



Writing a scientific report

Introduction

Scientific reports are typically used by researchers to present the findings of investigations that they have undertaken to the wider scientific community. Developing effective scientific report writing skills is therefore an important skill for any student who is studying a science based subject to master.

Report structure

It is difficult to be prescriptive and state exactly how to structure a report because some variation exists between different report types. Overall, the structure of a scientific report is similar to a structure of academic articles, which include the following parts (and some others), sometimes referred to as the **IMRAD**:

Introduction / background / rationale / research questions / hypothesis

Methods

Results

Analysis

Discussion (of the results)

Although the IMRAD format is common, it is far from exclusive. Check your own department's guidelines on structuring your report.

The information overleaf provides points for consideration if you are writing a scientific report.

Title page	<ul style="list-style-type: none">✓ On a separate page (must follow faculty guidelines)✓ Typically includes report title, your name, student ID number and the unit code
Contents page	<ul style="list-style-type: none">✓ More typical of longer reports (check assignment brief)✓ Details sections and subsections (and page numbers) – including appendices (if appropriate)✓ May include separate list of graphs, figures and tables (including their labels and page numbers)
Abstract	<p>A short summary (usually around 100 – 150 words), which briefly states:</p> <ul style="list-style-type: none">✓ Rationale✓ Research questions / hypothesis✓ Methodology✓ Description of participants (sample)✓ Main findings (brief but specific)✓ Key conclusions and whether✓ Your questions have been answered / hypothesis supported

<p>Introduction</p>	<ul style="list-style-type: none"> ✓ Sets the scene for your reader ✓ Discusses previous literature ✓ Outlines your theoretical orientation and ✓ Presents the rationale (why the investigation was undertaken) ✓ Details the research questions / hypotheses / predicted results ✓ May be useful to revise once again when the whole report is written
<p>Method</p>	<ul style="list-style-type: none"> ✓ Design of the study and relevant ethical issues ✓ Sample characteristics (participants' age, sex, ethnicity, other relevant information) ✓ Tools and materials / Apparatus ✓ Procedure (detailed account of the data was collected)
<p>Results / findings</p>	<ul style="list-style-type: none"> ✓ A factual account of what you found ✓ Full discussion should be saved for the 'Discussion' section ✓ Data presentation formats vary ✓ Use of clearly labeled tables, charts and figures appropriate ✓ Use only what's most relevant – additional data and tables can be presented in the appendices
<p>Discussion</p>	<ul style="list-style-type: none"> ✓ Refers your results to your research questions / hypothesis ✓ Grounds your findings in the wider literature (discussed in the introduction) ✓ How do your findings support existing theories? ✓ How do your findings relate to previous studies in this field?

	<ul style="list-style-type: none"> ✓ Any findings that go outside the scope of the research questions / hypothesis / ✓ Any findings that go outside the scope of reviewed literature ✓ Acknowledges limitations of the study and justification whenever possible and ✓ Explains how these limitations relate to previous studies ✓ Includes recommendations for the future (further research in this area and addressing limitations) ✓ Includes conclusion - ties together key points and their meaning ✓ May include a set of relevant and realistic recommendations - based on conclusion
<p>Reference list and/ bibliography</p>	<ul style="list-style-type: none"> ✓ Always check your faculty guidelines and conventions • Reference list = all references you used in text • Bibliography = all references in text + any additional reading that is not featured in the main text
<p>Appendices</p>	<ul style="list-style-type: none"> ✓ Appropriate but not necessary ✓ Include supporting material (for example, a copy of a questionnaire you used in your research) ✓ Referred to in the relevant parts of text in the report ✓ Clearly labelled ✓ Named on the contents page

Please note

Not all reports follow this exact format and the information in this guide should only be treated as a basic guide. Always follow the assignment guidelines in your unit handbook.

Further information

The Learning Resources Study Hub provides a range of opportunities (such as workshops and drop-ins) for you to enhance your academic skills. For more information visit: I



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