Effective Report Writing – The Basics

This workshop will:

- Provide a practical guide on how reports differ from other types of academic writing
- Look at the most common features used for this type of writing
- Give some insights into stylistic conventions used in report-writing, whilst highlighting the need for a subject-specific approach.

Teaching points:

1. Differences between essays and reports
2. Generic structure
3. Common essential structures
4. Structural differences between disciplines and for scientific reports
5. Report writing style
6. A report-writing checklist

Adapted extensively from Cottrell (2013) and Neville (2006).

www.brad.ac.uk/academic-skills
1. Differences between essays and reports

First, let’s have a look at what a report is.

It is the formal method of communicating the results of a project or research assignment. It may cover a lab experiment, survey, or case study. Dissertations based on those research methods require similar, though more extended, reports.

Reports are structured in broadly similar ways so that readers can find information quickly – and are different to essays.

- Essays = ideas, concepts, hypothetical notions
- Reports = actualities in the past, attempts to describe a rational reality, highly structured, standardised format. They are…..
  - Analysis-based rather than discursive
  - More descriptive than some essays
  - Summative (assessed after a unit) rather than formative (diagnostic)
  - Predict outcomes rather than discuss theory
  - Recommend

Activity 1: which is which?

In pairs or small groups, read the characteristics on the cards and decide where they go on the grid below. You have one to start you off.

<table>
<thead>
<tr>
<th>Reports....</th>
<th>Essays...</th>
</tr>
</thead>
<tbody>
<tr>
<td>Originate from outside educational context: typical of writing for work</td>
<td>Originate in academic setting; rare anywhere else</td>
</tr>
</tbody>
</table>
2. **Generic structure**

It is likely you will include some of the following sections within your report, depending on the level of study, the discipline and the task:

1. Title
2. Acknowledgements
3. Abstract: succinct summary of your report
4. Contents
5. Tables and illustrations
6. Introduction: tells the reader what the report is about (why it is important or significant) and how it is organised
7. Background/context: sets the scene and puts report in a technical context
8. Review of the literature: discuss and comment on the most important writings on the subject
9. Methodology and methods: what happened and what was the incident/situation/method
10. Measurement criteria
11. Results
12. Discussion: analyses and discusses results and findings
13. Conclusion: summarises what has been learnt
14. Recommendations: suggestions for further research or for changes in practice
15. References
16. Bibliography
17. Appendices

3. **Common essential structures**

We will look in depth at some of the sections above...

---

**Abstract**

A summary of your project report or dissertation:

- Clarifies why the subject is significant or worthy of study
- Your conclusions

For experimental reports...

- state your research proposal or hypotheses
- explain your testing methods
- show your results and state whether they were significant
- state whether the results supported your hypothesis or not

www.brad.ac.uk/academic-skills
**Introduction (Chapter 1)**

You should introduce the reader to the project. This can include:

- The aims of the project (keep it brief; you can go into detail later)
- The way the report is structured
- The parameters or boundaries of the project, if relevant (e.g. what you wanted to do; what you couldn't, didn't, or was unable to do). Again, be brief, you can elaborate on this in the following sections.

**Background/context**

It is **not** necessary to have a sub-heading labelled ‘Background’, but you do need to think what should go into a ‘background’ section(s) of the report. These can include:

- Why you thought the project was needed; your interest in the project
- Technical and/or social background

The different parts of your broad ‘background’ section can all be given suitable sub-headings, e.g. ‘Aims of the Project’; ‘Technical Background’; ‘Previous Research’ etc

**Review of the literature**

- Discussion on the most important writings on the subject and highlight the key contribution of their findings or perspectives to your own research
- Introduce your experimental hypothesis, if you have one

**Methodology and Method**

It is **not** necessary to have a sub-heading labelled ‘Methodology’, but you do need to think what should go into a ‘methodology’ section of the report. These can include:

- How you conducted your research and your methods
- The conditions of the experiment
- Number of people or items included, how did you select them, and what instructions did you give

**Discussion**

In most reports, the discussion sections are really at the **core** of your writing. This is the part you tell the reader what happened and why. It can include:

- An evaluation of the situation – what was expected/unexpected, proved/disproved, illustrated, explored, highlighted by what you have investigated.
- An attempt to explain the results drawing in other research/theory
- A discussion of limitations and possible sources of error

**Conclusion/Recommendations**

You should end the report with one or two paragraphs that sum up the project and any implications, conclusions or recommendations and suggestions for future research/work you feel would expand the knowledge base in this area. Don’t introduce any new ideas into your conclusion.

---

The introduction is the **first impression** of you - so make it a good one.

This section is particularly important for the award of high marks.
References

The author-date (Harvard) referencing style is most commonly used at the University of Bradford; the library has an online or printed guide to Harvard if you are unfamiliar with it. Don’t neglect references – you can lose marks if you don’t reference your sources properly.

What must be referenced:

- The source of all statistics from external sources used in your report
- The source of all quotations used
- The source of specialist knowledge you have paraphrased or summarised
- The source of any definitions quoted or paraphrased
- The source of any previous external research summarised
- The source of any theory, model, idea, or working practice that you refer to in your text.

Appendices

This includes:

- Further research/experimental details
- Documentation produced during the process, forms, statements, etc.
- Lengthy tables of data (you can include extracts from these in the body of the main report), transcripts, copies of surveys
- Support guidelines/documentation/ethical consent, etc.
- Source codes
- Technical documentation produced during the solution process, e.g. URD, SRD, DDD, or a User Manual
- Other information not absolutely necessary in the main body of the text, but which provides additional insights and information to the background, development or discussion stages of the report.

4. Structure differences between disciplines and for scientific reports

If you do your job as a student well, before you put together a report you will look at others written in the professional field you will or do belong to. And you will see that in the ‘real world’ many lack citations and referencing. Unfortunately, you must include these when writing your reports and submitting them so the markers can assess your work properly.

Scientific reporting is conventional - this means that scientific writing follows strict rules, with regard to a number of issues:
Structure: a common structure for a lab report

• (Abstract [summary of whole report])
• Aim (purpose of experiment, title, hypothesis)
• Method (practical details, any difficulties)
• Results (observations, calculations)
• Discussion (critical evaluation)
• Conclusion (summary of findings)
• References

There are also other disciplines, courses and companies that require particular formats and so do not have common structures, such as:

• Project & research reports
• Financial or marketing reports
• Programme design reports
• Professional report writing

Structural devices for reports include:

• Use of headings & sub-headings
• Utilises tables and visual material

Your department might have specific requirements for the structure of your reports – be sure to check and follow any instructions they give you.

5. Report writing style

There are certain stylistic conventions to all academic language and some that are specific to report writing. In addition, certain professions and subjects also have their own way of writing. So, please...

Be aware of the conventions in your own discipline

1. Italics, upper case, etc.

Scientific disciplines have their own rules about how names, etc. are written:

• Gene names are always given in italics, while the corresponding protein products are in normal font, e.g. “zic2a” is the gene, “Zic2a” is the protein
• Species names for animals and plants are given in italics, with the genus capitalised, e.g. “Homo sapiens” at first use, later “H. Sapiens”
• Note specific exceptions e.g. animals or plants are usually referred to by their scientific names for accuracy
2. Use of tenses

- **Established knowledge = present tense e.g.**
  "The function results in transcriptional activation of several targets, many of which encode transcription factors (TFs)." (Sanek, *et al*., 2009, p. 3791.)
- **Describing your experiment = past tense e.g.**
  "To determine whether *six3b* transcription is regulated by Zic2a in zebrafish, we employed antisense MO knockdown assays as previously described." (Sanek, *et al*., 2009, p. 3792.).

**Note here the combination of tenses: “transcription is regulated” vs “we employed”**
- **Referring to figures = present tense e.g.**
  "Table 1 shows the results..." (Jost, *et al*., 2009, p. 6033)
- **Results = past e.g.**
  "OxdRE formed a homodimer with non-crystallographic two fold symmetry (Fig. 1A), consistent with previous gel filtration analysis results." (Sawai, *et al*., 2009, p. 32093)
- **Your answer to the question = present tense e.g.**
  "The findings of the present investigations actually illustrate that a dose enhancement in iodinated contrast agent-containing blood samples can be determined with both biological endpoints." (Jost, *et al*., 2009, p. 6035-6)

3. It is accurate

- **Use simple terms e.g. “identical” instead of “exactly identical”**
- **Avoid vague terms like “most”, “nearly”**
- **Avoid over-generalisation e.g. “it is widely accepted”, not “everyone knows that”**

4. Abbreviations

- **Always give the term in full at the first use and show the abbreviation in brackets, e.g., Magnetic resonance imaging (MRI), subsequently use just the abbreviation: MRI**
- **Use accepted abbreviations, such as MRI**
- **Always be consistent, e.g., always MRI, not mri or Mri.**

5. It is clear and concise

- **1 theme: 1 paragraph**
- **1 idea: 1 sentence**
- **Keep sentences on average 10-25 words in length**
- **Use as few words as possible e.g. “at the present time” = “now”**
- **Avoid repetition within sentences as repetition just makes the sentence more confusing because everything is repeated unnecessarily and this repetition reduces clarity and flow (because it’s repetitious).**
6. It is objective
   - Be detached and formal using the third person (no *I* or *we* unless instructed to do so)

7. Additional general
   - No contractions – *don’t*, *can’t*, *won’t*
   - No colloquial language e.g., *At the end of the day, to be honest*
   - No rhetorical questions – *So why didn’t the material combust?*
   - Do not overstate the evidence (use hedging), e.g.
     - *It would appear that...*
     - *These results suggest...*
     - *A possible explanation for this is...*
   - Use passive voice, e.g.
     - Active: *I observed the angle to be...* (to)
     - Passive: *The angle was observed to be...*
     - Active: *The authors suggest...* (to)
     - Passive: *It is suggested...*
     - Active: *We used a standard graphical representation to...* (to)
     - Passive: *A standard graphical representation was used to...*

Activity 2: Subjective to objective style.

Try putting everything together we have considered above. The following paragraph is not written in an academically acceptable style. Read the text and with a neighbour rewrite it into appropriate academic text.

I think these results seem to be really quite good. The model fits very well with the data points as can be interpreted by the $R^2$ values of 0.32 shown in Table 1 above. But the method I used to obtain the best values for a, b, and c was a little silly and time-consuming as it required putting lots of values into a changeable Excel spreadsheet over and over to try and get the lowest $R^2$ value, even though this is probably the only way to do it accurately. Also, you can use this model to extrapolate the PCB concentrations of fish of ages not measured in the study, but that's about it.

Adapted from CALT Learning (2007)
6. A report writing checklist

There are so many elements required for successful reports that it makes sense to have a checklist to make sure nothing is forgotten, as the smallest thing can lose you marks.

The first two stages you need to check off are.

1. The whole report meets the assignment brief and marking criteria
2. The title is precisely worded and make clear what the report is about

Considering the above two stages, let’s think about what needs to be done and included in each specific section to ensure it is written correctly:

Abstract:

Contents page:

Introduction:

Literature Review:

Research Method:

Results:

Conclusions/recommendations:

Appendices:
Activity 3: What else do you need?

With a neighbour, think about what else you need to do when writing a successful report. Jot down your ideas below. (Clue: these things would need to be done for any written assignment).

A tool that will help you speed up your report writing is the ‘styles’ section on Microsoft Word’s tool bar. You can set different heading and quotation styles so your work is consistent rather than trying to remember whether your sub-headings are 12 or 14 font, italic, bold or underlined, indented to a certain extent or not at all.

Use the following link for assistance with formatting your documents:

http://www.bradford.ac.uk/it-services/help/help-sheets/word-processing/

If you would like to see examples of previous students’ successful report, your tutor may be able to help.

References


www.brad.ac.uk/academic-skills
**Answers**

**Activity 1:** which is which

<table>
<thead>
<tr>
<th>Reports …</th>
<th>Essays …</th>
</tr>
</thead>
<tbody>
<tr>
<td>originate from outside an educational context: they are typical of writing required for the world of work</td>
<td>originate in academic settings: they are rarely used anywhere else</td>
</tr>
<tr>
<td>present research data and findings that you have collected yourself</td>
<td>focus on analysing or evaluating theory, past research by other people, and ideas; they seldom present the findings of new research</td>
</tr>
<tr>
<td>are divided into sections, each with a heading. Each point is numbered</td>
<td>do not include section headings or numbering (if these are used during drafting, remove them before handing in the essay); they flow as a continuous piece of text</td>
</tr>
<tr>
<td>contain tables, charts, and appendices</td>
<td>do not include tables of appendices</td>
</tr>
<tr>
<td>utilise several writing styles, depending on the section. They are written concisely, and give precise details.</td>
<td>use a consistent writing style throughout</td>
</tr>
<tr>
<td>include descriptions of the methods used</td>
<td>do not refer to the method used in arriving at conclusions</td>
</tr>
<tr>
<td>include a discussion section that identifies how the research could have been improved, and areas for further research</td>
<td>are not usually reflective about the process of researching and writing the essay itself</td>
</tr>
<tr>
<td>may include recommendations for action</td>
<td>do not include recommendations</td>
</tr>
</tbody>
</table>

**Activity 2:** Subjective to objective style.

These results appear reasonable: the model fits with the data points, as interpreted by the $R^2$ values of 0.32 shown in Table 1 above. However, the method used to obtain the best values for $a$, $b$, and $c$ was time-consuming. It required populating many values into an Excel spreadsheet to obtain the lowest $R^2$ value. A further limitation of this model is it can only be used to extrapolate the PCB concentrations of fish within age ranges measured in the study. Even when taking all of these observations into account, the method remains the most appropriate to obtain accurate results.
**Activity 3:** What else do you need

The stages in **bold** relate to the specific sections discussed in the group example

<table>
<thead>
<tr>
<th>Stage</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>The whole report meets the assignment brief and marking criteria</td>
<td></td>
</tr>
<tr>
<td>The title is precisely worded and makes clear what the report is about</td>
<td></td>
</tr>
<tr>
<td><strong>The abstract is succinct and meets any word limits</strong></td>
<td></td>
</tr>
<tr>
<td>All required sections are included</td>
<td></td>
</tr>
<tr>
<td>All material is in the right sections</td>
<td></td>
</tr>
<tr>
<td><strong>The Contents page is complete, accurate and includes page numbers</strong></td>
<td></td>
</tr>
<tr>
<td>The thesis (or position) statement, or hypothesis, is precisely worded</td>
<td></td>
</tr>
<tr>
<td><strong>The Introduction is succinct and covers all sections in brief</strong></td>
<td></td>
</tr>
<tr>
<td><strong>The literature review is succinct and demonstrates breadth, depth and the relevance of previous research</strong></td>
<td></td>
</tr>
<tr>
<td><strong>The research method is accurately written, with full details written precisely and succinctly</strong></td>
<td></td>
</tr>
<tr>
<td><strong>The results or findings are presented clearly and accurately</strong></td>
<td></td>
</tr>
<tr>
<td>It is clearly stated whether the results support the hypothesis and are significant or not</td>
<td></td>
</tr>
<tr>
<td>The report analyses, critically, the results or findings in the light of previous research, and critiques the research design</td>
<td></td>
</tr>
<tr>
<td><strong>Conclusions or recommendations are included, if required</strong></td>
<td></td>
</tr>
<tr>
<td>All the information is relevant</td>
<td></td>
</tr>
<tr>
<td>The writing style is correct in each section</td>
<td></td>
</tr>
<tr>
<td>It is clear and easy to read</td>
<td></td>
</tr>
<tr>
<td>All sections are clearly headed and numbered</td>
<td></td>
</tr>
<tr>
<td>It meets the word limit</td>
<td></td>
</tr>
<tr>
<td>Citations and references are complete and accurate</td>
<td></td>
</tr>
<tr>
<td>All necessary appendices are there, and include only relevant material</td>
<td></td>
</tr>
<tr>
<td><strong>Appendices are numbered in the same way as numbered in the report</strong></td>
<td></td>
</tr>
<tr>
<td>Pages are numbered</td>
<td></td>
</tr>
<tr>
<td>It has been carefully proof-read</td>
<td></td>
</tr>
<tr>
<td>It is neat, presented as required, and bound if necessary</td>
<td></td>
</tr>
</tbody>
</table>