

5.0 Notes on the Presentation of Practical Reports

5.1 *The Nature and purpose of a Practical Report*

For the purposes of the notes which follow a Practical Report is a *formal report of the results of an empirical investigation which has been carried out to satisfy a course requirement.*

Writing up the results of an investigation is an essential part of carrying it out and should follow the same format as is found in reports in scientific journals.

A report should contain:

- i). **WHY was the study carried out?** An explanation of why the issue under investigation is of interest and what the study was intended to achieve. This is usually contained in the *Introduction* and involves summarising what has been established by previous investigators.
- ii). **HOW was the study carried out?** Usually contained in the *Method* section, an account of the general method of investigation and details of procedure in sufficient detail for the study to be accurately replicated by a reader.
- iii). **WHAT was discovered or established?** Usually contained in the *Results* section, the data and the outcomes of any analysis which are appropriate.
- iv). **WHAT do the findings mean and why are they of interest?** Usually contained in the *Discussion* section, discussion of the main findings and the conclusions which may confidently be drawn from them.

Published reports of empirical work in psychological journals can be taken as models, e.g. *British Journal of Psychology* or *British Journal of Social Psychology*. The form of the report is the same whether it be for a laboratory class or a scientific journal.

5.2 *Layout of Report*

A practical report must be organised into a sequence of non-overlapping sections, each with its own name or heading. The study as a whole should be given a brief and informative title. The subsections of a Practical report are then: **Abstract, Introduction, Method** (subdivided into **Participants, Materials, Design, Procedure**), **Results, Discussion, References, Appendix**. These sections are fixed conventions of scientific reporting, and you should not modify them. As far as possible material from one section should not be repeated in another section. An additional section entitled **Supporting Materials** will often be requested for assessed reports, containing materials essential for staff to mark work accurately (computer output for statistical analysis, evidence of literature searches etc).

- 4.3 Title:** This should be fairly concise, indicating the particular topic studied. It should not just refer to large areas of psychology, but should be specific enough to inform the reader what the study was about, e.g. 'The effects of familiarity on facial recognition', not 'Facial recognition'.

4.4 Abstract: This contains a brief summary of not more than 200 words of the problem under investigation, the methods used, the results and the conclusions. The abstract should not include material which is not in the main report.

5.5 Introduction: A clear statement of the aim of the study or experiment, giving the theoretical rationale and historical context, i.e. what results from previous research have led to the hypothesis of the present study. Try to read at least some of the source studies rather than relying entirely on summaries found in secondary sources such as textbooks. You will learn a good deal by doing so.

The purpose of the work should be clearly stated in this section. This involves an explicit statement of the hypothesis which is being tested. It should answer the question: What research question is addressed by this study? There should also be a paragraph indicating why the problem under investigation is of interest. For example, many papers start with such words as: 'Recent work by Smith (1988) has shown that...' and continue 'From Smith's explanation of her results, it might be predicted that...' There follows some account of the rationale for the investigation.

Do not merely review the literature and then state the hypothesis. Use this section to develop the relationship between the literature and the study/experiment. If you have not read the original study which you are citing, but have relied on information about it in a summarised form, for example, in a textbook, indicate that you have used a secondary source in the following manner, 'Smith, cited in Jones (1989), found that...'

5.6 Method: If you are writing up an experiment, begin this section by describing the general features of the experimental approach, stating the independent and dependent variables and the unit of measurement. The independent variable is that which is manipulated by the experimenter, whereas the dependent variable is that which is measured. If you are reporting a study, there is neither an independent nor a dependent variable, but a brief description of the design of the study should be included.

The Method section is then divided into several sub-headings, as follows:

a). **Participants** State the total number of participants used in the study. Then give relevant characteristics of the sample. This would typically be the number of females and males and where possible, the age range and average age. Also give the source of the sample, e.g. 'The sample consisted of 80 Undergraduate students enrolled on the module The Individual and Society. There were 45 females and 35 males.'

In reporting psychological findings it is important to specify your participants as precisely as possible since individual differences in performance are likely to produce important differences in results.

b). **Materials** Description and/or diagrams of materials used and apparatus arrangements, if special apparatus was used. In most cases it is necessary only to name the piece of apparatus used since descriptions are available elsewhere, e.g. 'Eysenck Personality Inventory'. Give references to sources of materials. Copies of standard questionnaires may be included in the Appendix, although this is not strictly necessary. If, however, the equipment or the questionnaire have been

designed especially for this study, a full description is required.

- c). **Design** Give the technical specification of your study in terms of the variables. Where there was a distinction between independent and dependent variables, each of these should be identified as such. Where independent variables were categorical, the levels should be specified. Details should be given of how dependent variables were measured, e.g. how the scores were collected and how the results were scored or coded. In addition, any steps taken to control for confounding variables should be described here.
- d). **Procedure** Detailed description of what happened during the course of the experiment/study. Report the instructions which were given to the participants. The guiding principle determining what should be included here is that this section would be sufficiently detailed to allow another scientist to repeat your experiment in exactly the same way as you performed it.

Any changes that were made as the result of a pilot or preliminary study should be reported in the relevant subsection.

- 5.7 Results:** This section consists of the *statement and description*, not a discussion of the results. The results are the analyses of the original data, i.e. both descriptive and inferential statistics. Tables and graphs may be included where these help to clarify the results. Tables should include meaningful variable names, not codes. The guiding principle in labelling data is that it should be possible for a reader to understand what is presented in a table without having to refer to surrounding text. Each table or graph should be labelled with a number and a specific and accurate title (often called a "legend" in this context).

Example 1

Table 1: Percentage of schizophrenic, manic depressive and control cases showing pyknic, athletic and leptosome body types.

	<i>Grouping (Sample size)</i>		
BODY BUILD	<i>Manic Depressive (n = 125)</i>	<i>Schizophrenic (n = 125)</i>	<i>Control (n = 157)</i>
Pyknic	63.2	36.3	55.6
Athletic	8.8	17.7	11.3
Leptosome	29.0	46.0	33.1

A verbal summary should accompany each table, e.g. 'In this sample the majority of manic depressives have a pyknic body build, whereas the largest percentage of schizophrenics have a leptosome body build. The control group occupies a position intermediate between the two clinical samples for all body builds'.

N.B. You should *never* simply paste SPSS output tables into your Results sections, if you do you will certainly lose marks. The guiding principle is to provide the reader with everything

important to understanding your findings and nothing irrelevant (Does it relate to your hypotheses? Do you refer to it in the *Discussion*?). SPSS output will always contain irrelevant material.

Following the descriptive statistics (usually presented as a table and verbal summary, as above), the inferential statistics (statistical hypothesis tests) should be presented. This should state the *calculated value of the test statistic*, (e.g. the t, r, or F value), the *degrees of freedom, whether the test was one- or two-tailed*, and the *probability level associated with the calculated test statistic*. If the nature or details of the test is not implicit in this, you should also report this at the start (e.g. "A 2x2 repeated measures ANOVA was used"). If you have found confidence intervals for some measure of the effect size, the lower and upper limits of each interval should be reported along with the associated test. When the results of a statistical test are significant, you should include a statement in English describing the effect. In particular, ensure that this specifies the direction of the effect (e.g. "Reaction times were longer for males than for females" rather than, "Reaction times differed between males and females.")

5.8 Discussion: This section is devoted to interpretation of the results obtained and a consideration of the implications of these results. You may also draw attention to issues arising from your study which require further investigation. This part of the report should relate the results obtained and your interpretation of them to the summaries of earlier studies which you have reported in the Introduction. Start by summarising your results, before going on to discuss them. Where the results of the current study differ from those previously reported, this should be pointed out and possible explanations for the discrepancies suggested. You should also evaluate the theoretical framework discussed in your **Introduction** in the light of the findings reported in your study: were your hypotheses confirmed? If so, how much support does this give to the theory from which they were derived? If hypotheses were not confirmed, can your theory be modified, and if so how? Or should it be abandoned? Include any suggestions for the modification of the procedure or the design of the study where you can see scope for improvements. Include suggestions for future studies that arise out of the results of your study.

5.9 References: Under this heading, references are given to the work which you have read on the problem under investigation. The references should be to work you have actually read and mentioned in the report, for example, in the Introduction you may write 'Smith (1987) has shown that...' At the end of the report the full reference should be given:

SMITH, A. (1987) 'The Role and the Person'. *British Journal of Social Psychology*, **26**, 83-88.

The format is: author's name, date of publication in brackets, full title, name of journal, volume number, and pages.

Where reference is made to a book, give the author's name, date of publication, title, pages referred to, place of publication, and publisher's name.

Zurcher, L. A. (1977) *The Mutable Self: A Self Concept for Social Change*. pp 23-54. London: Sage.

It is important to give references wherever possible. Avoid saying 'Research has shown...' without acknowledging the source of your information. In addition to being the correct way of writing reports, this will also make your report more valuable to you for revision. Do not however, give a string of references which you have not consulted.

Always bear in mind the two 'golden rules' of citation conventions:

1. **Always acknowledge the source of your information or text by citing the authors and date of the publication in which you found it**
2. **All citations in the text should be associated with full bibliographic details in the *References* section of your report. All entries in the *References* section of the report should provide details of publications cited somewhere in the text.**

If you fail to observe these rules, you will certainly lose marks.

A troublesome problem which sometimes occurs is that a student has read about work by Miller (1956) in a text by Carlson and Buskist (2000). However, the student has not read the article by Miller itself. Should the student cite Miller or Carlson and Buskist as the source? This issue is troublesome, because citation conventions assume that you *have* read the articles you cite. A reasonable way of handling this dilemma is to mention both in the body of the text (Miller, 1956 cited in Carlson and Buskist, 2000). In the *References* you should just put:

Carlson, N. R. and Buskist, W. (2000). *Psychology: the Science of Behaviour (European Edition)*. London: Allyn and Bacon.

5.10 Appendix

You may not need to include an appendix in your report. They are generally used for listing the full set of materials used and for details of statistical analyses too lengthy to go in the results section. The latter use is unlikely to be needed for undergraduate work.

5.11 Supporting Materials

In addition to the standard lab report sections found in journal articles, 'supporting materials' can be used for extra information that teaching staff need to mark your work accurately. This would usually include the computer output for statistical analysis, and might also include additional material that your lecturer asks for.