How To Write and Represent Qualitative Data

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Undertaking a piece of qualitative research can be an exciting, stimulating and thought-provoking exercise. It can enable the exploration of complex phenomena relating to aspects of medical education, patient perceptions and policy implementations. However, it may also prove to be an extremely stressful and time-consuming activity, requiring high levels of commitment. Having embarked upon a piece of qualitative research, the novice researcher will find that each of these elements very soon becomes apparent and perhaps none more so than the fact that qualitative enquiry generates huge volumes of data. For example, a one-to-one interview lasting an hour can typically generate 25-30 pages of transcript. Often these data are unwieldy, and the role of the researcher is to 'make sense' of them. This means imposing meaning, via a process of coding and analysis, of what has been captured.

A central element of any research, once completed, is that it should be communicated to others. Crucially then, the work needs to be written and disseminated to as wide an audience as possible, in order to share its insights. While there are a number of different outlets for the dissemination of research findings with different audiences and style conventions, in order to do justice to the findings, there is a universal need to provide a clear, detailed account of the 'what', 'why' and the 'how' of the study. However, the ways in which qualitative studies are written require a very different approach than that adopted for writing up quantitative work. In part this is because in a qualitative study, writing is an integral part of the analysis. The ways in which the research findings are communicated can be seen as a continuation of the reflexive process that will have informed the study as a whole.

Importantly, the qualitative writing-up process recognises and acknowledges that the 'facts' created during empirical research are socially mediated. It is essential, therefore, to make explicit in the writing, the ways in which our own prejudices and preconceptions inform and shape both the research activity and its interpretations. This will allow for the account to make visible the subjective nature of the work and the concomitant partiality of the version that is produced. Consequently, writing up qualitative research needs to be approached in such a way as to ensure that the research process is adequately described. The assumptions made about the setting, the participants, and the events should all be recorded, and the methods used to collect the data should be adequately defined. This clarity of reporting will enable others to understand the research process and interpret the findings for themselves. Crucially too, the writing process itself allows the researcher to focus on the data that have been generated by the study, and to think about the connections that can be made both within and between them and the extant literatures.

The wider research community relies on the ability of researchers to provide a clear and transparent account of their own work which will withstand the scrutiny of

others. It is important, therefore, to include sufficient detail on both the research design and the research process. This will enable the reader to fully appreciate the rigour of the design and its implementation, and to better understand how the data have been analysed and theorised. With a qualitative study, the ideal time to begin to think about the writing process will be at the very onset of the project. It is important to keep a research diary to record the choices that are faced and the decisions that are made, together with the justifications for them as they arise. This is not only good research practice, but it also makes the reporting much simpler, since over the course of the study forgetting why something was done, or not done, is very easy.

Formal guidelines for writing up quantitative studies have been available for a number of years (e.g. CONSORT[1], QUOROM[2], and MOOSE[3]) and are widely used by researchers to structure their accounts and help readers to gain a better understanding of the nature of the processes underpinning the research. More recently, Tong et al.[4] have developed a set of criteria to allow for the explicit reporting of qualitative studies. Although initially intended for the reporting of studies using in-depth interviews and focus groups, they can also be adapted for other qualitative designs. Some academic journals specifically advocate the application of these criteria to papers being submitted for their consideration, but the framework also works well in providing a general checklist for the reporting of all qualitative research. A detailed framework (based on Tong et al.'s work) is presented below to illustrate the key elements of the research process that should be included in the write up of a qualitative study:

1. The Research Team and Reflexivity
Reflexivity is the process whereby the social scientist becomes self-consciously aware of the ways in which social interactions are all inextricably interwoven in the social world. The concept of reflexivity needs to be utilised throughout the research, from design to writing up. Put into practice, reflexivity requires the researcher to reflect on their own biography, and to make visible their role as researcher, the type of interactions they have, and the theoretical and empirical data that are gathered throughout the research as a consequence. Including these reflections in accounts of qualitative research can add to the reliability and the validity of the study.

A reflexive tone should facilitate the production of a clear description of all aspects of a study. This should include a detailed report of everyone involved in the design and implementation of the study: who they are, their credentials and the roles played by each should be noted. The nature of researchers' relationships with participants should also be highlighted, alongside the level of disclosure afforded to participants about the nature and purpose of the study. It is important to state clearly *who* conducted the interviews or focus groups, their credentials, their gender, occupation and their relationships to participants. For example, if data have been collected by a consultant through interviewing a group of trainees, this needs to be made explicit in the account. The possible biases and the impact that such a power differential might have on the data generation and interpretation would need to be made visible and reflected upon in the account.

2. The Study Design

The account should include discussions of the theoretical framework that has informed the study. The methodological orientation underpinning the design of the research should also be explained, for example, whether it has taken a grounded theory, content analysis or ethnographic approach. In relation to participants, the methods of selection and recruitment, and the resultant sampling frame and sample size all need to be clear. The research setting should be explained, including a description of the decisions that informed the choice of location and the timing of the study.

3. The Data Collection

For research using interview data, it is important to include a copy of the interview guide and any prompts that were used, to allow the reader to appreciate the nature and tone of the questions asked. The setting and duration of the interviews, focus-groups, or other means of data collection, should be clearly stated together with a rationale justifying this approach. Similarly, the account should detail how the data were recorded, for example whether or not an audio or video recording was made. If field notes were taken, readers should know whether these were made during and/or after the data were collected, and how they were used to inform the account. Researchers should also indicate whether the study aimed to reach data saturation - where data are collected until no new themes emerge - and whether or not this was achieved. The account should also address the issue of member checking, or respondent validation - a technique used to help researchers to improve the accuracy, credibility, validity, and transferability of a study - and indicate whether this was offered to participants.

4. The Analysis and Findings

It is essential in any written report to provide a clear account of the ways in which the data were analysed, to allow the reader to follow the process, and to satisfy themselves as to the ways in which themes were derived. Importantly, this includes an indication of whether analytic themes were identified in advance, were derived from the data, or a mixture of both. The coding process should therefore be transparently and explicitly written, to include the number of coders, a description of the coding tree, and the coding method adopted. The account should also indicate whether the data were coded manually, or if assistive coding software was used, and, if so what version.

5. The Reporting

The ways in which qualitative data are reported in the written account are crucial. Decisions regarding the prioritising of messages and themes will primarily be shaped by the research questions and the focus of the study, but it is vital that the researcher is aware of dissenting voices in the data and is explicit in showing how much room they have been afforded in the analysis and the account. When writing up a qualitative study, the centrality of the participant voice is paramount as it adds to both the transparency and the authenticity of the piece. However, it is vital to link quotations to the theorising that has shaped the analysis, and to use these texts as

illustrative of the emergent themes. It is not enough to simply report that '*medical students really enjoy ward*-based sessions and learn from them' and support this statement with a quote from '*Andrew, a fourth year undergraduate*', who said "ward based placements are really beneficial, I get a lot out of them, they consolidate what I have read and heard in lectures and stuff". This is journalism, and, lacking sufficient rigour for a piece of academic research, has no place in a scholarly account of a qualitative investigation. Rather, efforts should be made to demonstrate how themes from the research data can be explored and explained, by accessing appropriate literature and drawing on a variety of theoretical perspectives. Returning to our example, it is better to use the quote to support emergent themes that could be discussed in relation to theories of experiential learning (e.g. Kolb[5]), and Lave and Wenger's[6] work on communities of practice. This enables the reader to appreciate the ways in which an analytic lens has been utilised to explore and explain the comments captured in the data.

6. Clarity of Account
Ensure that the there is a clear structure to your writing and the account provides the context and justification for the research. Remember the audience that you are aiming for and ensure that you write in a way that is easily accessible and readily understandable for them. When presenting findings, it is important to illustrate clearly what has been discovered in the study, emphasizing what is relevant, interesting and perhaps even surprising. There needs to be consistency between your data and findings, alongside a description of any decisions you have made regarding how to manage diverse cases and whether they are included or excluded from the account.

The use of checklists, such as the one discussed above, provide a useful aid for both reading the work of others, and for structuring your own writing. It is helpful to use such a framework to ensure that you have not omitted discussion of a key element in your account; familiarity with your own study can sometimes lead to taken for granted assumptions that others will know intuitively how the research was conducted. This is never the case! The reader needs to be presented with a clear, detailed and logical account of your work, in order to understand what was done, and perhaps even replicate the study in their own setting at some later date.

Once the project is completed, there are any number of different ways in which to communicate your research to others including, presentations, posters, workshops, academic papers, or reports and fact sheets. All offer access to different audiences and can serve different aims. There is an article on writing for publication available in the Cardiff 'How To' Series[4], which can be accessed online and which may prove a useful adjunct to this piece. Decisions as to where to disseminate the work will be determined by the target audience, the purpose of the study, current debates around the topic, or perhaps policy drivers. However, the content and writing style of each will differ widely in response to the different audiences.

Remember that writing is seldom easy. For most authors, getting started is difficult and the blank screen or empty page is daunting. However, writing is not just an adjunct to the research process, but rather an integral part of it. You need to think clearly and carefully about how you will craft your writing in order to disseminate your findings and engage as wide an audience as possible. Time spent on this planning stage is not wasted, rather it can help clarify your ideas and help ensure that what you write is coherent, well-structured and appropriately referenced. Try to map out your text   such that there is a logical flow and think about the take home message you want to get across. Can you convey it in one sentence? Think of your intended audience and consider the issues that are important to them. If you cannot describe your message clearly your writing will be disorganised and your attempts to produce a text will probably fail. It is often helpful to consider the following; why did I start, what did I do, what did I find and what does it mean? Now you can begin to draft your text, keeping in mind any style and layout conventions that a journal, for example, might have.

It's important to find a writing routine that works for you, but some strategies, which may prove helpful include;

- Writing a draft structure which lists each of the section headings for discussion.
- Leave the introduction to the end – it is much easier to describe what the study is all about once you have completed it. Start with a section that you find straightforward or most interesting; it could be the literature review or a discussion of your methods.
- Think of your target audience and what you want them to take from the piece.
- Have a clear time line so that you work to short, regular deadlines.
- Write little but write often. This way the work is more manageable and the writing process enables you to refine your thinking as you work.
- Be prepared to draft and redraft – this will enable you to get your thoughts down on paper and then to work on them until they actually say what you want to say. You can then polish the piece so that it is well written – Delamont[8] has some excellent advice on writing, including twenty rules for good writing, which are both practical and humorous.

Qualitative researchers need to recognise and acknowledge that all accounts are partial, since the researching of social words is influenced and mediated by a variety of social factors, which include research relationships, biases and interpretations. Qualitative text seek to represent a particular version of the world and in so doing their aim is to persuade their readers as to the authenticity of the account, whilst acknowledging its partiality. The constant reading and re–reading of ethnographic texts from established researchers in the field can help those more novice researchers to shape the formation of their work and ensure that they produce a stylistic, accessible and credible piece of writing.

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