CHAPTER   17
Writing a Research Report

In this chapter you will learn about:

- How to write a research report
- How to develop an outline for your research report
- Writing about a variable
- Different referencing systems
- How to write a bibliography

Keywords: *association, bibliography, intellectual rigour, non-spurious, outline, referencing, spurious, variable, verifiability.*

Writing a research report

The last step in the research process is writing the research report. Each step of the process is important for a valid study, as negligence at any stage will affect the quality of not just that part but the whole study. In a way, this last step is the most crucial as it is through the report that the findings of the study and their implications are communicated to your supervisor and readers. Most people will not be aware of the amount and quality of work that has gone into your study. While much hard work and care may have been put into every stage of the research, all readers see is the report. Therefore, the whole enterprise can be spoiled if the report is not well written. As Burns writes, 'extremely valuable and interesting practical work may be spoiled at the last minute by a student who is not able to communicate the results easily' (1997: 229).

In addition to your understanding of research methodology, the quality of the report depends upon such things as your written communication skills and clarity of thought, your ability to express thoughts in a logical and sequential manner, and your knowledge base of the subject area. Another important determinant is your experience in research writing: the more experience you acquire, the more effective you will become in writing a research report. The use of statistical procedures will reinforce the validity of your conclusions and arguments as they enable you to establish if an observed association is due to chance or otherwise (i.e. whether a relationship is spurious or non-spurious) and indicate the strength of an association so readers can place confidence in your findings. The use of graphs to present the

findings, though not essential, will make the information more easily understood by readers. As stated in the previous chapter, whether or not graphs are used depends upon the purpose for which the findings are to be used.

The main difference between research and other writing is in the degree of control, rigorousness and caution required. Research writing is controlled in the sense that you need to be extremely careful about what you write, the words you choose, the way ideas are expressed, and the validity and verifiability of the bases for the conclusions you draw. What most distinguishes research writing from other writing is the high degree of intellectual rigour required. Research writing must be absolutely accurate, clear, free of ambiguity, logical and concise. Your writing should not be based upon assumptions about knowledge of your readers about the study. Bear in mind that you must be able to defend whatever you write should anyone challenge it. Do not use ornamental and superficial language. Even the best researchers make a number of drafts before writing up their final one, so be prepared to undertake this task.

The way findings are communicated differs in quantitative and qualitative research. As mentioned earlier, in qualitative research the findings are mostly communicated in descriptive or narrative format written around the major themes, events or discourses that emerge from your findings. The main purpose is to describe the variation in a phenomenon, situation, event or episode without making an attempt to quantify the variation. One of the ways of writing a qualitative report is described in Chapter 15 as a part of the content analysis process. On the other hand, the writing in quantitative research, in addition to being descriptive, also includes its quantification. Depending upon the purpose of the study, statistical measures and tests can also become a part of the research writing to support the findings.

Developing an outline

Before you start writing your report, it is good practice to develop an outline ('chapterisation'). This means deciding how you are going to divide your report into different chapters and planning what will be written in each one. In developing chapterisation, the subobjectives of your study or the major significant themes that emerged from content analysis can provide immense guidance. Develop the chapters around the significant subobjectives or themes of your study. Depending upon the importance of a theme or a subobjective, either devote a complete chapter to it or combine it with related themes to form one chapter. The title of each chapter should be descriptive of the main theme, communicate its main thrust and be clear and concise. This is applicable to both types of research.

The following approach is applicable to both qualitative and quantitative types of research but keep in mind that it is merely suggestive and may be of help if you have no idea where to start. Feel free to change the suggested format in any way you like or if you prefer a different one, follow that.

The first chapter of your report, possibly entitled 'Introduction', should be a general introduction to the study, covering most of your project proposal and pointing out the deviations, if any, from the original plan. This chapter covers all the preparatory tasks undertaken prior to conducting the study, such as the literature review, the theoretical framework, the objectives of the study, study design, the sampling strategy and the measurement procedures.

To illustrate this, two examples are provided below for projects referred to previously in this book: the study on foster-care payments and the Family Engagement model. The first chapters of these reports could be written around the subheadings below. The subsequent structure of these reports is quite different. Keeping in view the purpose for which Family Engagement evaluation was commissioned, the report was divided into three parts: the Introduction, the perceived model, and conclusions and recommendation.

Attitudes towards foster-care payments: suggested contents of chapter 1
Chapter 1   Introduction

- Introduction
- The development of foster care
- Foster care in Australia
- Foster care in Western Australia
- The Department of Community Services
- The out-of-home and community care programme
- Current trends in foster-care placement in Western Australia
- Becoming a foster carer
- Foster-care subsidies
- Issues regarding foster-care payment
- Rationale for the study
- Objectives of the study
- Study design
- Sampling
- Measurement procedure
- Problems and limitations
- Working definitions

The Family Engagement – A service delivery model: suggested contents of chapter 1
Part One: Introduction

- Background: The origin of the Family Engagement idea
- Historical perspective
- The perceived model

    - Conceptual framework
    - Philosophical perspective underpinning the model
    - Indented outcomes

- Objectives of the evaluation
- Evaluation methodology

(Note: In this section, the conceptual framework of the model, its philosophical basis, perceived outcomes as identified by the person(s) responsible for initiating the idea, and what was available in the literature, were included. It also included details about evaluation objectives and evaluation methodology.)

The second chapter in quantitative research reports should provide information about the study population. Here, the relevant social, economic and demographic characteristics of the study population should be described. This chapter serves two purposes:

1. It provides readers with some background information about the population from which you collected the information so they can relate the findings to the type of population studied.

2. It helps to identify the variance within a group; for example, you may want to examine how the level of satisfaction of the consumers of a service changes with their age, gender or education.

The second chapter in a quantitative research report, therefore, could be entitled 'Socioeconomic–demographic characteristics of the study population' or just 'The study population'. This chapter could be written around the subheadings below which are illustrated by taking the example of the foster-care payment study.

As qualitative studies are mostly based upon a limited number of in-depth interviews or observations, you may find it very difficult to write about the study population.

Attitude towards foster–care payments: suggested contents of chapter II
Chapter II   The study population

- Introduction
- Respondents by age (Information obtained in response to the question on age should be presented here. Consult 'Writing about a variable', the next section of this chapter.)
- Respondents by gender (Follow the suggestions made under 'Writing about a variable' (see below) for the rest of the variables.)
- Marital status of the study population
- Ethnicity of respondents
- Study population by number of children
- Annual average income of the study population
- Study population by type of dwelling
- etc.

The title and contents of subsequent chapters depend upon what you have attempted to describe, explore, examine, establish or prove in your study. As the content of each project is different, these chapters will be different. As indicated earlier, the title of each chapter should reflect the main thrust of its contents.

The outline should specify the subsections of the chapter. These subsections should be developed around the different aspects of the theme being discussed in the chapter. If you plan to correlate the information obtained from one variable with another, specify the variables. Plan the sequence for discussion of the variables. In deciding this, keep in mind the linkage and logical progression between the sections. This does not mean that the proposed outline cannot be changed when writing the report – it is possible for it to be significantly changed. However, an outline, even if extremely rough, will be of immense help to you. Again, let us take the study on foster-care payment and the Family Engagement model as examples:

Attitudes towards foster-care payments: suggested contents of chapter III
Chapter III   Attitudes towards the present level of payment for foster care

- Introduction
- Attitudes towards adequacy of payment for foster care (Responses to questions on the

adequacy of foster-care payment should be presented here.)

- adequacy by age (Cross-tabulation, i.e. responses to the question on adequacy of foster-care payment, is examined in relation to the responses to questions on age.)
- adequacy by marital status (Cross-tabulation, i.e. responses to the question on adequacy of foster-care payment, is examined in relation to the responses to questions on marital status.)
- adequacy by income of the family (Cross-tabulation, i.e. responses to the question on adequacy of foster-care payment, is examined in relation to the responses to questions on income.)

- Aspects of foster care not covered by the payment
- Major costs borne by foster carers
- Effects of the current level of payment on the family
- Reasons for increasing the payment
- Proposed level of payment

  - proposed level by income of the family

- Conclusions

(Note: Cross-tabulations can be included for any variable where appropriate.)

Family Engagement model: suggested contents of chapter II
Part Two: The perceived model

- The philosophy underpinning the model
- Development of the model
- The model in practice
- Perceived differences in practice before and after the introduction of the model
- Perceived strengths of the model
- Perceived weaknesses of the model
- Skills required for effective functioning under the model
- Replication of the model
- Reasons for change to the new model
- Training

  - How should staff be trained?
  - Training provided

- Name of the model
- Determinants of successful implementation of the model
- Indicators of success of the model
- What could have been done differently?
- What needs to be done to improve the model?

- Role of Community Development Funding Officers
- Advantages and disadvantages of the Case Management model
- Satisfaction of staff with the model
- The model and departmental vision, philosophy, ethos, principles
- Attitude of clients towards the model
- Attitude of community agencies towards the model
- The model and changes in the selected indicators

(Note: In this section, findings about different aspects of the model as identified through in-depth interviews and focus group discussions were detailed.)

Family Engagement model: suggested contents of chapter III

Part Three: Conclusions and recommendations

- Conclusions

  A: General
  B: Specific to the model

- Recommendations

  A: General
  B: Specific to the … office

This type of outline provides direction in your writing. As mentioned earlier, as you start writing you will certainly change it, but nevertheless you will find it very helpful in your write-up.

Writing about a variable

Having developed a chapter outline, the next step is to start writing. Though the way researchers organise their writing is extremely individualised, the following guidelines and format may prove helpful for beginners.

When writing about the information obtained in response to a question (variable), write as if you were providing answers to the following questions:

- Why did you think it important to study the variable? What effects, in your opinion, may this variable have on the main variable you are explaining? (*This is where you provide your own rationale for studying the variable*.)
- In the case of a cross-tabulation, what relationships have other studies found between the variables you are analysing? (*This is where the literature review is integrated into the findings of the study*.)
- What did you expect to find out in terms of the relationship between the two variables? (*If you*

have formulated a hypothesis, state it here.)
- What has your study found out? (*Provide the hard data from your study here, as tables, graphs or text.*)
- What does the data show? (*Interpret the findings of your analysis.*)
- What conclusions can you draw? How do the conclusions drawn from your study compare with those from similar studies in the past? Does your study support or contradict them?
- What explanation can you provide for the findings of your study?

The above is only a suggested format for ordering your thoughts, not a list of subheadings. You may wish to change the suggested order to make the reading more interesting. Below is an example of writing about a variable, 'Adequacy of payment for foster care', from Chapter 13:

- Why did you think it important to find out if foster-care payments are adequate? What effects, in your opinion, could the adequacy or otherwise of payment for foster care have on the quality of foster care?
- What have other studies in your literature review said about the adequacy of foster-care payments?
- What did you expect to find out from your study population in terms of if its feelings about the adequacy of foster-care payments? If you formulated a hypothesis, you should specify that here. For example, H_i = *Most foster parents would consider the current level of foster-care payments to be adequate.*
- What did you find out about the adequacy of foster-care payments? What proportion of the study population said they were adequate? What proportion said they were inadequate? Provide a table or graph showing the distribution of respondents by their response to the question regarding the adequacy of foster-care payments.
- What does your data show about the adequacy of foster-care payments? What are the main findings of your study? How do these findings compare with those of other studies you found in your literature review? Does your study support or contradict them?
- What conclusions can you draw about the adequacy of the amount of payment for foster care?
- What explanation can you provide for the observed findings? Why do you think those who said that foster payments are either adequate or inadequate feel that way?

In the suggested format in writing about information obtained from questions, notice that the literature review is integrated with the findings and conclusions. The extent of the integration of the literature with findings mostly depends upon the level at which you are writing your dissertation (Honours, Masters or PhD) – the higher the level, the more extensive the literature review, the greater its integration with your findings, and the more careful and confident you need to be about your conclusions.

Writing in qualitative research is more descriptive and narrative than analytical, hence you need to use your imagination in terms of placement of information, linkage between the thoughts and flow of language to make the writing interesting to read and meaningful in conveying the findings.

The suggested format is organised around the main themes of the study. There are other formats. Some researchers write everything under one heading, 'The findings'. This format is appropriate for a research paper, because it is short, but not for a research report or dissertation. Other writers follow the same order as in the research instrument; for example, findings are discussed under each question. The reader needs to refer continuously to the instrument for each question. It is segmental, lacks linkage and integration, and does not place findings into perspective.

Referencing

The report should follow an academic style of referencing. According to Butcher (1981: 226), there are four referencing systems from which to choose:

1. the short-title system;
2. the author–date system;
3. the reference by number system;
4. the author–number system.

You need to adopt the one that is acceptable to your university and academic discipline: 'The first of these is used in most general books, the second mainly in science and social science books; the third and fourth less frequently' (Butcher 1981: 167).

Writing a bibliography

Again, there are several well-established systems for writing a bibliography and your choice is dependent upon the preference of the discipline and university. In the social sciences some of the most commonly used ones are (Longyear 1983: 83):

- the Harvard system;
- the American Psychological Association system;
- the American Medical Association system;
- the McGraw-Hill system;
- the Modern Languages Association system;
- the footnote system.

To learn about these systems and styles, consult the references provided at the end of this book or consult your library.

Summary

In a way, writing your report is the most crucial step in the research process as it communicates the findings to your research supervisor and readers. A badly written report can spoil all the hard work you have put into your research study.

Styles of research writing vary markedly among researchers but all research reports must be written clearly and concisely. Furthermore, scientific writing requires intellectual rigour and there are certain obligations in terms of accuracy and objectivity. Reports can be written in different formats and this chapter has suggested one that research students have found to be helpful.

Writing in quantitative and qualitative research differs to the extent that in qualitative research your style is descriptive and narrative, whereas in quantitative research, in addition to being descriptive, it is also analytical and every assertion is supported by empirical evidence gathered through the investigation.

There are different ways of referencing and of writing a bibliography. You need to select the system that is acceptable to your discipline and university.

Before you start writing the research report, develop an outline of the different chapters and their

contents. The chapters should be written around the main themes of the study and for this your subobjectives are of immense help. When providing specific information about a variable, the write-up should integrate the rationale for studying the variable; the literature review; the hypothesis, if any; findings; conclusions drawn; and possible explanations for the findings.

The suggested format can be described as **thematic writing** – writing organised around the significant themes of your study. Within a theme the information is provided in an integrated manner following a logical progression of thought.

For You to Think About

- Refamiliarise yourself with the keywords listed at the beginning of this chapter and if you are uncertain about the meaning or application of any of them revisit these in the chapter before moving on.
- A literature review is an integral part of research writing. Reflecting on examples from your own area of interest, explore how you might be able to integrate your research findings with your literature review when it comes to writing your report.
- Can you think of three ways in which report writing in qualitative and quantitative research differs?