WRITING QUALITATIVE REPORTS--COREQ

by Simon Moss

Introduction

At schools and universities, students often learn how to write scientific reports. Fewer students, however, learn how to write reports that present qualitative research (for a helpful document, see Levitt et al., 2018) To learn how to write these reports, you should

* scrutinize and emulate other papers, preferably in your discipline, that have applied the same theoretical perspective and methodology
* read this document—a document that outlines some of the information that writers should include in these reports.

In practice, writers often construct the method, results, introduction, discussion, abstract, and title in this order. When they write the methods and results, writers do not have to reach too many choices: These sections are thus easier to write. After they write these sections, the insights that writers accrue over time can enhance their capacity to write the introduction and discussion. Nevertheless, in this document, we will discuss each section in the order they appear in a report.

**Title, abstract, and introduction**

For several reasons, the main purpose of the introducton and literature review differs between quantitative and qualitative research. For example, in contrast to quantitative research, when conducting qualitative research

* researchers almost never propose hypotheses; the literature review, therefore, is not written to justify hypotheses
* for some approaches, researchers do not read the literature comprehensively before conducting the study, because they do not want the literature to bias their interpretations
* researchers are often exploring a phenomenon that has seldom been subjected to research before

Consequently, the introducton and literature review in quantitative and qualitative reports differ fundamentally from one another. The following table presents some of the information that writers should include while constructing a qualitative report.

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| Information to include | Brief example |
| **Title and abstract** |  |
| In the title   * refer to the key problem * allude to the main topics that were explored to solve this problem | Misconceptions in Australian universities about the needs and preferences of International HDR candidates |
| In the abstract,   * summarize the problem * outline the purpose of this study * allude to the methodology that was adopted * summarize the source of data, the setting or community, and the topics explored while collecting data * outline the key themes and concepts that emerged—as well as associations between these themes or concepts * outline the implications of these results | International HDR candidates often experience problems with adjusting to the culture and expectations of Australian supervisors. The aim of this study was to compare the initiatives that universities have introduced to resolve this problem with the preferences of international HDR candidates. From the perspective of critical theories, we subjected data derived from 149 university emails and 10 interviews with international students to grounded theory. As the findings show, over time, universities have learned to dedicate more resources to training in writing and critical thinking. However, the international students are more concerned about the hubris that supervisors demonstrate and would prefer these supervisors receive more training in cultural humility rather than cultural competence. Universities might thus need to adjust the culture of supervision training to address this shortfall. |
| **Introduction and literature review** |  |
| Highlight the problem the study was intended to solve. You could refer to   * relevant statistics * one or more case studies * a personal narrative * a paradox or contradiction in the literature | Last year, over 30% of international HDR candidates reported elevated levels of distress. Almost half these individuals had contemplated suicide—almost twice the levels that were reported in their domestic counterparts. |
| Review initial attempts to solve this problem, such as a few relevant   * theories * findings * practice or interventions | To assist international students, researchers have applied acculturation theory and adjustment theory to uncover practices that might facilitate these transitions. For example, during one program, called Adjust, international students are encouraged to consider how their strengths and interests are relevant to their future aspirations. According to adjustment theory, this exercise should enhance their receptivity to diverse experiences and facilitate their adjustment. |
| Highlight the limitations of these attempts—as well as purported solutions to these limitations | Unfortunately, this program seems to benefit undergraduate or postgraduate coursework students but not HDR candidates. HDR candidates experience some challenges that are specific to their status, such as feelings of isolation not only from their family but from peers as well.  Several organizations have delivered programs that redress this isolation from peers. For example, one organization developed an app that helps international HDR candidates, from many universities, connect to peers in their city and discipline. |
| Outline the limitations of these solutions—especially limitations that justify your study—such as how   * past solutions have not been applied to the community or setting that you want study * the community or setting might benefit from a distinct solution or perspective | Nevertheless, as research shows, these opportunities do not seem to diminish the impact of challenging supervisory relationships on wellbeing. If students do not feel their supervisors are unsupportive, the benefits of other initiatives tend to be negligible. |
| Delineate the purpose, goals, aims, or research questions of your study   * perhaps specify how this study diverges from past research | The purpose of this study was to identify discrepancies between the initiatives that universities have implemented to assist international HDR candidates and the needs or preferences of these students. Previous studies have not explored whether university practices resonate with the needs of these students. |

**Method**

The method tends to be longer in qualitative studies than quantitative studies. Specifically, besides outlining the actual procedures, qualitative researchers often write quite a few paragraphs that delineate and justify the theoretical perspective, the methodology, and the procedures that applied to enhance the integrity of their conclusions.

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| Information to include | Brief example |
| **Overview of the method** |  |
| Describe, and perhaps justify, the theoretical perspective, such as symbolic interactionalism critical theory, pragmatism, or postmodernism   * Perhaps indicate how this theoretical perspective is relevant to purpose of this study | Critical race theory underpinned this program. This theory underscores how existing power structures could disadvantage specific races, ethnicities, or communities and is thus germane to this study. |
| Describe, and perhaps justify, the methodology, such as grounded theory, case study, or ethnography (\*) | We decided to apply constructivist grounded theory to guide the collection, extraction, analysis, and interpretation of data. This methodology was chosen because we wanted to characterize the sequence of interventions and experiences over time. |
| **Research position statement** |  |
| Describe facets of your background that are relevant to this study. You might refer to   * your culture or demographics * personal adversities and experiences (\*) * your career or skills (\*) * your credentials (\*) | Dr David Madeup, PhD, the lead investigator, became concerned about the support of International HDR candidates after conducting a survey into their needs, as part of my role as Dean of Graduate Studies. He then met with several distressed students and learned that some previous initiatives had actually magnified their problems. |
| Clarify how this background shaped your preconceptions about the topic you want to study. That is, specify the assumptions you had formed before you collected data | Because Dr Madeup was exposed to this distress, the ensuing feelings and emotions he experienced could bias his attention towards the inadequacies of existing programs. |
| Specify how you attempted to diminish the extent to which these assumptions biased your study. You might refer to   * seeking data that contradicts your beliefs * organizing other researchers to check your coding and interpretations * questioning the accuracy of your assumptions * bracketing | To nullify the impact of this bias, he asked independent academics to assess whether his interview questions may have shaped the answers of informants and whether his interpretations match the codes. In addition, he asked a range of stakeholders, including academic administrators and international students, to evaluate his conclusions. |
| **Participants and other sources of data** |  |
| Specify the number or amount of data sources (\*), such as   * the number of participants interviewed * the number of participants who refused to participate (\*) * the number of documents analyzed * the duration in which a setting was observed | For this study, 10 of the 50 informants who were invited attended interviews. Furthermore, we extracted data from 14 relevant policies about HDR, 18 leaflets or advertisements of programs intended to assist international HDR candidates, and 149 emails between distinct unit in the university, written to discuss these programs. |
| Why did you choose this number?   * Was this number sufficient for theoretical saturation—and how was saturation assessed (\*) ? * Or did logistical constraints limit this number? | To uncover these leaflets or advertisements of programs, we scanned all advertising material that had been archived by the Marketing Department since 2010. To identify the emails, after seeking approval from the university Human Research Ethics Committee, we contacted relevant staff and invite these individuals to send us de-identified emails about these programs. |
| Delineate the characteristics of the participants, often in tabular form (\*). For example   * What is the sex, age, and culture of participants; include other demographics that could affect the results | Dr Madeup conducted interviews with 7 international HDR candidates and 1 focus group, each comprising 8 students. Dr Concocted interviewed 3 other HDR candidates. |
| Indicate whether you, or other researchers, had formed a relationship with the participants before the study (\*)   * If so, could this relationship affect the responses? * What information might the participants have known about the researchers? (\*) * How did you attempt to diminish this effect? | Dr Madeup had met only one of the HDR candidates before. Therefore, he organized another academic to interview this student and two other students as well. |
| **Recruitment of data sources** |  |
| Which media did you use to recruit the participants, access the documents, or organize observations? (\*) Did you utilize   * personal contacts * emails * advertisements on social or other media * commercial panels | To recruit informants, we emailed an invitation to all international HDR candidates at this university. We also posted advertisements in the international student lounge. |
| Specify the incentives you offered, if any, such as   * payment of participants * other services to organizations that agree to assist? | None of the informants were paid. |
| Outline how you described the purpose of this study to participants | Informants were told the study was designed to explore the needs and preferences of International HDR candidates. We did not, however, emphasize the aim of this research was to uncover contrasts between programs the university has planned to implement and the needs of students, because we did not want to bias their answers. |
| Indicate, if possible, the proportion of individuals who refused invitations to participate or assist—as well as whether people withdrew from the study prematurely (\*) | Of the 80 students who received an email invitation to participate, 20 expressed some interest. In the end, only 12 students arranged a meeting to be interviewed |
| **Selection of data sources** |  |
| Specify how you decided which participants or sources to select (\*)   * Did you utilize purpose sampling method such as maximizing variability on some characteristic? * Did you utilize convenience or snowball selection? * Did you utilize theoretical sampling? * Did you utilize a variety of sampling methods? |  |
| Indicate other inclusion criteria, exclusion criteria, or both. | We excluded students who had studied at other universities in Australia, because these individuals are likely to experience a distinct profile of needs. Because of this criterion, we excluded 2 of the 12 students who expressed interest. |
| Clarify the setting in which interviews, focus groups, observations, or other procedures were applied?   * For example, were interviews conducted at a university, at the home of participants, over telephone, over videoconference, and so forth | The interviews were conducted in a private room within the university building. However, two interviews were conducted over Skype because the informants could not attend the university during the period in which the interviews were conducted |
| **Data collection** |  |
| Refer to the form of data that were collected, such as interviews, surveys, observations, or text | Semi-structured interviews were conducted. The questions were open-ended but we did not necessarily ask every question in each interview. We attempted to ask the most tangible and important questions first—but, simultaneously, strived to delay the sensitive questions until later. We complemented these questions with prompts. |
| Specify the protocols or guidelines that were used to collect the data, such as   * interview schedules (\*)—and how these interview schedules were pilot tested (\*) * the number of times each participant was interviewed if more than once (\*) * templates to describe or record observations * principles applied—such as the use of closed ended, and then open ended, questions | We constructed 10 questions before the interview on the problems that students experienced during the transition to university, how they resolved these problems, and how the university could prevent or address these problems better. We conducted 3 interviews during a pilot study to evaluate and refine these questions in response to the feedback of these individuals.  We also constructed a template to extract data from the emails. In particular, the template comprised 10 fields, such as motivation for the program and concerns about the program. We then pasted responses that apply to these topics in the corresponding field or column of a spreadsheet. |
| If possible, clarify how you developed these protocols or guidelines. For example,   * did you adapt the questions from a previous study? | The interview questions were extracted from several previous studies, including Smith (2010), Jones (2011), and Brown (2012) |
| Clarify how these protocols or guidelines evolved over time. For example   * summarize how the interview questions changed over time as the themes evolved | After we decided to confine the research to the inflexibility of these programs, we adjusted the interview schedule and interviewed three participants again. Specifically, we added three additional questions around how the university responded to the specific concerns that international students expressed. |
| Describe the data collection procedures, such as   * the duration of interviews or observations—such as the mean, standard deviation, and range (\*) * the setting in which the data were collected (\*) including the individuals in the vicinity (\*) * which authors conducted the interviews, observations, and so forth (\*)—as well as the gender of these authors (\*) * whether other people assisted | As Table 1 shows, the interviews lasted 65 minutes on average and ranged from 30 to 95 minutes (std = 7.3 min). All interviews were conducted in a secluded, private room at the university. |
| Specify the procedures that were utilized to improve the data collection procedures, such as   * reflexivity in memos, diaries, journals, and field notes * the training that researchers received (\*) | While coding the data and constructing themes, we recorded all reflections in memos. Later, we collected all memos that relate to each theme or concept. |
| Clarify how the data were recorded and transcribed, such as   * audio and visual recording methods (\*) * field notes (\*) * transcription services | To facilitate transcription, we initially utilized Dragon Speech Recognition Software to generate a provisional transcript. Dr Madeup then listened to the audio to correct these transcripts. |
| **Techniques to analyze data** |  |
| Describe, as precisely as possible, how the data was coded. For example   * Did the researchers code all the transcribed data? * Or did the researchers code only a sample of data before seeking broader themes * How many individuals coded the data (\*) | Dr Madeup subjected all the data to open coding before beginning axial coding. |
| Specify how these codes were converted to broader themes, categories, and so forth.   * Did the researchers utilize an a priori taxonomy or scheme? (\*) * If so, how was this scheme developed? * Did the authors develop a coding map or tree? (\*) | Dr Madeup then sorted all the codes into clusters of similar notions, generating eight clusters. Then… |
| Justify these procedures. For example, refer to papers or techniques that were followed, such as thematic analysis |  |
| Present some examples or illustrations to demonstrate these procedures |  |
| If other researchers contributed, outline the procedures that were applied to optimize their performance   * What training did they receive? * How were these individuals selected? |  |
| Specify which software was utilized if any (\*) | To convert the transcriptions to codes, and then to relate these codes to broader concepts, we utilized NVivo 12.1 |
| **Procedures to enhance trustworthiness** |  |
| Delineate the methods that were used to improve the degree to which the results are trustworthy, such as   * asking the participants or communities to evaluate the results called checking (\*) * techniques to promote or assess honesty in participants, such as iterative probing * audit trials that record and justify all decisions * engagement with the community or culture before collecting data * triangulation or use of several methods | We constructed an interim report to outline the key findings and conclusions. We then distributed this interim report to a random sample of 10 international HDR candidates, 3 research administrators, 2 staff members from the international office, and 3 individuals who had implemented relevant programs. We asked these individuals to underline findings or conclusions that deviated from their expectations. For each of these findings and conclusions, we sought data that either contradict or confirm the finding or conclusion…. |

(\*) indicates the item is mandatory, according to COREQ, the consolidated criteria for reporting qualitative studies.

**Results and Discussion**

To construct the results and to a lesser extent, the discussion, writers can be creative. They can uncover creative tables, figures, and other devices to present their findings as concisely, precisely, and engagingly as possible. Yet, they should also follow some common guidelines, as presented in the following table.

|  |  |
| --- | --- |
| Information to include | Brief example |
| **Results** |  |
| Present the key research findings. For example   * delineate and describe the main themes or categories that emerged (\*) * discuss the associations between these themes or categories * convey the narratives or stories that emerged | We derived from six concepts from the international HDR candidates. First, students felt that supervisors often imposed blunt rather than nuanced stereotypes. For example, they assumed that students from Indonesia do not likely to question authorities, but were oblivious to the boundaries, subtleties, and diversity of this tendency… |
| Include findings that contradict or complicate the key themes, categories, or narrative (\*). For example   * specify the extent to which data contradict some of the themes, categories, and associations * attempt to reconcile these contradictions—perhaps by developing more nuanced themes and categories * specify the proportion of discrepancies across coders or researchers in this study—and clarify how these discrepancies were resolved | In contrast to these concepts, two students believed the programs the university had implemented match the needs of students. These responses are consistent with the notion that programs are designed to address the most prevalent concerns of international HDR candidates—rather than cater to the needs of distinct students. Occasionally, this focus on prevalent concerns will match the needs of specific students… |
| Insert evidence to substantiate and clarify these findings (\*), such as   * relevant quotes from participants (\*) * excerpts from texts or field notes |  |
| If applicable, present figures or tables that synthesize diverse findings, such as   * a model that shows how the various concepts are associated with each other * a table that summarizes the key features of each theme, illustrative quotes, or both * photographs or links to videos | Figure 1 presents the theory we developed that shows how these concepts are related to one another. Specifically… |
| **Discussion** |  |
| Summarize the key problem, methods, and findings, such as the main themes, concepts, or associations |  |
| Clarify how the key findings substantiate or contradict past theories and assumptions |  |
| Clarify how the key findings resemble or diverge from previous results |  |
| Explain both the key findings and deviations between these findings and past research |  |
| Consider alternative explanations |  |
| Outline the strengths and limitations of this study   * summarize the procedures that were used to improve trustworthiness * summarize the unique contributions * consider reasons the results might be biased or unrepresentative of the target population |  |
| Specify why the conclusions might or might not generalize to similar communities or settings | Yet, for several reasons, these conclusions might not generalize to other universities. First, many of these problems can be ascribed to the limited number of international HDR candidates at this university. These results, therefore, might not apply to larger universities. Second… |
| If relevant, discuss some ethical challenges that unfolded—and how these challenges could be managed better in the future |  |
| Conclude with a discussion on the implications of this study to future research, policy, and practice |  |

**Controversies and variations**

How you write a qualitative report partly depends on the theoretical perspective, methodology, discipline, journal, and other considerations. The following table outlines some features of reports that vary across authors and need to be considered carefully.

|  |  |
| --- | --- |
| Variation | Considerations |
| **First person versus third person**. Should you write in first person, such as “I conducted two interviews” or third person, such as “Three interviews were conducted”. | To decide whether to use first person or third person, consider the following principles   * As a general rule in qualitative research, first person is preferable—particularly if the research is constructivist. * But, you might need to use first person if this style is significantly more common in the target journal or discipline |

**COREQ: The Consolidated Criteria for Reporting Qualitative Studies**

Tong, Sainsbury, and Craig (2007) developed a checklist, called COREQ that stipulates 32 principles that qualitative researchers should observe as they construct their report. This set of standards is especially pertinent to researchers who conduct interviews and focus groups. Although the previous sections in this document have already addressed most of these criteria, you should nevertheless familiarize yourself with COREQ. This checklist is presented in the following display.

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Graphical user interface, text, application

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**References**

Levitt, H. M., Bamberg, M., Creswell, J. W., Frost, D. M., Josselson, R., Suárez-Orozco, C. (2018). Journal article reporting standards for qualitative primary, qualitative meta-analytic, and mixed methods research in psychology: The APA publications and communications board task force report. American Psychologist, 73(1), 26-46. doi: 10.1037/amp0000151

Tong, A., Sainsbury, P., & Craig, J. (2007). Consolidated criteria for reporting qualitative research (COREQ): a 32-item checklist for interviews and focus groups. International journal for quality in health care, 19(6), 349-357.