

Qualitative Research Methods for Medical Educators

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ABSTRACT

This paper provides a primer for qualitative research in medical education. Our aim is to equip readers with a basic understanding of qualitative research and prepare them to judge the goodness of fit between qualitative research and their own research questions. We provide an overview of the reasons for choosing a qualitative research approach and potential benefits of using these methods for systematic investigation. We discuss developing qualitative research questions, grounding research in a philosophical framework, and applying rigorous methods of data collection, sampling, and analysis. We also address methods to establish the trustworthiness of a qualitative study and introduce the reader to ethical concerns that warrant special

attention when planning qualitative research. We conclude with a worksheet that readers may use for designing a qualitative study. Medical educators ask many questions that carefully designed qualitative research would address effectively. Careful attention to the design of qualitative studies will help to ensure credible answers that will illuminate many of the issues, challenges, and quandaries that arise while doing the work of medical education.

KEYWORDS: ethics; medical education; methods; qualitative research; trustworthiness

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IN THIS PAPER, we provide a primer for qualitative research, particularly as it applies to medical education. We start with an overview of the rationale for choosing a qualitative approach to research, go on to describe qualitative research methods, and end with a discussion of potential benefits of using qualitative methods. Because contrasting qualitative and quantitative research methods may set up an unhelpful dichotomy, we focus on the “goodness” of qualitative research, that is, what it promises to do well. We summarize information from seminal texts; we use the language of qualitative research but provide definitions in parentheses. When appropriate, we share our experience. Our aim is to equip readers with a basic understanding of qualitative research and prepare them to judge the goodness of fit between qualitative research and their own research questions.

WHAT IS THE “GOODNESS” OF QUALITATIVE RESEARCH?

Like quantitative researchers, qualitative researchers employ rigorous methods of sampling, data collection, analysis, and interpretation within a framework of scientific inquiry; however, they typically operate from a different set of assumptions, and therefore look through a different lens. For example, qualitative researchers may seek to understand the participants’ perspectives on phenomena of interest and to convey meanings that participants construct regarding those phenomena. They observe the natural

setting in which the phenomena occur, with minimal disruption to the participants’ everyday routine. Although qualitative researchers do not ignore threats of bias, they consider the mind of the researcher an instrument of analysis and interpretation; thus, qualitative researchers respond to environmental cues, perceive situations holistically, capture nonverbal information, and explore the unexpected. Qualitative researchers employ a largely inductive approach to analyzing data; that is, they infer general principles from particulars that emerge during the study as opposed to explaining observed particulars in light of predetermined principles or theories.¹ The flexibility of qualitative research in design and analysis allows for incorporation of important, but unexpected, events and findings. Finally, qualitative research draws on data in the form of words, images, and observations (recorded as written notes, photographs, audiotapes, videotapes, or drawings) that lend themselves to rich, thorough, and detailed descriptions of complex behaviors, processes, relationships, settings, and systems. In summary, the goodness of qualitative research lies in what it promises to do well: build understanding of how participants “make sense” of things; appreciate context rather than control it; exploit human potential to analyze and interpret; and provide accurate, comprehensive, and descriptive foundations.²

We surmise, as do others,^{3,4} that qualitative research is well-suited to answer questions about how learners and teachers make sense of the educational events in which they participate, complex learning environments, and

subtle learning relationships; learning outcomes that are best described rather than counted or measured; and previously unexplored topics in medical education. For example, questions about the informal learning or unintended consequences of curricular change are often best answered with qualitative research. Likewise, qualitative research provides tools to study domains of medical education such as professionalism, which are difficult to measure with quantitative tools.

WHEN DOES QUALITATIVE RESEARCH “FIT” ONE’S RESEARCH QUESTION?

As in quantitative research, the articulation of a qualitative research question begins with curiosity about something the researcher has experienced, observed, or wants to know. For example, a medical educator may have noticed that more students have chosen pediatrics as a specialty recently. Although quantitative researchers may study this by counting the occurrence of events (eg, the number of students with and without a pediatric advisor who choose the specialty) and testing the hypothesis that having a pediatric advisor results in more students choosing to pursue pediatrics, qualitative researchers may approach the issue differently. For instance, they might ask students to explain why they choose pediatrics over other specialties and how they come to their decision. Qualitative researchers might also investigate the role of advisors and mentors, but they would not begin the study with a predetermined hypothesis. The data in the qualitative study may be, for example, students’ answers to interview questions, written answers to open-ended questions, or students’ essays.

Although qualitative research findings may stand alone, qualitative research may also provide exploratory information that generates hypotheses for quantitative inquiry. A qualitative study may explore topics that have not been

thoroughly understood, leading to further investigation with either quantitative or qualitative methods. For example, a qualitative study on students’ perceptions of the learning environment in a pediatric clerkship may generate hypotheses about the characteristics of the learning environment that matter most to students, and a subsequent quantitative survey could test these hypotheses. A quantitative study may result in findings that require further explanation or more in-depth exploration, leading to a qualitative study that approaches the phenomena of the inquiry in a more open-ended way.

HOW DOES ONE BEGIN A QUALITATIVE RESEARCH STUDY?

For both quantitative and qualitative research, a review of the existing literature helps the researchers identify what is and is not known about the topic of the inquiry. In qualitative research, a review of the literature may include published narratives and stories as well as peer-reviewed papers in professional journals. The social science literature, including anthropology, medical anthropology, and sociology journals, may also contain pertinent research articles. As the researchers ponder the topic of interest, read other studies, and begin to hone their curiosity, overarching research questions tend to come into focus. These questions then guide the choice of a philosophical framework.

The philosophical frameworks that commonly inform qualitative research include *ethnography* (studying a culture),⁵ *phenomenology* (seeking to understand the meaning of someone’s experience),⁶ and *grounded theory* (building theory in a relatively unstudied area).^{7,8} These appear in Table 1, along with a definition, examples from medical education, seminal references, and sample research questions for a study on professionalism in each of the philosophical frameworks. By selecting and using one of these frameworks, the qualitative researcher

Table 1. Philosophical Frameworks With Principles of Research, Examples From the Literature, and Sample Research Questions

Philosophical Framework	Ethnography	Phenomenology	Grounded Theory
Definitions/principles	The researcher studies a culture, trying to understand the meaning of experiences and interpretations from the perspective of the people who live in that culture.	The researcher studies the meaning of a phenomenon or a lived experience.	The researcher listens, observes, and immerses him/herself in qualitative data to create a theory that can be tested or studied further.
Examples/practices	Researchers conducted an ethnography to frame a study of the implicit curriculum and how it converged with the explicit, competency-based curriculum. ³⁸	Researchers used a phenomenological approach to examine the lived experience of international medical graduates with the process of certification for practice. ⁴⁰	Following a grounded theory approach, researchers found that residents distort the intended, holistic meaning of an integrated model of doctor competence. ⁴¹
Seminal resources	LeCompte and Schensul, 1999 ³⁹ ; Hammersly and Atkinson, 1995 ¹⁹	Moustakas, 1994 ⁶	Glaser and Strauss, 1967 ⁷
Sample research questions on the topic of professionalism	What is the culture of professionalism in the clinical clerkships from the perspective of medical students?	How do medical students experience the development of their individual professional identity as a physician?	How do the clinical clerkships facilitate or deter the practice of professional behavior among medical students?

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