

2 Qualitative Methods

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SUMMARY

In recent years there has been a methodological revolution in social science and educational research generally, and medical education as well, with increasing acceptance of qualitative research traditions and methods as part of our repertoire of inquiry approaches. There is a wide variety of threads interwoven under the rubric “qualitative methods”. A common paradigmatic theme includes the epistemological and ontological view of knowledge as a human construction. Another common theme is reliance on collection, analysis, and interpretation of qualitative data, such as observations in natural settings reported in field notes, interviews recorded in transcripts, and document analysis. Important areas of qualitative inquiry range from ethnography, which focuses on understanding phenomena such as clinical teaching through participant observation; to critical theory, which focuses on bringing to light power inequities in situations such as health care teams, with the goal of empowering participants to seek reform.

The purposes of this chapter are to: (1) characterize the place and nature of qualitative methods in social science and educational research; (2) provide an overview of the research traditions linked with qualitative inquiry in the social sciences and education generally – their characteristic questions, their methods and their criteria for soundness and rigor; (3) present a review and analysis of research in medical education linked with qualitative traditions or relying heavily on qualitative methods; and (4) suggest future directions for qualitative research methods in medical education. In this review, we will focus on research in medical education, rather than research in medicine, which is a vast area for review in its own right. Therefore, we will view as our domain the processes of selection for training, curriculum development, instruction, program evaluation, performance evaluation, and professional socialization.

We do not intend to present a survey of all qualitative research in medical education, but rather an analysis of exemplars illustrating applications of qualitative methods. This review will be organized by the subject-matter focus of the research because, to date, certain issues have been the subject of the greatest number of qualitative studies, perhaps due to the nature of the questions raised and

the complexity of the issues. This chapter is not intended as a “how to” manual; however, we will provide the canonical and classic references for the conduct of research methods discussed. The area of qualitative methods has matured to the point of having an extensive and rich literature dealing with paradigm issues, guidelines for every aspect of the use of specific methods, and standards for research quality and rigor.

QUALITATIVE METHODS IN SOCIAL SCIENCE AND EDUCATIONAL RESEARCH

Basic definitions: paradigm, design, strategy of inquiry, method, and discipline

In discussing research methods, some basic definitions are in order. The quest to develop research methods has its origin in the human aspiration to solve problems, satisfy curiosity, or obtain needed information (Inui, 1996). Walker observed, “*It is commonly believed that reliance on systematic methods is the most important difference between knowledge gained through research and mere speculation or opinion. In contemporary behavioral and social sciences, methodology plays a central role*” (p. 99). The term “research methods”, and “qualitative methods” in particular, is associated with a number of important concepts, which have a family resemblance, but also significant differences. They serve as umbrella labels for the concepts of: “paradigm”, “design” or “strategies of inquiry”, “data collection techniques”, and even “discipline”.

This mélange of concepts associated with the term “research methods” is illustrated in several generic definitions of qualitative research. In the opening chapter of their definitive text, *The handbook of qualitative research*, Denzin and Lincoln (1994) offer their initial generic definition of qualitative research, stating:

Qualitative research is multimethod in focus, involving an interpretive, naturalistic approach to its subject matter ... qualitative researchers study things in their natural settings, attempting to make sense of, or interpret, phenomena in terms of the meanings people bring to them. Qualitative research involves the studied use and collection of a variety of empirical materials – case study, personal experience, introspective, life story, interview, observational, historical, interactional, and visual texts – that describe routine and problematic moments and meanings in individuals’ lives. Accordingly, qualitative researchers deploy a wide range of interconnected methods. (p. 2)

Elsewhere in their text, Guba and Lincoln (1994) distinguish the concepts of paradigm and method, commenting:

The term qualitative ... is a term that ought to be reserved for a description of types of methods. From our perspective, both qualitative and quantitative methods may be used appropriately with any research paradigm. Questions of

method are secondary to questions of paradigm, which we define as the basic belief system or worldview that guides the investigator, not only in choices of method but in ontologically and epistemologically fundamental ways. (p. 105)

Yet elsewhere in their text, Punch (1994) defines qualitative research commenting, "*Qualitative research covers a spectrum of techniques – but central are observation, interviewing, and documentary analysis – and these may be used in a broad range of disciplines*" (p. 84).

From these definitions, it is clear that the terms "qualitative research" and "qualitative methods" are linked with the concepts of: "paradigm", "design" or "strategies of inquiry", "techniques of data collection" and "discipline". We will characterize each of these concepts in turn, in order to set the stage for our discussion of qualitative methods.

The overarching notion of "paradigm" is central in discussion of research approaches. It was introduced by Kuhn (1962) in *The Structure of Scientific Revolutions*, to refer to the taken-for-granted assumptions, norms, values, and traditions that shape scientific approaches and procedures in a community of investigators (Stanfield, 1994). Denzin and Lincoln (1994), following Guba (1990), define the concept of paradigm as a "*basic set of beliefs that guide action*" (p. 99).

What types of beliefs comprise paradigms for investigation? Denzin and Lincoln (1994) observe, "*A paradigm encompasses three elements: epistemology, ontology, and methodology. Epistemology asks, How do we know the world? What is the relationship between the inquirer and the known? Ontology raises basic questions about the nature of reality. Methodology focuses on how we gain knowledge about the world*" (p. 99). Shulman (1986), following Schwab (1960/1978), defines the concept of paradigm more concretely, commenting, "*Social scientists pursue their research activities within the framework of a school of thought that defines proper goals, starting points, methods and interpretive conceptions for investigation*" (p. 5).

Paradigms, then, are cognitive road maps, taken-for-granted assumptions within communities of scholars, about appropriate research approaches and procedures. Husen (1988) observes, "*A paradigm could be regarded as a cultural artifact, reflecting the dominant notions about scientific behavior in a particular scientific community, be it national or international, and at a particular point in time. Paradigms determine scientific approaches and procedures which stand out as exemplary to the new generation of scientists*" (p. 17). Periodically, in communities of scholars, there are significant shifts, virtual revolutions, in these taken-for-granted assumptions, typically arising from investigators encountering anomalies that do not fit, and are not well addressed within the prevailing paradigm. Husen (1988) observes, "*A 'revolution' in the world of scientific paradigms occurs when one or several researchers at a given time encounter anomalies, for instance, make observations, which in a striking way do not fit the prevailing paradigm. Such anomalies can give rise to a crisis after which the universe under study is perceived in an entirely new light*" (p. 17).

Most typically, the emerging paradigms do not simply supplant previously dominant paradigms. Rather, they serve as competing, alternative, or complementary frameworks for mapping out new approaches to studying phenomena. And so it has been that in the evolution of research traditions in the natural and human sciences, there have been competing paradigms to which investigators have pledged their allegiance. As Darling-Hammond and Snyder (1992) observe, following Gage (1989), "*Paradigm wars have seemed to place in opposition the 'objectivist-quantitative-positivist' research tradition and the 'interpretive-qualitative-hermeneutic-humanist' tradition*" (p. 42). It is more common, however, to view different paradigms as alternative, and complementary methods of inquiry, each appropriate for different questions and kinds of problems, each with its characteristic strengths and limitations (Campbell, 1974; Cronbach, 1974; Gage, 1978; Merton, 1975; Shulman, 1986).

Paradigms, which are basic sets of beliefs that guide researchers, have implications for the choice of research designs or strategies of inquiry, which are related to paradigms, but not isomorphic with them. A research design, according to Peto (1970), "*involves combining the essential elements of investigation into an effective problem-solving sequence*" (p. 331). Nachmias and Nachmias (1976) expand upon this definition, describing a research design as a plan that, "*... guides the investigator in the process of collecting, analyzing, and interpreting observations. It is a logical model of proof that allows the researcher to draw inferences concerning causal relations among the variables under investigation*" (pp. 77-78).

What are the basic elements of such a plan? Denzin and Lincoln (1994) comment:

Four basic questions structure the issue of design: (a) How will the design connect to the paradigm being used? That is, how will empirical materials be informed by and interact with the paradigm in question? (b) Who or what will be studied? (c) What strategies of inquiry will be used? (d) What methods or research tools will be used for collecting and analyzing empirical materials? (p. 200)

Given these characterizations of research design, strategies of inquiry include designs ranging from experiments and quasi-experiments, which are generally viewed as "quantitative methods", to naturalistic inquiry, ethnography, and case study designs, which are generally viewed as "qualitative methods", emphasizing the study of phenomena in their natural settings, using multiple empirical materials and strategies (Yin, 1989, p. 28).

The term "qualitative methods" is most frequently linked with certain techniques of data collection and analysis: observation, interviewing, and document analysis. Fundamentally, these methods of data collection yield data in the form of words or text, which are not readily summarized in a metric. Inui and Frankel (1991) comment that the phrase "qualitative research" "*apparently embraces all those*

instances of inquiry in which investigators adopt no metric and therefore do not summarize their principal results by measuring or counting" (p. 485). However, there is a fine line between qualitative and quantitative data collection and analysis methods, since quantitative scales and dimensions may be superimposed on qualitative data (Patton, 1987, p. 64).

Finally, it is important to recognize that the use of "qualitative" data collection and analysis methods does not clearly distinguish among research designs and strategies of inquiry. Experiments can rely primarily on qualitative evidence. As Patton (1987) comments, *"It is altogether possible – and even reasonable – to design an experiment with randomized assignment of subjects to treatment and control groups, yet to collect qualitative, open-ended data from those subjects"* (p. 64). Moreover, case studies can include and even be limited to quantitative evidence. Yin (1989) comments:

A case study is an empirical inquiry that: investigates a contemporary phenomenon within its real-life context; when the boundaries between phenomenon and context are not clearly evident; and in which multiple sources of evidence are used... . case studies can include, and even be limited to, quantitative evidence. In fact, the contrast between quantitative and qualitative evidence does not distinguish the various research strategies. Note that ... some experiments (such as studies of psychophysical perceptions) and some survey questions (such as those seeking categorical rather than numerical responses) do rely on qualitative, and not quantitative, evidence ... case studies can be based ... entirely on quantitative evidence; in addition, case studies need not always include direct, detailed observation as a source of evidence. (pp. 23-25)

Finally, the term "discipline" is often used in discussion of research methods. Disciplines generally refer to communities of scholars, organized to study certain phenomena. For example, biologists study living organisms; sociologists study human groups and organizations; psychologists study the mental, attitudinal, motivational, and behavioral characteristics of humans; anthropologists study cultures. Some disciplines are virtually defined by certain designs and data collection methods. As Walker (1992) observed, *"Some fields of study are virtually defined by their methods, psychology by the psychological experiment, cognitive science by thinking aloud interviews, sociology by surveys, anthropology by ethnography."* (p. 99) However, most fields support multiple competing and complementary paradigms, research designs and strategies of inquiry, and techniques for data collection and analysis.

In this section, we have observed that the term "research methods", and "qualitative methods" in particular, is associated with a number of important concepts, which have a family resemblance and overlap, but also have significant differences. They serve as umbrella labels for the concepts of: "paradigm", "design" or "strategies of inquiry", "data collection techniques", and even "discipline". In this chapter, we will be ecumenical, and include in our domain, research viewed as

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