data, focus group data, and interview data in an attempt to increase accuracy. Professor Rose might suggest that Anna should collect all of her data before she analyses it and that analysis should use a predefined, repeatable method. For example, if Anna has chosen an ethnographic study design, Professor Rose might advise her to develop a detailed codebook with extensive definitions from the data before she commences analysis; if a narrative/life history design, to adopt a standardized method of structural and/or linguistic analysis (such as conversation analysis or genre analysis) to apply to the text; if phenomenology, to sit with her colleagues and read the transcripts jointly and repeatedly until a set of themes can be agreed on by consensus. Professor Rose might advise Anna to train several peers to use her analytic method, ask them to code a subset of the data, and test the level of agreement in their coding using non-parametric statistics or to test statistically for patterns in the language itself (for example, whether smoking teenagers use a particular word or certain grammatical elements more often non-smokers). Professor Rose might also suggest that Anna look for misrepresentations or errors in participants' accounts, check whether the participants agree with the analysis, or run a survey study with a population similar to the participants in the qualitative study to test the generalizability of the findings.

In contrast, Professor Jeffery might suggest that Anna use multiple sources but to produce more data rather than to prove accuracy. Similarly, he might suggest returning transcripts to participants but to gather new data (the reflections of participants on their transcripts), not to check for accuracy. As Professor Jeffery believes that Anna is inextricably implicated in every step of the research process, he will advise her to make detailed records of her own participation, reactions, and experiences and to use these records as an important data source in analysis. Professor Jeffery is more likely to advise Anna to begin analysis immediately rather than to wait for data collection to finish, and although he might support her analysing data in a team, this would be for the purposes of broadening the framework of reference rather than for the purposes of demonstrating repeatability.

Epistemology Influences Form, Voice, and Representation in the Method

Finally, epistemology determines how the researcher communicates with his or her audience and the conceptualisation of the role of the audience, the analyst, and the participants in the work (Mantzoukas, 2004). Professor Jeffery is likely to advise Anna that as the primary constructor of the final research report she should make herself as plain in it as she can; anything else would be inconsistent with the epistemic foundations of the study he has advised her to conduct. She should write with her own voice and tell her own story, particularly the story of her participation in the research, alongside that of the participants, including the alternative explanations she has considered and the struggles, defeats, and triumphs of the research process. Professor Jeffery might encourage Anna to make her de-identified analysis records, including her memos, available to the research community via an Internet site. He is also more likely to counsel Anna to think of her audience as active interpreters and thus to present her work in less traditional modes, such as performances involving the research participants, poetry composed of quotations from the participants' statements, or writing on split pages with long sections of raw data below and alternative readings of that data above.

Professor Rose is likely to become exasperated with these suggestions of Professor Jeffery's, seeing them as unscientific, indulgent, and potentially dangerous to Anna's career. She might be more likely to counsel the presentation of a completed, coherent, and unified analysis, with exemplary quotes, in the objective scientific third person, with no information about Anna herself: a report that summarizes the facts about school-aged smoking that Anna has discovered.

These suggestions regarding writing, voice, and representation are as incommensurable as Professor Rose and Professor Jeffery's epistemic positions, but they are, as Mantzoukas (2004) has argued, internally consistent. It would be as much a betrayal of principle for Professor Jeffery to suggest that Anna write as an anonymous author as it would be for Professor Rose to permit Anna to write a detailed account of her tribulations as a field-worker.

Epistemology is Axiological

The epistemic tension between the professors about implementation of method illustrates an important aspect of epistemology: that it is axiological, that is, to do with values. Epistemology, thus, has ethical weight. Axiology relates to epistemology in two ways: It is in epistemology itself, and it is in the cultural context that informs epistemology. Let us explain.

Epistemology contains values, in that epistemology is normative. It is the basis for explaining the rightness or wrongness, the admissibility or inadmissibility, of types of knowledge and sources of justification of that knowledge. When Professor Jeffery argues that Anna should write about her subjectivity and her analytic choices and Professor Rose retorts that only a high kappa statistic between researchers can demonstrate reliability of analysis, they are making value judgments about what constitutes trustworthy knowledge. In this sense, axiology is in epistemology.

Epistemology is also surrounded by axiology, in that the knowledge that is generated by a project will be discussed, evaluated, and justified in relation to broader cultural values. At the end of her study, Anna might conclude that for students, or for the students in her study, smoking is an exciting and enjoyable social ritual and status marker. This finding could be justified as knowledge, as some kind of truth, however specific or limited, using either Professor Jeffery's or Professor Rose's criteria. However, a truth is not necessarily a good. In her conclusions, Anna will need to evaluate the knowledge generated, comparing the values of her participants to her own values and those of the broader culture, which are informed by research on the health effects of smoking and the difficulty many people experience in quitting later in life. In this sense, epistemology is surrounded by axiology.

The Contribution of Methodology to Qualitative Research

Earlier in the article, we defined methodologies as the reconstructed logics that justify, explain, and help us understand research methods. We noted the contention around what constitutes a

methodology and listed some qualitative methodologies. In Figure 2 we illustrate the essential and possible contributions of methodology, which will now be considered in detail.

Iterative Planning Relationships: Methodology Interacts With Objectives, Questions, and Study Design

When constructing themselves as methodologically ecumenical, researchers commonly state that they use "whichever methodology suits the study objectives and the research question," but this fails to recognize that this relationship operates in two directions, as shown in Figure 2. Objectives, research questions, and design shape the choice of methodology, and methodology shapes the objectives, research questions, and design.

To illustrate, we will return to the example of Anna, who wants to understand school-aged smoking better through her qualitative study. Anna could approach and refine this interest via one of several methodologies, and the methodology she selects will shape the questions she asks and the study design she implements. If she approached school-age smoking through an ethnographic lens, it would shift her toward studying smoking as, or in, a culture. She might set out to map and explain the "smoking groups" at one or more schools as cultures or the culture of a particular school and the place of smoking within it. If she adopted phenomenology, she would seek to uncover the essence or meaning of the smoking experience for individual school-age people. A narrative-based methodology would guide her to ask about the place of smoking in the life histories of individual children, and perhaps also those of their parents or other important figures. If she adopted grounded theory, she would set out to develop a substantive theory¹ of school-aged smoking. If she took an action research approach, she would aim to make changes to smoking in a community or a school, and if she adopted a case study methodology, it would direct her to select a recent event (such as the introduction of a smoking ban on school grounds or the expulsion of a student for smoking) and study its lead-up and aftermath. The methodologies provide ways of thinking that will strongly shape Anna's possible objectives, questions, and study design.

However, her objectives, questions, and study design will, conversely, strongly shape her choice among methodologies. She might decide that questions about systems or cultures are preferable to questions about individuals and thus reject phenomenology and narrative methodologies. Alternatively, she might wish to understand young people as individuals rather than students of a particular school or members of a particular group. In this case, she would be likely to reject ethnography and case study methodologies. If her objective is to reduce the prevalence of teen smoking in her local community, she is likely to select an action research methodology. Similarly, restrictions on possible study designs (for example, that she does not have enough time for the long engagement required for ethnography, or there is no event around which she could locate a case study) will influence her choice of methodologies. In this iterative decision-making process, objectives, research questions, and design can be seen to shape the choice of methodology, and vice versa, until a unique solution for the particular research situation is reached.

Anna's two-directional decision making will, via the resulting method cycle, produce different research products. A grounded theory study is likely to produce a theory, a narrative study a detailed analysis of life stories, and an ethnography a detailed description and/or interpretation of a culture.

¹ Throughout this article we contrast substantive and formal theory. We use these terms as Glaser and Strauss (1967) used them: substantive theory as a theory regarding a concrete issue, experience, or activity; formal theory as a more abstract and far-reaching theory. Take a doctoral student whose qualitative dissertation reports a substantive theory explaining the experience of having breast cancer. This substantive theory includes the core category hope and explains, among other things, the role of hope in the experience of breast cancer. After graduation she decides that hope, a relatively abstract construct, should be investigated further. Over the following 20 years, she develops a formal theory of hope. This involves many qualitative studies, producing substantive theories of other situations in which people hope or lose hope, including other illness experiences, unemployment, war, and immigration. This formal theory of hope draws on but will be more abstract and far-reaching than any of the substantive theories.

A successful action research project might produce teen antismoking activists and antismoking activities on school premises, and so on.

Relationships of Praxis: Different Methodologies Are More or Less Prescriptive About Actions Taken in the Research Cycle

The methodology and related study design that Anna chooses will be more or less prescriptive of the actions that Anna takes in the research cycle. For example, a grounded theory study design would require atheoretical sampling (Charmaz, 2006), whereas phenomenologies or the various narrative methodologies are likely to be less prescriptive about sampling choices.

Conceptual Relationships: Methodology Connects Research to Theory and Discipline

It is a commonplace maxim that good qualitative research should be "theoretical," but this is frequently insufficiently justified and can mean many things. Methods in and of themselves are relatively theoretical, as shown in Figure 2. As argued above, epistemology provides a potential connection between research practice and formal theories of knowledge. There are several other ways in which qualitative research can be convincingly theoretical, all of them methodological.

First, each variant of each methodology has arisen from particular academic disciplines, such as sociology, anthropology, philosophy, or psychology and via those disciplines' formal theories, and thus the specific methodology adopted can link a researcher to those theoretical bases. Second, methodologies can proscribe or encourage the use of existing formal and substantive theories at two stages in the research process: first, in the determination of objectives, research questions, and study design; and, second, during analysis and in interpretation of findings. Finally, different methodologies can encourage or discourage the development of substantive theories in the conduct of empirical work. Each of these access points to theory are potentially useful and can create richer, more satisfying, and more usable research (Charmaz, 2004). However, the absence of theory at various points in the process might be appropriate, dependent on methodology.

Imagine that Anna selected grounded theory methodology for her study. How might this make Anna's study more or less "theoretical"? First, grounded theory was explicitly developed to guide researchers to generate rather than to verify theory (Glaser & Strauss, 1967). As such, Anna's study would be likely to generate a substantive theory of school-age smoking. Second, grounded theory methodology would discourage the use of existing formal and substantive theories in setting the objectives, research questions, and study design but would facilitate their use later in analysis and interpretation (Charmaz, 2006). Finally, grounded theory methodology could connect Anna to a range of formal theories and to the discipline of sociology: variants of grounded theory have arisen from theories including symbolic interactionism and, more recently, social constructionism. Anna will need to understand the relevant methodological texts to do her study (Charmaz, 2006; Clarke, 2005; Glaser & Strauss, 1967; Strauss & Corbin, 1998), but she would also be likely to benefit from a better understanding of symbolic interactionism, social constructionism, and other relevant formal theories, depending on the version of grounded theory methodology that she wishes to adopt. Such a disciplinary understanding might not be strictly necessary, but (in tandem with the benefit of research experience) it offers a substantial personal advantage and a basis for thinking carefully about combining methodologies (Zimmer, 2006). If Anna better understands the theoretical and disciplinary bases for her methodology, she is likely to use it in a more nuanced and flexible way and to feel personally confident in her practice rather than blindly following a recipe. This would enable Anna to become a reflexive and creative practitioner, capable of reinvention and evolution of her craft (Zimmer, 2006). Methodologies, as we have argued, are idealized reconstructed logics. Logics-in-use are rarely "pure" (Johnson et al., 2001), and disciplinary understanding combined with experience provides a basis for combining or modifying existing methodologies meaningfully.

Now imagine that Anna selected ethnography as her methodology. Within ethnography, Anna would have a range of choices available to her. She might, for example, choose an ethnography with its roots in cultural anthropology (Hammersley & Atkinson, 1995), in which case she might benefit from a good understanding of cultural anthropology. Alternatively, she might select a critical ethnography (Carspecken, 1996), for which immersion in critical theory would be essential. Anna's ethnographic

study is also a good illustration of the fact that it is not always necessary for a good qualitative study to be "theoretical." If Anna chose the first kind of ethnography, for example, she might eschew existing formal theories in her objectives, questions, and study design and in her analysis and interpretation, and aim to produce a thick, situated, atheoretical description through long immersion in a culture. The product of that work could be extremely valuable for an outsider seeking to engage with that culture despite its lack of theoretical content. In contrast, if Anna chose critical ethnography, she would explicitly frame her questions and design her study in light of critical theory and would analyse and interpret her data through these existing formal theories of power, oppression, and liberation. Her research product would thus be strongly shaped by existing formal theory and might be less likely to contain a rich emic description. This research product would be likely to be more theoretical and as a result both less useful to some readers and more convincing to others.

There are many methodological options for Anna to select among, each of them of more or less use to different audiences, each shaped to greater or lesser degrees by existing theory, and each differentiated by the theoretical cast introduced by the chosen methodology. The degree to which the work is theoretical will be less important than the degree to which Anna can justify as internally consistent her choices of method, methodology, and epistemology.

The Contribution of Method to Qualitative Research

Methods are the nuts and bolts of research practice. The actions of the researchers and participants in a research project constitute the methods of that project. As shown in Figure 2, methods—sampling, data collection, data management, analysis, and reporting—can be conceptualized in a continuous, iterative cycle. This will not be the case in all qualitative research. However, unlike quantitative research, where rigor is partly dependent on sampling, data collection, analysis, and reporting being kept separate and progressing in a linear fashion, in qualitative research it can increase rigor if these phases are iteratively related. As analysis and early writing reveals unexpected insights, sampling and data collection can be modified to better support the integrity, focus, and explanatory power of continuing analysis and, thus, the final product. This principle comes originally from grounded theory methodology (Glaser & Strauss, 1967) but can be used in most methodologies and will depend in part on the epistemological position adopted.

The most significant contribution of methods, as shown in Figure 2, is a pragmatic one: that the methods selected will determine the final research product. This might sound banal, but it is too easy to select methods because they are more familiar, faster, or easier to implement without sufficient attention to the research product they will generate. Focus groups versus individual interviews, e-mail-facilitated interviews versus face-to-face interviews, observation versus collection of organizational documents will each produce different data. Similarly, different analysis methods will construct very different accounts of the same data. Five studies of the same phenomenon using different data collection and analysis methods are likely to produce five different readings of that phenomenon. Thus, all method selection should be done purposefully and with care.

Methods are the most accessible, observable, and obligatory of the three facets and, thus, the one most attended to in practice. In the health sector, qualitative research is often conducted without attention to methodologies or epistemologies, reflecting the dominant research culture, which tends to take epistemology for granted and to use the terms method and methodology interchangeably. We disagree strongly with Mauthner and Doucet's (2003) argument that method is epistemology; instead, being the point where the participants and the researcher meet, methods are the praxis that realizes the other elements. It is through methods that methodology and epistemology become visible.

Applying the Framework: Epistemology, Methodology, and Method in the Research Process

As Figure 2 illustrates, method, methodology, and epistemology are intimately, intricately connected. They each act on one another in research planning and implementation. We will now present a set of decisions to make when constructing a qualitative research study and a note on the evaluation of qualitative research.

Decision 1: Choosing an Epistemological Position

This question is the starting point because epistemology is foundational and will directly influence methods and methodology. The researcher's epistemological position is likely to constrain other things more than be constrained, although it might be partly determined by the discipline the researcher comes from and the formal theories of knowledge the researcher has read. Decisions about epistemology matter because they will influence choice of methodology, as some epistemologies and methodologies are incommensurable, and different variants of individual methodologies are linked to specific epistemic positions, mostly via those methodologies' theoretical and disciplinary roots. Epistemology will also constrain research practice (method), determining the researcher-participant relationship, appropriate measures of research quality, and the nature of reporting.

Decision 2: Selecting a Variant of a Methodology to Employ (or Elements of Existing Methodologies to Combine)

The answer to this question will be determined in part by the researcher's chosen epistemic position and might also be shaped by the discipline in which she or he is trained or has read. Decisions about methodology matter because they will influence (and be influenced by) the objectives, research questions, and study design and provide the research strategy and thus have a profound effect on the implementation of method. They also matter because they have the potential to make the research process more or less theoretical in several ways: Methodology provides the primary source of justification for the project's relationship to theory. Methodologies can be combined or altered, providing that the researcher retains a coherent epistemological position and can justify the choices made, preferably in relation to both the theoretical context of the methodology and the impact of the change on method and the final research product.

Decision 3: Selecting Methods, Within the Chosen Epistemology and Methodology, That Will Produce the Best Data to Answer the Research Questions

Methods are the most flexible, pragmatic, and intrinsically atheoretical component of the research process, strongly influenced by methodology (via the objectives, research questions, and study design) and epistemology. They are also the pathway to the final research product. Without sampling, data collection, data management, analysis, and reporting, there is no research. Without careful choice of methods, the research questions will not be answered and the objectives will not be met. The study will be difficult to justify unless methods, methodology, and epistemology are internally consistent. If a researcher keeps a firm grasp on her or his methodological and epistemological decisions and remains flexible, the methods should evolve to serve the study.

The Most Important Application of this Approach: The Research Quality Debate

In this article, we have presented a view of how good qualitative research should work. In short, that it should be able to explain itself by presenting and arguing for an internally consistent set of elements: research epistemology (justification of knowledge), methodology (justification of method), and method (research action).

This systematic approach to qualitative research has implications for the research quality debate. If journals required that each of these elements be reported, and if colleagues, supervisors, those conducting research syntheses, and, most important, peer reviewers prioritized internal consistency among these elements as the key marker of quality in qualitative research, the incommensurability of different epistemologies could be circumlocuted and unnecessary prescriptiveness about

methodology and method avoided. Both Professor Rose and Professor Jeffery should be able to recognize whether one another's studies are based on an internally consistent set of choices about epistemology, methodology, and method. Rather than omitting an article from a research synthesis or rejecting it in peer review because they are personally uncomfortable with the epistemology, methodology, or method, they could make decisions about articles on the basis of internal consistency between the three elements.

This provides an alternative to checklists and "one size fits all" quality standards. Without insisting that one particular type of qualitative research is superior to others, we have proposed a systematic, detailed basis for justification, modification, and innovation in qualitative research practice. Most important, this framework makes visible the epistemic issues that are so often at the heart of tensions over quality and provides a means by which individual pieces of qualitative research and our work as a whole can be defended. We will not all agree with the choices that Anna finally makes, but if she can defend and implement them convincingly, there should be a place for her in the academic community.

Limitations of the Framework

To conclude, we will outline and answer some potential limitations.

The Absence of Ontology

Textbooks often present ontology, along with epistemology, as a foundational element of qualitative research. Ontological questions are questions about the nature of reality (Blackburn, 1993; Bruner, 1990), both physical reality (such as the bundle of paper or computer monitor from which you are currently reading) and social reality (such as the organization that employs you). We have excluded ontology from this framework. Researchers generally treat social concepts as if they are real enough to be named, investigated, and analysed. Indeed, we have to act as if the physical and social world is real to get by in our daily lives. Whether or how they are real and the implications of this for research are interesting questions, but they require specialist philosophical treatment beyond the scope of this article.

Potential Objections to Pluralism

Some readers might object to the notion of pluralism in qualitative research, preferring a resolution of the tensions and a single measure of "good" qualitative research. However, the logic-in-use of qualitative research is already diverse. The achievement of unity would require repression of existing useful logics, and of the values at the heart of some epistemologies. Kaplan (1964) argued that "the world of ideas has no barriers, within or without, does not call for one true 'Logic' to govern it. The conviction that there is such a logic—as it happens, ours—is a parochialism!" (p. 8). We have deliberately constructed our framework to respect all ways of working because this protects our ability to argue for our own way of working. The alternative, seen too often in the literature, is a vicious circle of contempt between opposing positions.

Potential Challenges in Implementation

A related objection might be that this framework does not provide enough concrete instruction for someone wanting to conduct or evaluate qualitative research. There are, however, many books on the detail of methods and methodologies to which novice researchers can turn. The purpose of this framework is to provide a way of thinking that will guide researchers through that valuable material and assist them to make sound choices of their own. Without doubt, evaluation, wisdom, and learning are required to be able to judge whether a piece of work is based on an internally consistent method, methodology, and epistemology, but engagement with and informed assessment of the logic of a piece of work seems to us a far more meaningful evaluation than box-checking for straightforward criteria. The ability to make such judgments will depend on a systematic improvement in the quality of reporting of qualitative work.

Researchers Are Not Always Methodologists or Epistemologists

Finally, researchers might object that they are not, or do not wish to be, methodologists or epistemologists. They do research. They generate useful findings. Nothing further is necessary. Although it might be true that one can complete work without attending to the foundations of that work, we have argued that all researchers make daily assumptions about epistemology and that methodological awareness carries substantial benefit. We hope that the reconstructed logic presented here will assist us to justify our methods and findings to ourselves and others, to evaluate one another's contributions, and to enjoy greater insight, sophistication, and satisfaction as researchers.

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