Focus on Methodology:
Eliciting rich data: A practical approach to writing semi-structured interview schedules

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Abstract

One of the aims of qualitative research is to seek deeper understandings of the human experience. Semi-structured interviews are one of the most common methods used to achieve this purpose. However, novices may find it difficult to write interview schedules that elicit the type of thick, rich description that forms the foundation of qualitative inquiry. This paper provides a practical approach to writing semi-structured interview schedules that use events as the basic building blocks of the interview. This approach suggests three steps: (1) considering which core event or series of events illustrate phenomena of interest, (2) ordering questions to optimise an intuitive and conversational flow and (3) refining the schedule through a series of review and piloting.

Introduction

In qualitative studies, researchers often seek to understand the human experience. Interviews are, therefore, one of the most common qualitative data collection methods in health professional education research. Other people's perspectives and experiences usefully inform how we conceptualise learning, teaching and other educationally-related social phenomena. Moreover, interviews offer a relatively easy way to collect data. This feasibility can also lead to problems, as interview studies are often seen as straightforward, and novices may begin interviewing participants without a broader understanding of what constitutes useful qualitative research data. In my experience, both as a novice and working with novices, "newbies" often make the mistake of asking a long list of questions that are interrogative rather than generative. This paper provides the "things I wish I'd known" about developing semi-structured interview schedules.

A semi-structured interview schedule is simply the list of topics and associated questions that the interviewer asks the participant. Writing this schedule is rarely the focus of methods papers, although it is almost always discussed in the many outstanding

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qualitative research references (see Box 1), including some that focus particularly on interviewing (Kvale, 2007) or others that describe approaches that necessarily concern interviewing (Charmaz, 2014; van Manen, 2016). However, in these works, the interview schedule is integrated into an overall qualitative approach that takes the reader through the intricacies of a particular approach. While this type of rigour is generally recommended, I have observed that the interview schedule causes problems, no matter whether a study is set within a particular qualitative tradition or particular theoretical framework or takes an evaluative approach. The consequence is that sometimes the interview schedule impedes the overall study by collecting the wrong sort of data.

Box 1
Useful Introductions to Qualitative Research

> Ng, S., Baker, L., Cristancho, S., Kennedy, T. J., & Lingard, L. (2019). Qualitative research in medical education: Methodologies and methods. In T. Stanwick, K. Forrest, B. C. O'Brien (Eds.), *Understanding medical education: Evidence, theory, and practice* (pp. 427–442). New York, NY: Wiley & Sons.
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> Braun, V., & Clarke, V. (2013). *Successful qualitative research: A practical guide for beginners*. London, England: Sage.
>
> Savin-Baden, M., & Major, H. M. (2013). *Qualitative research: The essential guide to theory and practice*. Abingdon, Oxon, England: Routledge.

The aim of this paper is to present a framework for preparing a semi-structured interview schedule. This paper is aimed at novice researchers intending to publish in the scholarly literature; therefore, I take the perspective of a researcher who is collecting data for an in-depth qualitative study. This is in contrast to an evaluation inquiry that focuses on program improvement, where other types of schedules may be more useful. In other words, this guide is intended to promote questions that "reach beyond the superficial layers of their experience in order to generate informative, novel accounts of the phenomenon of interest" (Schultze & Avital, 2011, p. 3). Therefore, I commence with a brief outline of what I mean by qualitative research and then situate interviewing and interview schedules within this. I then turn to what I find to be valuable properties of qualitative data, generally, before presenting practical steps for writing a schedule that elicits rich, thick description.

What is qualitative research?

Qualitative research can be considered "the systematic study of social phenomena, expressed in ways that *qualify*—describe, illuminate, explain, explore—the object of study" (Bearman, 2019). This includes "understanding the meanings, interpretations and subjective experiences of individuals" (Liamputtong, 2009, p. xi). For example,

qualitative research can answer questions of why a teenage girl might take up smoking, but it would not answer questions about how many girls smoke or at what age girls take up smoking or if the rate of teenage girl smoking falls when the price of cigarettes rise.

There is a diverse range of qualitative methodology labels, often containing multiple approaches within them. Some of the most common methodologies employed within medical education research are *grounded theory* (Charmaz, 2014; Strauss & Corbin, 1998), *phenomenology* (van Manen, 2016) and *ethnography* (Geertz, 1973). Note the difference here between methodology, which is defined as "a system of methods used in a particular area of study or activity" ("Methodology," 2019), and *method*, which is "a particular procedure for accomplishing or approaching something" ("Method," 2019). A broader discussion of qualitative research is outside the scope of this paper. See Box 1 for several useful introductory qualitative research texts.

Aiming for rich experiential data

An aspiration for qualitative researchers is to collect qualitative data that contains *thick description* (Geertz, 1973), sometimes also referred to as thick, rich data. As Schultze and Avital (2011) write:

> Thick description presents human behavior in a way that takes not only the physical and social context into account, but also the actors' intentionality. In this way, the meaning and significance of behaviors or events are made accessible to the reader. … Rich data, like rich soil, is also fertile and generative, capable of producing a diversity of new ideas and insights. (p. 3)

The emphasis on events or behaviours here is significant. Rich, thick data is *experiential* data (Schultze & Avital, 2011).

An individual's experience is very different from their opinion. So, for example, in a study about simulation, a participant might be asked, "What are your views of simulation as a learning method?" An answer might be, "It's great because I can practise skills before going into clinical practice, and this way I'll be less likely to harm someone". This information might be very useful as a guide to very practical questions about issues such as scheduling simulation before clinical placements, but it does not give a deeper insight into the social experience of learning. On the other hand, if the participant was asked, "What was your most powerful experience of simulation as a health professional?", they might respond with words similar to the following:

> The most powerful simulation experience goes back 31 years ago when I first began my nursing training and stays with me to this day. We were learning how to perform a bed bath and one of the students was the simulated patient. I was the first participant. As I began to wash my colleague she cried out "Gee you're rough". I immediately learnt a very important lesson in how to care for people and respect their bodies and realised what a privileged position I was in. I am now always told by my patients how gentle I am. (Bearman, Greenhill, & Nestel, 2019)

This latter example illuminates so much more about simulation and its place in the participant's life world. Through this example, we can not only understand that learning through simulation can reduce harm but the ways in which this has happened and how such learnings have resonated over decades.

In my view, a participant's recounting of events is the essential building block of qualitative interviewing. Through focusing on experience, the data contain both reconstructed facts and descriptions of the social meanings attached to these remembered events. Note the use of the term "reconstructed". It is important to acknowledge that interview data does not represent what happened but a perspective about what happened. Qualitative researchers both recognise the limits of any individual's perspective but also accept that these are not "one-off fabrications constructed to satisfy the interviewer" (Schultze & Avital, 2011, p. 5). In this way, experiential descriptions give a nod to the "science" of qualitative research by grounding the data in a particular time and place but also give a wink to the "social" aspect of qualitative research by acknowledging any qualitative data is interpreted by both participant and researcher.

Effective semi-structured interview schedules

As a qualitative researcher, I propose that effective interview questions generate rich, thick description. An effective schedule contains meaningful prompts that generate complex, nuanced thoughts and descriptions of the phenomenon of interest. In order to do this, such prompts must be relevant to the participants themselves—they must make sense and be relevant. Participants respond best when they are enjoying themselves, do not feel threatened or defensive and are clear about what they are being asked.

Open-ended questions are often the best way to produce these generative responses. As Michael Quinn Patton (2002) writes:

> Qualitative inquiry—strategically, philosophically, and therefore, methodologically—aims to minimize the imposition of predetermined responses when gathering data. It follows that questions should be asked in a truly open-ended fashion so people can respond in their words. (p. 53)

For example: "Did you have a positive learning experience in your first intensive care rotation?" is a very different question to "What is a recent example of a learning experience you had in the intensive care environment?" Refer to Box 2 for some heuristics around framing open-ended prompts.

Even open-ended questions can have *valence* (i.e., positive/negative directionality). It is important to be alive to the implications of your question and to determine whether you need to probe for alternatives. For example, consider an interview schedule that contains the prompt "Tell me about a time when a clinical teacher helped you learn". It is often very revelatory to include the alternative "Tell me about a time when a clinical teacher impeded your learning".

As Kvale (2017) points out, any interview is in fact an *inter-view*, an exchange of views. This means that, despite a well written schedule, participants may have very

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Box 2
Using Generative Pronouns in Qualitative Interviews

A general rule of thumb is to make an open-ended question by using the pronouns *what* or *how*. An associated notion is to prevent close-ended questions by avoiding *did*, *is* or *were*, unless paired with another question that allows a more open-ended response. The *how* and *what* phrasings allow the participants to respond as broadly and generatively as possible. Another useful starter for asking about a particular event, period of time or object is *Tell me about* …

Examples of open-ended questions (more generative)
- Tell me about a recent learning experience in your intensive care rotation.
- How did you come to know that intensive care was a possible career pathway?

Examples of closed questions (which lead to a yes/no answer)
- Did you have a positive learning experience in intensive care?
- Is intensive care a possible career pathway for you?

Sometimes you can pair closed and open questions. Indeed, sometimes, when we list closed questions in a schedule, we assume the implicit expansion afterwards. It is, however, useful to articulate the open-ended portion, particularly when you are a novice interviewer.

Example of closed–open pairs
- Did you have a positive learning experience in intensive care? Tell me about it.
- Is intensive care a possible career pathway for you? How did you come to know this?

different ideas about what is meaningful or important. Sometimes this means adjusting the interview to take account of participant characteristics, such as their age. I have frequently found when interviewing learners, that they may not be interested in your research focus. They may wish to simply tell you things that they think you wish or need to hear. For this reason, it is important to understand that conducting a semi-structured interview is frequently a matter of improvisation. It is full of moments where the interviewer needs to make judgements about what is significant and should be expanded and what particular thread to follow. Therefore, the most effective questions are ones that allow the interviewer to make these impromptu decisions, rather than the most beautifully phrased.

A step-wise approach for writing a semi-structured interview schedule

The approach I am presenting here is intended to generate a schedule that elicits rich experiential data. It can be used with many different methodologies that employ semi-structured interviewing. Indeed, much of it could be applied to open interviewing, where there is no schedule, or to structured interviewing, where the interviewer has no discretion around the phrasing once the questions are set. There are two key assumptions here. Firstly, I assume that the researcher has articulated the phenomenon of interest and has a clear understanding of the focus of the inquiry. This is usually captured in the research question or aim. Recent examples from the literature illustrate this articulation of phenomenon. For examples, qualitative studies are focussing on "health care professionals' experiences of conflicts" (Bochatay et al., 2019, p. 800) or "students'

interactive processes in [clinical workplace learning]" (King, Turpin, Green, & Schull, 2019). In both of these, the object of the study is clear and appropriately focused.

The second assumption that I am making is that the researcher is familiar with their overall study approach. For example, if you are employing a grounded theory approach, then you will know the tenets of grounded theory and its emphasis on iterations of analysis and interviewing (Charmaz, 2014). This is not something that can be retrofitted. Similarly, if you are drawing from a particular theoretical frame, then this is best outlined before crafting your interview schedule.

Writing an interview schedule

I will now outline three steps that I *often* (but not always) use when writing an interview schedule. I have listed these sequentially for novice researchers, but in reality, they often overlap or intermingle.

Step 1: Articulate questions around a core event or series of events that illustrate the phenomenon of interest

In my view, at the core of most productive research interviews are descriptions of lived experiences. To draw from our previous examples, these might include experiences of conflict in healthcare practice, how a hospital admission was communicated to a team or a particularly fruitful interaction within clinical workplace learning. Consider how you will elicit data about an actual experience. It's useful to provide a specific time frame. Moreover, recent experiences are much more likely to produce rich data, because the circumstances will be fresh in the memory. Particularly impactful experiences may also be very strong in the memory, or interviewers can request participants to bring objects to prompt their memories. For example, in a study of assessment design, we suggested that participants bring assessment artefacts to the interview (Bearman et al., 2017).

I start most interview schedules by brainstorming the questions that relate to this core experience. Types of questions start with the following types of stems: *Tell me about…, Where were you when …, Who was with you when …, What happened after …, What did you say or do when …, How did you feel when …, What reasons did you have for…* In this way, you chart out some of the core ideas that make up the phenomenon of interest.

At this stage, it is important to consider how to phrase the phenomenon of interest so that it will make sense to the participants. For example, an interviewee may have a great deal of trouble answering the question "How did your professional identity shift from being a student to being a nurse?" On the other hand, an interviewee may find it easy to respond to the request "Tell me about a moment when you really began to feel that you were a nurse".

Step 2: Finding an intuitive conversational structure

Kvale (2007) talks about the "dynamic" of an interview, explaining that an interviewer should aim to make it flow like natural conversation. One way to assist this is through

asking the questions in a way that feels like an intuitive order. I find it helpful to think of the schedule in three parts.

1. **Introduction**. This includes explanatory materials and consent but also the first couple of questions. Demographic questions can go in the introduction but sometimes are better in the closing sections.

2. **Exploration of the core phenomenon**. This is the heart of the interview, containing the questions brainstormed in the first section.

3. **Final reflections**. This allows for the most abstract questions, an opportunity for any comment the interviewee might care to make. It sometimes includes final demographics and details such as contacts for gift cards and so on.

While ordering is never a recipe, there are some useful ways to develop a dynamic sense of flow. I find that starting with good warm-up questions is critical, just like it is when you strike up any conversation. I've often found a very brief prompt around *how you came to be here* to be very useful. For example, "Tell me about how you came to be a general practitioner?" sets up the frame for a more extensive conversation.

Good warm-up questions have several qualities. They are easy for participants to answer and they provide information that helps the interviewer frame the next part of the interview. However, the interviewer must recognise that these are intended to be warm-up questions and be prepared to move on.

Once the warm-up questions are asked, I like to ask about the experiences of the core events, as described in Step 1. This moves the schedule into the substantive part of the interview and immediately anchors the discussion in concrete events that will illustrate what the researcher is asking. You can then move through a series of experiences that illuminate the phenomenon of interest, expanding as required. I often use "probes", which act as optional expansions for the interviewer. For example, the schedule might contain the question "Tell me about a moment when you really began to feel that you were a nurse?" Underneath this text, you might have a series of dot points to help the interviewer improvise expansions: *Where were you? Who was there? When in your training?* The probes may never be used—they are simply there to guide the sort of improvisations necessary for the rich, thick description.

My own preference is to start with concrete, accessible and easy-to-answer questions about experiences. Later, when the participant is at ease and a degree of rapport is established, it is more fruitful to ask more challenging and abstract questions. I also prefer short schedules—fewer questions that generate more productive answers.

Lastly, the final reflections are often the most generative part of the interview. Often, they give the interviewee an opportunity to think about what has been said overall or describe additional experiences or insights that have come to mind. An option for open comment is an important closing question that is in line with Patton's (2002) observation that predetermined responses should be minimised.

Step 3: Refine the schedule

It is inevitable that some of the questions that you initially craft may feel perfect but don't work as well as you think they will. As mentioned, participants have very different perspectives, and they may simply not respond to what you are asking. This is one of the reasons it is so critical to pilot the schedule with people who are similar to those you will be questioning. If you have a very small pool of respondents, however, it is best to make sure that you don't take from these to complete your pilot. When you pilot your schedule, be sure to ask your pilot participants to evaluate the questions. Pilot participants can help with rewording or identifying potential misunderstandings. Record the pilot and review it to identify dead or weak spots. If you possibly can, pilot multiple times, making adjustments between each.

Example of an annotated schedule

When designing interview schedules, it is very useful to find others that people have used. They are often published within papers but sometimes in truncated form. However, keep in mind that it can be difficult to assess the reasons behind particular question choices. I've provided an annotated example, which I've put together in line with the framework and heuristics introduced in this paper. See Box 3 for a summary of 10 heuristics mentioned in the text thus far.

Box 3
Ten Heuristics for Interview Schedules That Elicit Rich Data

1. Know your phenomenon of interest.
2. Aim for experiences more than opinions.
3. Start with a good warm-up question.
4. Brainstorm around the experiences you want to know about.
5. Use open-ended questions.
6. Consider the valence of your questions.
7. Leave space for interviewers to improvise; probes can help.
8. Start concrete and easy, finish with abstract and hard.
9. Final reflections offer opportunities for interviewee open comment.
10. Pilot, adjust the schedule and pilot again.

The example schedule in Table 1 is based on an imagined study of health professional students' use of social media. This is a qualitative study of how social media use impacts upon learning rather than a quantitative study that might, for instance, describe the prevalence of social media use in health professions courses. The research question is "How does social media influence health professional students' learning?" The imagined sample is Australian university students enrolled in health professional degrees—multi-professional and multi-institutional. Table 1 provides a suggested schedule for a 30- to 45-minute interview along with the rationale for the choice of questions. Note that this is pre-pilot, the questions would definitely change after piloting, in particular, to take account of participant language around social media platforms.

Table 1
Example Interview Schedule

Schedule	Rationale
Thank you so much for agreeing to this interview. We've got a few questions for you around social media and your studies. <Check consent and start recording.>	Useful to have some text up front to act as an aide-de-memoir to check consent or any other logistics. If many people are conducting the interviews then this text becomes more significant.
1. How are you finding your studies? • Check year level and profession mentioned.	This is a warm-up question but also allows the interviewer to confirm the course and level. Provides a sense of the student's relationship with their course and even with their chosen profession. Can record this in demographic checklist.
2. I'm guessing you use social media in some form. Tell me about which platforms you use. • Twitter, Facebook, Instagram, Snapchat, Tiktok, etc. 3. What main platforms do you use with respect to your study?	Still in warm-up mode but also giving the interviewer a sense of how the participant uses social media.
4. Thinking back over the last month, tell me about a time where <main social media platform(s)> helped you with your studies? Probes: What happened? Where were you? Who did you connect with? How did it help?	First substantive experience question. Because social media is quite abstract, might need a bit of probing to fill in detail. The "how did it help?" is the most significant probe if the participant is finding it tricky to answer the question.
5. If relevant: What reasons did you have for using <main social media platform(s)> to help you with your studies?	This probes deliberate use of social media versus incidental.
6. How typical is this scenario? What other ways does social media help your studies?	This gives a sense of whether this experience is normal and plants the opportunity to provide a range of other experiences.
7. In the last month, can you think of a time when <favourite social media platform> interfered with your studies? Probes: What happened? Where were you? Who did you connect with? How did it interfere? 8. How typical is this scenario? What other ways do social media impede your studies?	These questions are about balancing the valence—both positive and negative influences.
9. Thinking back over the last year of your studies. Tell me about a meaningful connection that you have made through social media (with respect to study)? Probes: (if stuck): How about influencers? Any friends that you already connect with? Probe: (if a particular connection is raised): Tell me about how that developed? What happened next?	This question is a more challenging one because it is asking the interviewee to disclose something that may be more personal (i.e., "meaningful"), therefore, it is closer to the end of the schedule.

Table 1
Example Interview Schedule (contd.)

Schedule	Rationale
10. Reflecting on what we've discussed, what role does social media play overall in your learning as a health professional student?	This question is a more abstract one and allows the interviewee to discuss more broadly.
11. Anything else you'd care to add?	Opportunity for the interviewee to give open comment on the topic—can garner very rich data.
12. Record/confirm other demographics for checklist: Age bracket? First degree? Domestic or international? (Record gender).	I like a little pro-forma to accompany the schedule that the interviewer fills out, covering the basics. Questions such as asking about age can interrupt the conversational flow of the interview so are often better at the end.

Limitations

There are considerable limitations to this paper. Most pressingly, I have framed the interview schedule as something that is not contextualised by the researchers' views of reality, knowledge, theory or methodology. Please refer to the qualitative texts in Box 1 to assist with how these might frame your study and, hence, your interview schedule. It is also worth noting that this approach is framed by my own experiences and expertise in qualitative research. If I were to write a guide about writing interviews for qualitative program evaluation, where understanding opinion is more important, then the approach would be a little different.

Conclusions

This practical paper has outlined means to write semi-structured interview schedules that generate rich, thick description. The aspiration is the generation of rich experiential data that can illuminate phenomena of interest. While I have provided a range of steps, heuristics and examples, there are no recipes for writing good semi-structured interviews. Every research project is different, however, there may be some useful concepts and approaches that will be of value to many novice researchers.

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