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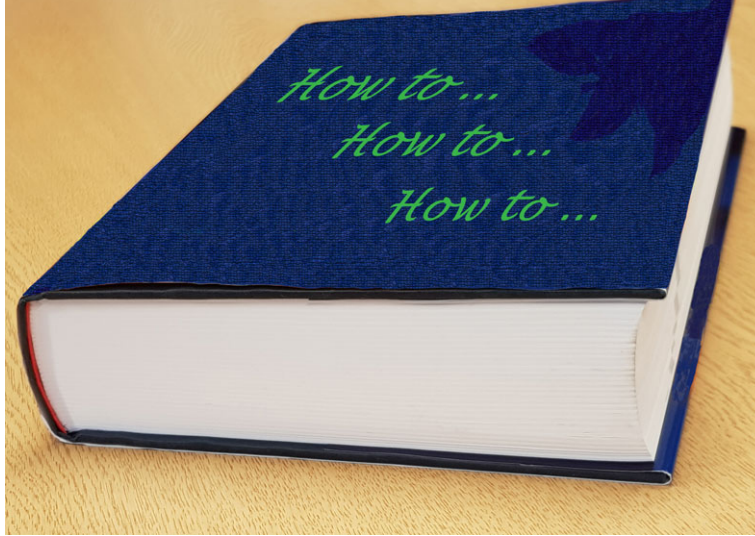
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How to...

# How to...choose between different types of data

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In qualitative research, almost everything in the real world can serve as data

## SUMMARY

This article, on how to choose the types of data that are most appropriate to your study, is the third in a series that aims to support researchers within clinical education who are new to qualitative research. Although individual or focus group interviews may seem to be the

most obvious source of data in qualitative research, we describe some alternative data sources and how they can be of value in answering certain research questions. We provide examples of how research participants may tell you about their experiences through audio diaries, how they may show you what is

going on by drawing a picture, and how you can study what actually happens in practice by observing how people interact, move, dress and use space. By doing so, we hope to catch your interest and inspire you to think of all the different possibilities when setting up a qualitative study.

## INTRODUCTION

For clinicians entering the world of qualitative research, it can seem that interviews are the most obvious source of data that can be collected and analysed to understand experiences or perceptions of a phenomenon; however, some lesser known, but potentially extremely valuable, data can also be used to enrich our understanding. In fact, in qualitative research, almost everything in the real world can serve as data: what you hear or talk about on the streets, what you see in schools, what you discuss in the clinic and what you find on the Internet. Data may include written or spoken text, in which participants *tell* about their experiences. Researchers may also invite participants to *show* how they perceive and understand their experiences through, for example, pictures or drawings. And researchers can *observe* their research subjects, or their artefacts, such as policy documents or social media posts.

In this article, the third in our European Centre of Excellence in Qualitative Inquiry and Study in Training and Education (EXQUISITE) series on how to get started in qualitative education research,<sup>1</sup> we will describe some alternatives to interviews as data sources and how they can be of value in answering certain research questions. Although the analysis of data will be discussed in a future paper, we will provide some examples of where these data types have been used and the questions they have illuminated and illustrated. The choice of data types to be used in your study is a key consideration, guided clearly by your research question,<sup>2</sup> and by the theoretical and conceptual frameworks appropriate to your question.<sup>3</sup> This will also determine your data analysis methods and processes.

## TELLING, SHOWING, OBSERVING

### Asking participants to tell their stories

Telling stories is one of the oldest ways of sharing experiences between people; it relies on language, development over time, structure, characters and plot lines. Telling stories can help to elucidate a certain experience, to give meaning to it and to explain it to others. The most common way of collecting stories, or narratives, in medical education may be the individual or focus group interview, in which the interviewer directs the conversation by asking a set of more or less predetermined questions;<sup>4</sup> however, there are some interesting alternatives.

Audio diaries and written logs provide participants with the opportunity to tell their stories without interruptions, without being influenced by the verbal or non-verbal cues of the interviewer, and without having to respond to a next question when they would prefer to linger a bit longer with the previous one. In diary studies, participants are generally provided with just a few prompts, such as: 'Could you reflect on the most formative experience of the past day or week?' They are invited to write down their reflections or to make an audiorecording and to send this to the researcher, without receiving any direct responses to their contributions. The researcher thus has limited control over the data collected, but this participant-led approach to data collection can greatly help to get the story across more spontaneously and in the participant's unique way.

To demonstrate an example, we collected audio diaries from medical students in Taiwan and in the Netherlands as part of a cross-cultural study on the development of professional identity. In conducting the study, we found substantial differences

between participants in how they responded to the invitation to talk about an emotional experience, and how this impacted the development of their professional identity.<sup>5</sup> Taiwanese students sketched very lively pictures of the world of medicine, populated with a large variety of figures, relationships, environments, food, drinks and sports, and reflected upon how they intended to become 'good people' first, as they considered this a prerequisite for becoming good doctors. In response to the same prompt, Dutch students typically told very focused stories about the development of skills or competencies in the process of becoming a doctor, referring specifically to themselves, one supervisor and one patient, and to the specific task at hand. Whereas interviews or focus groups might have provided more straightforward data for the two groups, the audio diaries offered a colourful glimpse into the figured worlds as experienced by students in fairly different contexts.

### Asking participants to show their experiences

Another approach to narrating lived experiences is showing what is going on, using visual or embodied ways of expressing oneself that do not necessarily use language. Within health care, and in the education of health professionals, researchers are increasingly making use of these creative, arts-based approaches, such as photo elicitation or photovoice, and drawings, pictures or collages, but one could also think of using music, dance, theatre or video performances as a research method.<sup>6</sup> Going beyond the verbal and creating other opportunities for creative expression and reflection may help to assist in identifying feelings or concerns that are not accessible through words alone.

In a recent study in which we used drawings to explore medical trainees' emotions in response to

**Telling stories is one of the oldest ways of sharing experiences between people**

## Observations may provide an additional perspective on what people say they do

complex situations, participants literally showed their frustrations, uncertainties, anger and fears, depicting themselves as very small or peripheral relative to others, or even running away from the paper, and thus from the situation.<sup>7</sup>

### Observing the real world in action

Both telling and showing, as described above, provide reflections of *how people perceive* their experiences, but do not study *what actually happens*. This can be better captured by observing how people interact, move, dress and use space, as these are very much part of how reality is constructed. Although observations can be used in different types of research, this method is typically associated with ethnography.<sup>8</sup> Settings that may be explored by observation include, for instance, clinical practice, rounds, simulated events and seminars. Observations may provide an additional perspective on what people *say* they do, to provide insight into interactions between students and teachers or patients, or between students from different professions. This can help to capture a certain process or provide further information on the larger context in which learning takes place. Context can include the physical space as well as sound, smell, eye contact, or lack of such, physical contact, the tone of voice used in an interaction and how people move. Observations may be fairly limited in time (e.g. three observations of a 2-hour simulated session), but they can also be conducted by shadowing a student or a supervisor throughout their daily practice for several days or weeks.

In one study, we observed 64 consultations between patients and health care professionals (physicians with different specialties, nurses, dieticians and social workers) and end-of-day rounds at a multidisciplinary chronic kidney disease clinic, to

explore how health care professionals interact with one another, patients, families and caregivers in order to expand our understanding of how this increasingly common form of care functions.<sup>9</sup> Our findings revolved around the question of boundaries between the health professionals who were expected to work cooperatively within the clinic, between medical specialties in the management of complex patients, and between caregivers and patients. Through observing the health care professionals in action, we captured aspects of their interactions that they were not explicitly aware of, and hence would not have been possible to capture by asking them to *show* or *tell* us about them.

## CONCLUSIONS

In this short introduction we have described only a few of many possible types of data. Often, but not exclusively, in ethnographic studies, several types of qualitative data are combined in a single study: one may, for example, interview students and then observe them, or ask trainees to write a poem or short story capturing their experiences, and then follow up with interviews.

For clinicians entering the world of qualitative research, the number and range of opportunities to collect data may seem overwhelming. In choosing the types of data appropriate to your study, we suggest you consider three questions.

1. What is the research question you want to answer, what kind(s) of data will give you the answers and can you justify this in your submission to the research ethics committee?
2. Have you identified a certain theory or framework within which you want to explore that question, and would a certain type (or types) of data

better fit its theoretical presumptions than others?

3. What are the specific benefits or challenges of these different types of data?<sup>10</sup>

Finally, the ultimate question you may want to ask yourself concerns what types of data you personally feel excited about as a researcher. In the rich field of qualitative research, we hope that researchers will feel inspired to follow their curiosity, interest and own creativity!

## REFERENCES

1. Helmich E, Mattick K. Taking qualitative research to the next level. *Clin Teach* 2018;**15**(2):91–92.
2. Mattick K, Johnston J, de la Croix A. How to...write a good research question. *Clin Teach* 2018;**15**(2):104–108.
3. Johnston J, Bennett D, Kajamaa A. How to...get started with theory in medical education research. *Clin Teach* 2018. DOI: 10.1111/tct.12918
4. DiCicco-Bloom B, Crabtree BF. The qualitative research interview. *Med Educ* 2006;**40**(4):314–321.
5. Helmich E, Yeh H-M, Yeh C-C, de Vries IM, Tsai DF-C, Dornan T. Emotional learning and identity development in medicine: a cross-cultural study comparing Taiwanese and Dutch medical undergraduates. *Acad Med* 2017;**92**(6):853–859.
6. Leavy P. *Method meets Art: Arts-Based Research Practice*. New York, NY: Guilford Press; 2015.
7. Helmich E, Diachun L, Joseph R, LaDonna K, Noeverman-Poel N, Lingard L, Cristancho S. 'Oh my God, I can't handle this!': trainees' emotional responses to complex situations. *Med Educ* 2018;**52**(2):206–215.
8. Reeves S, Peller J, Goldman J, Kitto S. Ethnography in qualitative educational research: AMEE Guide No. 80. *Med Teach* 2013;**35**(8):e1365–e1379.
9. Stenfors-Hayes T, Kang HH. Boundaries, gaps, and overlaps: defining roles in a multidisciplinary nephrology clinic. *J Multidiscip Healthc* 2014;**7**:471–477.
10. Tai J, Ajjawi R. Undertaking and reporting qualitative research. *Clin Teach* 2016;**13**(3):175–182.

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