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A novice's guide to qualitative health professions education research

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Abstract

Qualitative research has long been considered the poor cousin to quantitative research. However, recently it has gained more prominence and respect, particularly within health professions education. This article aims to introduce the novice researcher to the fundamental principles of qualitative research. We introduce the basic features of qualitative research, and describe the rationale for conducting such research. We guide the researcher as to how to differentiate between the most common forms of qualitative research. We guide researchers to take the time to acquaint themselves with research paradigms, the philosophical positions that guide how research is conducted and interpreted, before selecting one's methodology and methods. Qualitative research is rigorous, and offers deeper understanding of human experiences, context, and social phenomena.

We demonstrate the key considerations when selecting an appropriate methodology, ensuring that the research aim aligns with the purpose of any given methodology. The power of qualitative research should not be underestimate, but power only comes from well conducted, rigorous research. Qualitative research is not quick or easy but it has much to offer.

Learning objective: To (1) understand the features of, and rationale for conducting, qualitative research and (2) differentiate between the most common forms of qualitative research.

Introduction

We are heading towards a renaissance for qualitative research. Once derided as an ugly duckling, inferior to the majestic swanlike ways of quantitative research, qualitative research enjoys an increasingly central focus within health professions education[1]. Several scholars have suggested that health professions education research must develop 'strong theoretical frameworks' to advance quality in our field, akin to accepted best-practice within the social sciences(1-3). As health professions education accepts qualitative inquiry, part of developing methodological rigour involves raising awareness of qualitative research methods and techniques, for interested novices and reviewers. In this article, we offer an overview of qualitative research approaches, discussing their importance, use, rigour within qualitative research, and offering our 'top tips' on getting involved in qualitative research.

[1] It is important to note that this is a work in progress. Rejection of qualitative research within major medical journals still occurs on the grounds that such research is 'low priority' and less frequently cited that quantitative research. Greenhalgh et al.'s 2016 open letter to the editors of the British Medical Journal (BMJ) on qualitative research eloquently distils the concerns regarding this practice. Given the ongoing struggle for legitimacy within some journals, we disagree with those who may argue the qualitative research renaissance is happening *now*. Rather, with such recent barriers, we feel we are heading *towards* a renaissance of qualitative inquiry.

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Why is qualitative research important?

The power of qualitative research should not be underestimated. The value of this type of research lies in its ability to unearth the 'hows' and 'whys', providing us with a deeper understanding of human experiences, context and social phenomena (4). If we are wanting to explore these complexities within our research, seeking to discover what we deem as 'socially constructed' reality(5, 6). We cannot explore these essential elements through merely numbers and outcomes.

Qualitative research questions

Developing research questions is not an easy task. It can prove difficult to summarise the intent of your research within a few lines, whilst doing it justice. As highlighted above, the purpose of qualitative research is to answer the 'how' and 'why' questions. Wording is key. An example is as follows: "...aims in this study were to explore how patients conceptualise Artificial Intelligence (AI) and view the use of direct-to-patient and clinician decision-support AI tools for skin cancer screening"(7). You will notice words like 'explore' in the latter are extremely common in qualitative research questions: researchers seeking for that deeper level of understanding. In contrast, quantitative research often highlights words such as 'measure' or 'test'. The key elements to avoid include making assumptions about the problem/issue that you intend to explore, focus on differences rather than exploring the process and being too vague/general(8). Research questions must be focused, answerable, relevant and help build the whole picture of your research - they must illustrate the need for your chosen theory and methods.(4)

The importance of research paradigms

Research paradigms are philosophical positions that guide how research is conducted and interpreted (9). They are relevant for all clinical education research, but are particularly prominent in discussions of qualitative projects. Though they can be confusing to contemplate, considering one's paradigm and how this aligns with the aims and process of one's research is a key step in ensuring rigour within medical education research (10). Kuhn offers a common and widely accepted definition of research paradigms as "the set of common beliefs and agreements shared between scientists about how problems should be understood and addressed" (11). These beliefs and agreements consist of thoughts as to what is of value to research (axiology), the nature of reality (ontology), the nature of knowledge (epistemology), the overall plan to acquire knowledge (methodology) and the specific processes that will be used to collect and analyse data (methods). We recommend the following reading to guide you through these considerations (1, 12, 13) and assist you in selecting the most appropriate research paradigm for your specific purpose. We have also provided a diagram illustrating this process at each stage (Figure 1), with the perspectives of four common paradigms within health professions research (positivism, post-positivism, interpretivism, and critical theory)

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listed in Figure 2. We hope these figures will guide you to reflect on how your paradigmatic beliefs align with common schools of thought.

What we would like to emphasise here is the importance of these considerations and engaging in this thought process before selecting one's methodology and methods. The implications of not reflecting on, and selecting, a paradigm before research (including planning) begins is a lack of coherence in the decisions made about research design, methods, and analysis. This negatively affects research rigour. Different paradigms can conflict on the most appropriate way to design and carry out research. If you (inadvertently) mix paradigms (for example, you adopt a positivist ontology asserting the existence of one reality, but then choose a constructivist data collection method, open-ended interviews, to explore individual lived experience of a phenomenon), you make it difficult to follow your research, and you're likely to make inappropriate conclusions about your data.

Methodologies and methods

After deciding that qualitative research is right for your research aims, and engaging in paradigmatic thought, now comes the task of considering the most appropriate methodologies and methods for your work. There are many types and sub-divisions of qualitative methodologies (14), but this article describes three of the most common overarching approaches, and their basic features: ethnography, phenomenology, and grounded theory (Figure 3). This figure also includes thematic analysis, which while initially created as more of a method, has developed since its initial conception to more of a methodology, and popular one within health professions research (14).

The key to selecting an appropriate methodology is to consider the aims of your work, and how these align with the purpose of any given methodology (15). With this determined, certain methods (or means of collecting data) are best aligned to specific methodologies, as noted in Figure 2. Selection of methods for any given project should be dictated by the type of data you wish to generate (16), but also may be influenced by pragmatic research choices.

Rigour in qualitative research

Variation exists in approaches to demonstrating rigour in qualitative research. Attending to the above considerations will go some way to ensuring you conduct rigorous research. Lincoln and Guba outline four criteria for quality in qualitative research, which are popular in the field, that you may also wish to reflect on: credibility, dependability, transferability, and confirmability (17).

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Credible research is 'plausible and trustworthy', i.e., the research questions, methods, analysis and findings of a study are well-aligned (18). Dependability hinges on the reproducibility of a study – you should ask yourself, is the description of my research sufficient so that another could replicate my study in similar conditions? Transferability concerns applicability. It is about providing a 'thick description' of study context (e.g., setting, sampling strategy) so that a reader can make a judgement as to whether your findings should apply to their own practice (19). Finally, confirmability is discussed in reference to the strength of connection between qualitative data and findings – is this connection clear, and are quotes or data clearly supplied to evidence the connections you draw? (18)

Stenfors et al. suggest that 'reflexivity' is another important marker of rigour in qualitative research. That is, the reflective process of 'engaging with and articulating the place of the researcher and the context of the research' (18).

Quality checklists for qualitative research do exist (e.g. Consolidated Criteria for Reporting Qualitative Research (COREQ), or Standards for Reporting Qualitative Research (SREQ)), but can offer false reassurance regarding rigour (19). Checklists are best used as starting points for team discussions regarding rigour in research planning, design, and completion.

Innovations in qualitative health professions education research

In this guide, we have outlined common traditional qualitative methodologies and methods. However, in recent years, qualitative research in health professions education has diversified. Creative methods are increasingly used to explore phenomena in new and interesting ways (20) and centre participant voice(21). Visual elicitation using artistic drawings (22), mask making (23), poetic inquiry (24), and video methods (25) are some of but a few emergent creative approaches in the field. Such approaches are often well established in other fields, and are applied to health professions education to help make sense of complex topics we continue to struggle with e.g., the experience and practice of empathy.

One example can be found in the use of love and break up letters, a user-experience (UX) method popular in design industries, within medical education (26, 27). Laughey et al. used love and break up letters with medical students as a focus group prompt. Prior to discussion, each student wrote first a love letter, then a break up letter to the concept of 'empathy for patients'. Through use of this creative and innovative approach, students' emotions were more clearly highlighted, and the research team were able to identify how and why medical students' empathy decreases during their time at medical school (26).

The message here is that the approaches outlined in this guide are by no means comprehensive or prescriptive. Researchers should actively look beyond the traditional bounds of our field to enrichen qualitative enquiry.

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Figure legends

Figure 1: Reflections for selecting a research paradigm.

Figure 2: Core beliefs of common paradigms in the field.

Figure 3: Brief descriptions of some of the primary qualitative methodologies, including their focus, typical methods, and other notable points. Note, this is designed to be a starting point for introduction to these methodologies, and deeper engagement and further reading is encouraged.

Learning points

1. Qualitative research includes any type of research that produces findings that are not based upon quantification.
2. Qualitative research seeks to explore peoples' lives, their lived experiences, behaviours, emotions, and feelings
3. Qualitative research can also explore societal, organisation and cultural issues.
4. Qualitative research is not the poor cousin to quantitative research.
5. Qualitative research includes a range of methodologies, including novel approaches adopted from other fields, such as user experience.
6. Notable methodologies for qualitative research include Ethnography, Grounded Theory, Phenomenology, Thematic Analysis, Narrative Inquiry, and Case Studies.

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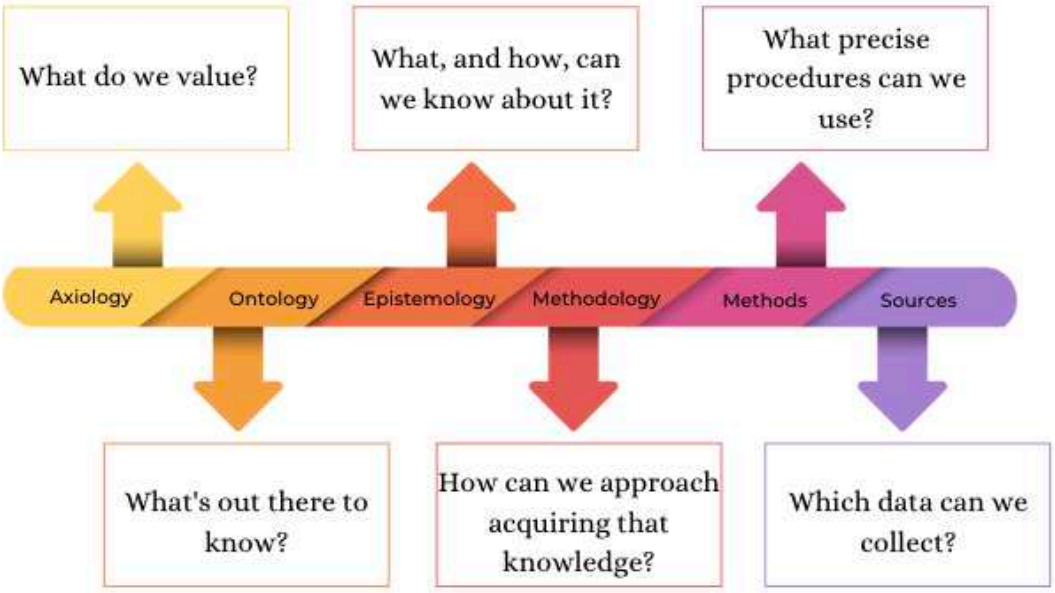

Figure 1: Reflections for selecting a research paradigm

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Positivism	Reflect on what ought to be, and what drives you	There is a single, objective reality, observable through science	Neutral knowledge can be obtained through the use of reliable and valid measurement tools	Tests hypotheses, and controls for confounders e.g., experiments, surveys	Measurements, observations, structured questionnaires and interviews	Pre-post test, exam performance comparisons, scores on skills exams, rating scales
Post-positivism	Reflect on what ought to be, and what drives you	There is a single, objective reality, only ever imperfectly known	Obtaining knowledge is subject to human error – only probable truths can be established	Experiments, surveys, observational studies	Measurements, observations, structured questionnaires and interviews	Pre-post test, exam performance, rating scales, textual data from surveys
Constructivism	Reflect on what ought to be, and what drives you	There are multiple subjective realities, constructed by and between individuals	Knowledge is subjective and formed at an individual level	Knowledge creation through interaction e.g., case studies, grounded theory, phenomenology	Usually qualitative data through the use of open-ended questions, recording observations	Audio data from interviews/focus groups etc., textual data from transcriptions, field notes, documentary analysis, open survey question responses
Critical theory	Reflect on what ought to be, and what drives you	There are multiple subjective realities influenced by power relations in society	Knowledge is subjective, but created and negotiated between individuals and within groups	Aligns to community organisation and action e.g., action research, critical discourse analysis	Interviews, focus groups, open-ended questionnaires, journals, ideological review	Audio data from interviews/focus groups etc., textual data from transcriptions, field notes, documentary analysis, open survey question responses

Figure 2: Core beliefs of common paradigms in the field

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Figure 3: Brief descriptions of some of the primary qualitative methodologies, including their focus, typical methods, and other notable points. Note, this is designed to be a starting point for introduction to these methodologies, and deeper engagement and further reading is encouraged.