

## Metadata

Title	Writing Skills
Description	
Keywords	
Objectives	
Author	SSDS
Organisation	University of Leicester
Version	V1.0
Date	16 Feb 2010
Copyright	

## Essay terms explained

### Introduction

To write a good essay, you firstly need to have a clear understanding of what the essay question is asking you to do. Looking at the essay question in close detail will help you to identify the topic and 'directive words' (Dhann, 2001), which instruct you how to answer the question. Understanding the meaning of these directive words is a vital first step in producing your essay.

This glossary provides definitions of some of the more typical words that you may come across in an essay question. Please note that these definitions are meant to provide general, rather than exact guidance, and are not a substitute for reading the question carefully. Get this wrong, and you risk the chance of writing an essay that lacks focus, or is irrelevant.

Essay term	Definition
<b>Analyse</b>	Break an issue into its constituent parts. Look in depth at each part using supporting arguments and evidence for and against as well as how these interrelate to one another.
<b>Assess</b>	Weigh up to what extent something is true. Persuade the reader of your argument by citing relevant research but also remember to point out any flaws and counter-arguments as well. Conclude by stating clearly how far you are in agreement with the original proposition.
<b>Clarify</b>	Literally make something clearer and, where appropriate, simplify it. This could involve, for example, explaining in simpler terms a complex process or theory, or the relationship between two variables.
<b>Comment upon</b>	Pick out the main points on a subject and give your opinion, reinforcing your point of view using logic and reference to relevant evidence, including any wider reading you have done.
<b>Compare</b>	Identify the similarities and differences between two or more phenomena. Say if

	any of the shared similarities or differences are more important than others. 'Compare' and 'contrast' will often feature together in an essay question.
<b>Consider</b>	Say what you think and have observed about something. Back up your comments using appropriate evidence from external sources, or your own experience. Include any views which are contrary to your own and how they relate to what you originally thought.
<b>Contrast</b>	Similar to compare but concentrate on the dissimilarities between two or more phenomena, or what sets them apart. Point out any differences which are particularly significant.
<b>Critically evaluate</b>	Give your verdict as to what extent a statement or findings within a piece of research are true, or to what extent you agree with them. Provide evidence taken from a wide range of sources which both agree with and contradict an argument. Come to a final conclusion, basing your decision on what you judge to be the most important factors and justify how you have made your choice.
<b>Define</b>	To give in precise terms the meaning of something. Bring to attention any problems posed with the definition and different interpretations that may exist.
<b>Demonstrate</b>	Show how, with examples to illustrate.
<b>Describe</b>	Provide a detailed explanation as to how and why something happens.
<b>Discuss</b>	Essentially this is a written debate where you are using your skill at reasoning, backed up by carefully selected evidence to make a case for and against an argument, or point out the advantages and disadvantages of a given context. Remember to arrive at a conclusion.
<b>Elaborate</b>	To give in more detail, provide more information on.
<b>Evaluate</b>	See the explanation for 'critically evaluate'.
<b>Examine</b>	Look in close detail and establish the key facts and important issues surrounding a topic. This should be a critical evaluation and you should try and offer reasons as to why the facts and issues you have identified are the most important, as well as explain the different ways they could be construed.
<b>Explain</b>	Clarify a topic by giving a detailed account as to how and why it occurs, or what is meant by the use of this term in a particular context. Your writing should have clarity so that complex procedures or sequences of events can be understood, defining key terms where appropriate, and be substantiated with relevant research.
<b>Explore</b>	Adopt a questioning approach and consider a variety of different viewpoints. Where possible reconcile opposing views by presenting a final line of argument.
<b>Give an account of</b>	Means give a detailed description of something. Not to be confused with 'account for' which asks you not only what, but why something happened.
<b>Identify</b>	Determine what are the key points to be addressed and implications thereof.
<b>Illustrate</b>	A similar instruction to 'explain' whereby you are asked to show the workings of something, making use of definite examples and statistics if appropriate to add weight to your explanation.
<b>Interpret</b>	Demonstrate your understanding of an issue or topic. This can be the use of particular terminology by an author, or what the findings from a piece of research suggest to you. In the latter instance, comment on any significant patterns and causal relationships.
<b>Justify</b>	Make a case by providing a body of evidence to support your ideas and points of

	view. In order to present a balanced argument, consider opinions which may run contrary to your own before stating your conclusion.
<b>Outline</b>	Convey the main points placing emphasis on global structures and interrelationships rather than minute detail.
<b>Review</b>	Look thoroughly into a subject. This should be a critical assessment and not merely descriptive.
<b>Show how</b>	Present, in a logical order, and with reference to relevant evidence the stages and combination of factors that give rise to something.
<b>State</b>	To specify in clear terms the key aspects pertaining to a topic without being overly descriptive. Refer to evidence and examples where appropriate.
<b>Summarise</b>	Give a condensed version drawing out the main facts and omit superfluous information. Brief or general examples will normally suffice for this kind of answer.
<b>To what extent</b>	Evokes a similar response to questions containing 'How far...'. This type of question calls for a thorough assessment of the evidence in presenting your argument. Explore alternative explanations where they exist.

## References

1. Dhann, S., (2001) How to ... 'Answer assignment questions'. Accessed 11/02/08. [http://www.education.ex.ac.uk/dll/studyskills/answering\\_questions.htm](http://www.education.ex.ac.uk/dll/studyskills/answering_questions.htm)
2. Johnson, R., (1996) Essay instruction terms. Accessed 22/02/08. <http://www.mantex.co.uk/samples/inst.htm>
3. Student Study Support Unit Canterbury Christchurch College (no date) Common terms in essay questions. Accessed 22/02/08. <http://www.wmin.ac.uk/page-2714>
4. Taylor, A.M., Dr. and Turner, J. Dr. (2004) Key words used in examination questions and essay titles. Accessed 11/02/08 <http://www.reading.ac.uk/studyskills/study%20guides/Study%20Guide%20Key%20Words.pdf>

## Planning essays

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## Introduction

A good essay plan makes the most of your essay material by helping you to organise the content of the essay before you begin writing. This guide shows you the key steps in preparing and planning an essay effectively.

## Using essay plans

Being organised before you begin writing your essay will make the writing process quicker and easier. Good preparation and planning gives you a clear overview of your material so you can see the best way to organise your points. This guide presents four main steps to planning your essay:

- planning ahead;
- analysing the question;
- selecting material;
- organising your material.

## Why an essay?

Essay writing gives you a chance to:

- explore a specific subject area in depth;
- select relevant material;
- explain theories and concepts;
- evaluate arguments;
- express and support your own views and opinions.

## Before you begin

Check your university or department's guidelines. There may be information about:

- how long the essay should be;
- what the deadline is;
- relevant assessment criteria;
- requirements for presentation, referencing and bibliographies.

## Planning ahead

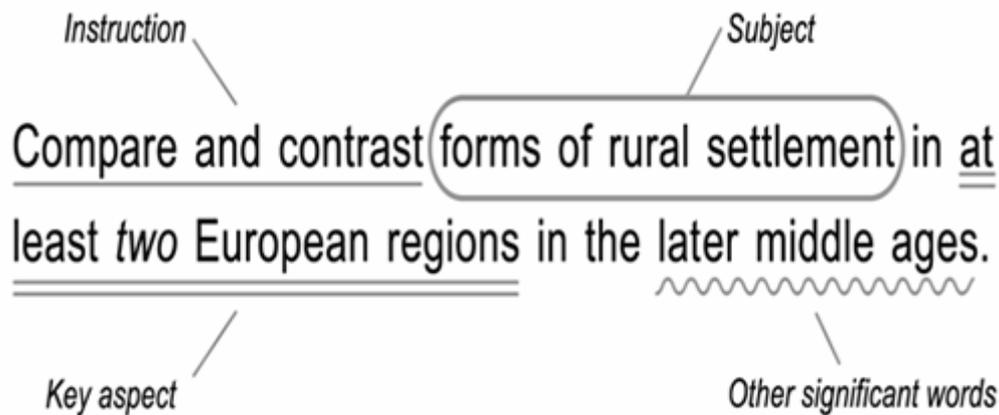
Choose your title as soon as possible. The availability of journals, books and other resources may affect your choice of title. Plan ahead to ensure you can use the resources you need in time. Make an action plan or 'to do list' for:

- finding relevant resources;
- reading and making notes from articles on short loan;
- obtaining items through inter-library loan;
- using computer facilities.

Look at how much time you have before the deadline so you can see what can be realistically done.

## Analysing the question

Before you can begin to select material for your essay, you need to make sure that you understand the exact requirements of the question. The following method of title analysis encourages you to break the question down into clearly identifiable elements so that you can accurately see what the question requires.



*(Analysing an essay title)*

## Selecting the material

Use your analysis of the question as a focus for the selection of materials. Begin with the basic reading:

- lecture notes;
- handouts;
- relevant chapters in core texts.

When you understand the basics you can then select more detailed and specific texts. This may be in the form of journal articles or texts referred to by your lecturer. You can also follow up useful references in handouts or core texts to widen your reading.

- Be selective and identify relevant material for your essay.
- Use the essay question as a focus for note taking.
- Be sure to record only information that is directly relevant to your essay question. This will save you time and make your notes easier to organise in an essay plan.

## Organising your material

All essays need a structure that is logical and coherent. An essay plan gives you a quick way of trying out different structures. One way of making an essay plan is to list your main points in keywords and phrases and organise them under main headings. This gives you an overview of your points so you can decide which should be included and what is the most logical sequence for them.

### 1. INFLUENCES

- Faustus
    - warned by Mephistophilis (e.g. 3.82-3)
    - persuaded by Valdes and Cornelius (e.g. 1.119-20)
  - Macbeth
    - supernatural forces, witches, predictions
    - Lady Macbeth manipulative (e.g. 1.5.22-5)
- Macbeth more manipulated than Faustus > Macbeth less responsible?

### 2. SOLILOQUIES

- Faustus
  - conceit = can avoid damnation
  - speech = grand eloquent, believes he is in control (e.g. 1.17-21)
  - refusal to accept own limitations (e.g. 1.23-6)
- Macbeths
  - = good but weak, becomes evil but strong
  - fatalistic, aware of damnation (contrast to Faustus)
  - change in style after Lady M dies (e.g. 5.8.27-31)

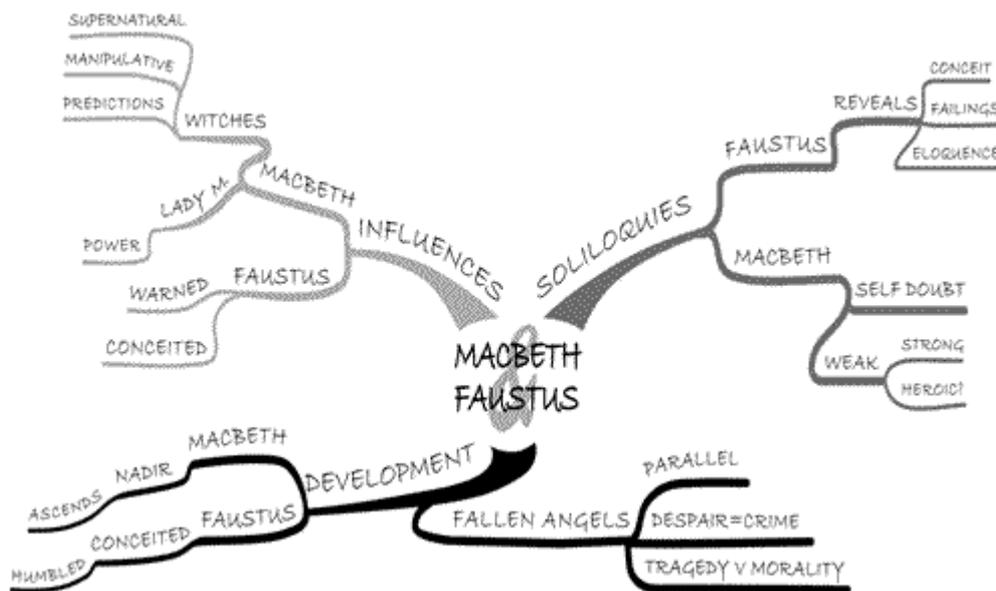
### 3. DEVELOPMENT

- Theme of damnation (Gardner)
- Parallel to fallen angels
- Crime of despair
- Tragedy v morality

(An example of a linear essay plan using key words and phrases)

Index cards can be useful in essay planning. Write the keyword or phrase for each point on a separate index card. Use the cards to group and order the points. Number the cards sequentially when you are happy with the order of your points.

You may wish to use diagrams for essay planning.



(An example of a non-linear essay plan using key words and phrases)

**Find your preferred style**

Experiment with different styles of planning essays and use the method that you find most useful. Make as many essay plans as you need to find the best sequence for your material. By separating the planning stage from the writing stage you will be better able to write an essay that is well organised and clearly expressed.

## Summary

- Make an action plan or 'to do list' as early as possible.
- Analyse the essay question before you begin making notes.
- Be selective in your reading.
- Record only information that is directly relevant to your essay question.
- Use essay plans to create a clear and logical sequence for your material before you begin to write.

## Referencing and bibliographies

This brief study guide aims to help you to understand why you should include references to the information sources that you use to underpin your writing. It explains the main principles of accurately referencing such sources in your work.

### Why reference?

When you are writing an essay, report, dissertation or any other form of academic writing, your own thoughts and ideas inevitably build on those of other writers, researchers or teachers. It is essential that you acknowledge your debt to the sources of data, research and ideas on which you have drawn by including references to, and full details of, these sources in your work. Referencing your work allows the reader:

- to distinguish your own ideas and findings from those you have drawn from the work of others;
- to follow up in more detail the ideas or facts that you have referred to.

### Before you write

Whenever you read or research material for your writing, make sure that you include in your notes, or on any photocopied material, the full publication details of each relevant text that you read. These details should include:

- surname(s) and initial(s) of the author(s);
- the date of publication;
- the title of the text;
- if it is a paper, the title of the journal and volume number;
- if it is a chapter of an edited book, the book's title and editor(s) the publisher and place of publication\*;
- the first and last page numbers if it is a journal article or a chapter in an edited book.

For particularly important points, or for parts of texts that you might wish to quote word for word, also include in your notes the specific page reference.

\* Please note that the publisher of a book should not be confused with the printer. The publisher's name is normally on a book's main title page, and often on the book's spine too.

## When to use references

Your source should be acknowledged every time the point that you make, or the data or other information that you use, is substantially that of another writer and not your own. As a very rough guide, while the introduction and the conclusions to your writing might be largely based on your own ideas, within the main body of your report, essay or dissertation, you would expect to be drawing on, and thus referencing your debt to, the work of others in each main section or paragraph. Look at the ways in which your sources use references in their own work, and for further guidance consult the companion guide [Avoiding Plagiarism](#).

## Referencing styles

There are many different referencing conventions in common use. Each department will have its own preferred format, and every journal or book editor has a set of 'house rules'. This guide aims to explain the general principles by giving details of the two most commonly used formats, the '**author, date**' system and **footnotes** or **endnotes**. Once you have understood the principles common to all referencing systems you should be able to apply the specific rules set by your own department.

## How to reference using the 'author, date' system

In the 'author, date' system (often referred to as the 'Harvard' system) very brief details of the source from which a discussion point or piece of factual information is drawn are included in the text. Full details of the source are then given in a reference list or bibliography at the end of the text. This allows the writer to fully acknowledge her/his sources, without significantly interrupting the flow of the writing.

### 1. Citing your source within the text

As the name suggests, the citation in the text normally includes the name(s) (surname only) of the author(s) and the date of the publication. This information is usually included in brackets at the most appropriate point in the text.

*The seminars that are often a part of humanities courses can provide opportunities for students to develop the communication and interpersonal skills that are valued by employers (Lyon, 1992).*

The text reference above indicates to the reader that the point being made draws on a work by Lyon, published in 1992. An alternative format is shown in the example below.

*Knapper and Cropley (1991: p. 44) believe that the willingness of adults to learn is affected by their attitudes, values and self-image and that their capacity to learn depends greatly on their study skills.*

Note that in this example reference has been made to a specific point within a very long text (in this instance a book) and so a page number has been added. This gives the reader the opportunity to find the particular place in the text where the point referred to is made. You should **always** include the page number when you include a passage of direct quotation from another writer's work.

**When a publication has several authors**, it is usual to give the surname of the first author followed by et al. (an abbreviation of the Latin for 'and the others') although for works with just two authors both names may be given, as in the example above.

Do not forget that you should also include reference to the source of any **tables of data**, **diagrams** or **maps** that you include in your work. If you have included a straight copy of a table or figure, then it is usual to add a reference to the table or figure caption thus:

*Figure 1: The continuum of influences on learning (from Knapper and Cropley, 1991: p. 43).*

Even if you have reorganised a table of data, or redrawn a figure, you should still acknowledge its source:

*Table 1: Type of work entered by humanities graduates (data from Lyon, 1992: Table 8.5).*

You may need to cite an **unpublished** idea or discussion point from an oral presentation, such as a **lecture**. The format for the text citation is normally exactly the same as for a published work and should give the speaker's name and the date of the presentation.

*Recent research on the origins of early man has challenged the views expressed in many of the standard textbooks (Barker, 1996).*

If the idea or information that you wish to cite has been told to you personally, perhaps in a discussion with a lecturer or a tutor, it is normal to reference the point as shown in the example below.

*The experience of the Student Learning Centre at Leicester is that many students are anxious to improve their writing skills, and are keen to seek help and guidance (Maria Lorenzini, pers. comm.).*

'Pers. comm.' stands for personal communication; no further information is usually required.

## 2. Reference lists/ bibliographies

When using the 'author, date' system, the brief references included in the text must be followed up with full publication details, usually as an **alphabetical** reference list or bibliography at the end of your piece of work. The examples given below are used to indicate the main principles.

### Book references

The simplest format, for a book reference, is given first; it is the full reference for one of the works quoted in the examples above.

*Knapper, C.K. and Cropley, A. 1991: Lifelong Learning and Higher Education. London: Croom Helm.*

The reference above includes:

- the surnames and forenames or initials of both the authors;
- the date of publication;
- the book title;
- the place of publication;
- the name of the publisher.

The title of the book should be formatted to distinguish it from the other details; in the example above it is italicised, but it could be in bold, underlined or in inverted commas. When multi-authored works have been quoted, it is important to include the names of all the authors, even when the text reference used was *et al.*

### **Papers or articles within an edited book**

A reference to a paper or article within an edited book should in addition include:

- the editor and the title of the book;
- the first and last page numbers of the article or paper.

*Lyon, E.S. 1992: Humanities graduates in the labour market. In H. Eggins (ed.), Arts Graduates, their Skills and their Employment. London: The Falmer Press, pp. 123-143.*

### **Journal articles**

Journal articles must also include:

- the name and volume number of the journal;
- the first and last page numbers of the article.

The publisher and place of publication are not normally required for journals.

*Pask, G. 1979: Styles and strategies of learning. British Journal of Educational Psychology, 46, pp. 128-148.*

Note that in the last two references above, it is the book title and the journal name that are italicised, **not** the title of the paper or article. The name highlighted should always be the name under which the work will have been filed on the library shelves or referenced in any

indexing system. It is often the name which is written on the spine of the volume, and if you remember this it may be easier for you to remember which is the appropriate title to highlight.

### **Other types of publications**

The three examples above cover the most common publication types. You may also wish to refer to other types of publications, including PhD dissertations, translated works, newspaper articles, dictionary or encyclopaedia entries or legal or historical texts. The same general principles apply to the referencing of all published sources, but for specific conventions consult your departmental handbook or your tutor, or look at the more detailed reference books listed in the Further reading section of this guide.

### **Referencing web pages**

The internet is increasingly used as a source of information and it is just as important to reference internet sources as it is to reference printed sources. Information on the internet changes rapidly and web pages move or are sometimes inaccessible meaning it can often be difficult to validate or even find information cited from the internet. When referencing web pages it is helpful to include details that will help other people check or follow up the information. A suggested format is to include the author of the information (this may be an individual, group or organisation), the date the page was put on the internet (most web pages have a date at the bottom of the page), the title, the http:// address, and the date you accessed the web page (in case the information has been subsequently modified). A format for referencing web pages is given below.

*University of Leicester Standing Committee of Deans (6/8/2002) Internet code of practice and guide to legislation. Accessed 8/8/02*  
<http://www.le.ac.uk/committees/deans/codecode.html>

### **Referencing lectures**

Full references to unpublished oral presentations, such as lectures, usually include the speaker's name, the date of the lecture, the name of the lecture or of the lecture series, and the location:

*Barker, G. 1996 (7 October): The Archaeology of Europe, Lecture 1. University of Leicester.*

Please note that in contrast to the format used for the published sources given in the first three examples above, the formatting of references for unpublished sources does not include italics, as there is no publication title to highlight.

### **Formatting references**

If you look carefully at all the examples of full references given above, you will see that there is a consistency in the ways in which punctuation and capitalisation have been used. There are many other ways in which references can be formatted - look at the books and articles you read for other examples and at any guidelines in your course handbooks. The only rule governing formatting is the rule of **consistency**.

## How to reference using footnotes or endnotes

Some academic disciplines prefer to use footnotes (notes at the foot of the page) or endnotes (notes at the end of the work) to reference their writing. Although this method differs in style from the 'author, date' system, its purpose - to acknowledge the source of ideas, data or quotations without undue interruption to the flow of the writing - is the same.

**Footnote or endnote markers**, usually a sequential series of numbers either in brackets or slightly above the line of writing or printing (superscript), are placed at the appropriate point in the text. This is normally where you would insert the author and date if you were using the 'author, date' system described above.

*Employers are not just looking for high academic achievement and have identified competencies that distinguish the high performers from the average graduate.<sup>1</sup> This view has been supported by an early study that demonstrated that graduates employed in the industrial and commercial sectors were as likely to have lower second and third class degrees as firsts and upper seconds.<sup>2</sup>*

**Full details** of the reference are then given at the bottom of the relevant page or, if endnotes are preferred, in numerical order at the end of the writing. Rules for the formatting of the detailed references follow the same principles as for the reference lists for the 'author, date' system.

1. Moore, K. 1992: *National Westminster Bank plc*. In H. Eggins (ed.), *Arts Graduates, their Skills and their Employment*. London: The Falmer Press, pp. 24-26.
2. Kelsall, R.K., Poole, A. and Kuhn, A. 1970: *Six Years After*. Sheffield: Higher Education Research Unit, Sheffield University, p. 40.

NB. The reference to 'p.40' at the end of note 2 above implies that the specific point referred to is to be found on page 40 of the book referenced.

If the same source needs to be referred to several times, on second or subsequent occasions, a shortened reference may be used.

*Studies of women's employment patterns have demonstrated the relationship between marital status and employment sector.<sup>3</sup>*

- 
3. Kelsall et al. 1970 (as n.2 above).

In this example, the footnote refers the reader to the full reference to be found in footnote 2.

In some academic disciplines, footnotes and endnotes are not only used for references, but also to contain elaborations or explanations of points made in the main text. If you are unsure about how to use footnotes or endnotes in your work, consult your departmental guidelines or personal tutor.

## Finally

Whichever referencing system you use, you should check carefully to make sure that:

- you have included in your reference list/bibliography, footnotes or endnotes full details of all the sources referred to in your text;
- you have used punctuation and text formatting, such as italics, capitals, and bold text, in a consistent manner in your reference lists or footnotes.

## Further reading

More detailed discussion of referencing conventions is to be found in the following publications:

- Berry, R. 2004: *The Research Project: How to Write It*. London and New York: Routledge.
- Gash, S. 1999: *Effective Literature Searching for Students* (second edition). Aldershot: Gower.
- Gibaldi, J. 2004: *MLA Handbook for Writers of Research Papers* (sixth edition). New York: The Modern Language Association of America.
- Watson, G. 1987: *Writing a Thesis: a Guide to Long Essays and Dissertations*. London: Longman.

There are also software programs, for example, [Endnote](#) and [Refworks](#) that are designed to manage references. They include the facility to incorporate 'author, date' insertions within your text, and to format reference lists automatically.

## The art of editing

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This Study Guide addresses the process of editing an extended document such as a dissertation or a thesis. Related Study Guides are: [Writing a dissertation](#); [Using paragraphs](#); and [Writing for science](#).

## Introduction

When you start to produce a piece of written work, you are likely to be aware of various targets and standards that you need to work to, such as:

- the stipulated word limit;
- the required level of academic writing;
- the need to present material in a clear and logical order; and
- the necessary high standards in spelling, referencing, and grammar.

However, if you become too concerned at this stage about the required standard of the end product, you may feel reluctant to begin writing at all.

This is why making a clear separation between the processes of ‘writing’ and ‘editing’ can be helpful. Brookes and Marshall (2004 p213) suggest it is usually more helpful to produce something imperfect, then revise it, than to waste time trying to produce something that is perfect first time round. The following table describes how writing can be a relatively free and expansive process; while editing can take care of the critical attention and refinement that will ensure your writing reaches the required standard.

Writing may involve	Editing may involve
creating	critiquing
including	adding and removing
presenting	improving
recording	reviewing
feeling closely involved	feeling fairly objective
an immediate, but naive product	a subsequent, refined product
making a mess	tidying it up late

## What is editing?

This Study Guide uses the term ‘editing’ to refer to the broad intellectual task of raising the overall academic standard of a piece of writing, via an iterative process of critique and revision. It uses the term ‘proof reading’ to refer to the narrower job of checking such elements as spelling, grammar, and page numbering. Detailed proof reading is usually best done as the last stage in the editing process.

Typical aspects of writing that you can critique within the editing process include:

- the overall logical structure and balance of the thesis;
- adherence to your stated title / research question / plans;
- signposting and linking of content;
- appropriate content under appropriate headings;
- the coherence of the line of argument;
- use of active / passive voice, and of past / present tense;
- clarity of explanation;
- length of sentences, and economy of word use.

The examiner will be able to tell how much attention you have paid to the editing process. He or she will not appreciate reading material that has clearly not been thoroughly edited. If the reader's main response is irritation at a poorly edited thesis, this will make it less likely that he or she will develop a positive impression of the content of your writing.

It is better that you spot and make the improvements necessary, than that the examiner is the first to spot them.

## Positive and negative feelings about editing

Students can experience a range of feelings as they approach the task of editing their thesis. For some, editing can feel like a negative experience, after the relatively creative and positive process of writing:

- Perhaps you have already spent such a lot of effort writing, that it feels impossible to improve on what you've done, even though you know it probably does need improving.
- Perhaps you face the task of reducing the total number of words by 30%, and can't see how you can do this without losing crucial material.
- Perhaps you are tired of looking at your writing, and the thought of studying it again closely for the editing process makes you want to run away.

For others, editing can feel more positive than writing, because they know that this is a stage where they can really raise the standard of their work. Some positive points about editing are:

- If you are thinking about editing your work, it means that you must already have written something reasonably substantial.
- Editing tends to be a highly constructive process. Every single useful change you make is a guaranteed step towards improving the quality of your thesis.
- It tends to be much easier to criticise and improve on your writing, than it was to produce the writing in the first place.
- It can therefore be relatively quick to produce significant improvements within the editing stage.

## Where to work?

One way of separating the processes of writing and editing is to do them in different places. Print out your writing, so that you can do the editing work on hard copy, away from the computer e.g.: on the train or bus; in a café; on a park seat; somewhere else well away from the work environment; or at your desk if you prefer.

Printing the work out and working on hard copy can help you feel as if you are reviewing someone else’s writing. This is useful, as it is important not to get too attached to any particular parts of your writing: “Until a manuscript is in print, not a word you have written is sacrosanct.” (Wolcott 2001 p112).

Some people do choose to edit while sitting at a computer, but it is still important to print the work out at some point in the editing process, as only then will you see the reality of “the density of the ink, the sharpness of the printing ... Fonts, size of type, headings, spaces and blocks of text all may look different when you are holding a piece of paper in your hands rather than staring at a screen” (Brookes and Marshall 2004 p219).

## Recording your critique

When you are editing away from the computer, it is important to make full notes of any improvements that occur to you. They may seem obvious at the time, but it is disappointing when you come to make the alterations later on, to find you have forgotten the seemingly perfect re-phrasing you had thought of earlier; or that you can’t read the scrawl you made in the margin. So, make sure you record your suggested modifications very clearly, so you can follow them easily when you type in the alterations at a later time.

## Overall editing plan

Effective editing will invariably require a number of sweeps through the work, and a series of drafts. An example of an editing plan is provided below.

It may be tempting to work paragraph by paragraph, trying to perfect each one before attending to the next. This is, however, neither an efficient nor an effective method for editing a large document. Several of the processes, e.g.: maintaining a logical thread throughout; and identifying duplication; require more of an overview to be taken, involving review at a chapter or thesis level, rather than at a sentence or paragraph level.

Draft	Aims	Techniques
1	Editing for academic rigour	check that you have explicitly written down what you intended to do, and what you did do in your research, rather than just having it in your head *ensure you have a clear, logical thread running throughout *back up all claims and interpretations
2	Reducing redundancy	Identify and remove unnecessary duplication, explanation, and interesting but irrelevant material. Un-clutter the language used.
3	Editing for consistency	Check consistent use of tenses, voice, style.
4	Signposting and linking	Let the reader know what to expect, and summarise what has just been read. It is then easier for the reader to establish a structure into which your research can be understood.
5	Proof reading	Check details of spelling, grammar, numbering.

## Draft 1: Editing for academic rigour

This relates to the essence of academic writing. It needs to be your main editing focus. And will take the most time. Academic journals publish the criteria they use to evaluate articles, and these can be useful in guiding the process. There may also be detailed guidance available within your own department. This section describes three aspects to ‘editing for academic rigour’, which should help you to work through this process using a structured approach.

**Firstly**, on a broad level, it can be very helpful to ask these two deceptively simple questions:

- ‘What did I try to do and did I do it?’
- ‘What am I trying to say, and do I say it?’

Each of these questions is in two parts. The first part asks what you are trying to do, and the second asks whether you consider you did it. Both parts of each question are essential.

*What did I try to do and did I do it?*

You may not need to prove that you did everything that you intended to, but you do need to show that you are clear about what you intended to do, and that you are fully aware of how your eventual research related to your initial plans, and why there may be some discrepancies. Addressing this question closely and thoroughly will take you through a review of the rationale for your research; the methods chosen; how they were employed; and a critique of how things went.

*What am I trying to say, and do I say it?*

When you are deeply involved in your research, and know about it in great detail, it can be very easy to think that you have explained something, only to find that important, and basic, elements of the explanation are missing. So, while it is important to ask “What am I trying to say?” It is essential to add “Do I say it?” and to be highly critical when reading through your writing to check that you do actually state clearly what you are trying to say, rather than leaving the reader to fill in gaps.

**Secondly**, you need to ensure that you have provided a **well-supported and clear thread of logical reasoning throughout your thesis**. You need to check that your sections are arranged in an order that will present your reasoning most effectively. Take a step back from your detailed writing, and create an outline of a straightforward, logical structure you could use for your thesis. An effective way to do this is to explain aloud, to a friend, or alone but using a tape recorder, in as logical and clear a way as possible:

- the overall reason for your research;
- what you did; and
- what you found.

If your friend takes notes, or if you tape-record the explanation, you can use the record to produce a coherent outline for your structure. Then read through your writing thus far, and produce an outline of the structure that you have actually used. By comparing the two

structures you can identify: where the ordering is confusing; where you have written too much or too little; where new sections are needed; and where others can be swapped around.

**Thirdly**, you need to attend to the reader’s ever-present question: **“Why should I believe this?”** Ideally, you will be able to adopt the role of an awkward reader of your own writing. The aim is to make sure that all the claims you make are either supported or removed. If you can read your own work with a provocative and questioning attitude, it will help you to identify the places where you need to provide more evidence for your statements and interpretations.

## **Draft 2: Reducing redundancy; simplifying and shortening**

Some parts of your writing may be true, interesting, and well-written but, if they do not strictly form part of the main thread or ‘story’ of the writing, it is better to remove them. You may have spent time describing an aspect of context, theory, practice, or experience that you now decide is not directly relevant to your main argument or research study. However attached you feel to that bit of writing, you do need to be ruthless in removing it.

This is good practice in all academic writing, but is particularly useful when you need to reduce your number of words. Initially it is best not to think too much about word limits. Later however, as you edit, you will see many examples of redundancy where you can remove words, phrases, paragraphs, and even whole sections, to improve the coherence and logical flow of your writing. If you worry about losing material that you might want to bring back, you can keep it temporarily in a reserve file, rather than delete it completely.

You can also reduce the number of words by simplifying the language used, as in this table from Barrass (1978 pp 61 & 70-72).

<b>Long version</b>	<b>Col 11</b>	<b>Shorter version</b>
on a regular basis		regularly
if at all possible		if possible
during the month of April		in April
an increased appetite was manifested by all the rats		all the rats ate more
during the time that		while
conduct an investigation into		investigate
has an ability to		can
on two separate occasions		twice
which goes under the name of		is called
it may well be that		perhaps
take into consideration		consider
it was observed in the course of the demonstration that		we observed that

Another way to reduce redundancy, and to increase clarity, is to write in the active rather than the passive tense e.g.:

the box was opened by the experimenter becomes

the experimenter opened the box

a reduction from 7 to 5 words; and an increase in clarity.

Similarly:

It was decided that the order in which the questions were asked should be changed could become

I decided to change the order of the questions

a reduction from 15 to 9; and an increase in clarity.

This second example introduces the question of whether it is acceptable to use the voice of the researcher in the first person i.e.: how acceptable is it to say “I did ...”? It is essential to seek advice within your academic field about this. It may even be possible to ascertain the views of your particular thesis examiner. It is becoming more acceptable to write in the first person, particularly in the social sciences. A general guide is to use the third person routinely but, where there is a decision to explain, it is acceptable to take clear responsibility for that decision by using the first person at that point.

This can be demonstrated with the example of giving details of a methodology. It would read awkwardly if every element were to be described in the first person e.g.:

I set up the apparatus, then I prepared the recording sheet. I added the first element then I waited for it ... etc etc.

However, it is more acceptable to write about specific decisions in the first person e.g.:

the weather was colder than anticipated, so I decided to focus the data collection on the hours around mid-day.

Styles are changing in this area, and they currently vary across disciplines, so it is important to check preferences in your own field regarding the balance between use of the first and third person.

### **Draft 3: Editing for consistency**

A thesis is a large document, written over time, so it is almost inevitable that problems may occur with consistency. The kinds of elements to review for consistency are:

- consistent use of the third person rather than the first person, except in places where you have specifically decided to use a different voice;
- consistent use of one tense throughout a section, unless there is a specific reason to change;
- consistent use and formatting of headings and sub-headings;
- a reasonable (not necessarily equal) balance in the lengths of sections;
- consistent use of either bullet points or numbering for lists;
- consistency in referencing style;
- consistency in labelling and numbering appendices, tables, diagrams, figures, photos, and other items.

## **Draft 4: Signposting and linking**

Signposting and linking are particularly important in a long document such as a thesis. The reader has a lot of information to take in, and is unlikely to read the whole document in one go. It is in your own interest to help the reader construct and maintain a coherent picture of the research you are describing.

Typical wording for signposting:

In this chapter, the method will be described in detail. The chapter begins with a description of the physical setting in which the data were collected. It then describes the process of recruitment to the study. Each element of the experiment is described in turn, and illustrated using a typical participant journey. Copies of the letters, information sheets, and consent forms used are included in Appendix F. The chapter ends with a description of ...

Signposting is helpful in the Introduction and at the beginning of chapters. It allows the reader to prepare a structure in his or her own mind, into which can be placed the material that is then read. It reduces the chance that the reader will wonder why you seem to have missed something out, only to find it is included in an unexpected place. It also helps the reader to appreciate the logical flow of your writing.

Linking is used to guide the reader through different sections or paragraphs, so that the logical structure of your writing is highlighted. Creating and inserting appropriate links is a useful test of the logical structure of your writing. If you find it straightforward to insert links, it suggests that your writing is logically and coherently ordered. If you find it more difficult, it could be a sign that you need to re-think some of the ordering.

Typical wording for links:

- In the previous chapter I described .... In this chapter I will ...
- The argument just presented is the main one used by theorists in this field. The next sections describe three other related arguments that could be used to extend it.
- This is the background as far as the providers were concerned. The next section explores the background from the users' perspective.

Each of these links looks both backwards and forwards, thereby both reviewing what has just been said, and introducing what is about to be said. It is easy to feel that, by using links like these, you are wasting words. Ironically, by using these 'extra' words, you are actually employing a very efficient method of streamlining and structuring your content.

### **Editing to increase the number of words**

In the editing process you may identify certain sections of your writing that are relatively brief and superficial, and which you consider need to be extended. Techniques you can use are:

- taking the idea contained within one sentence, and developing it into a whole paragraph;
- increasing the amount of comment as opposed to pure description;
- being more generous with the signposting, linking, and summaries;

- asking the questions ‘So what?’ and ‘Why should I believe this?’, then providing the extra rationale that is needed;
- thinking further through the implications of your research for e.g.: theory; practice; research;
- thinking further about how the research could have been done better.

It is vital that the words you add enhance the academic quality of the thesis, rather than simply fill the space. Having space to increase the number of words is an excellent and relatively rare opportunity to read your work from the examiner’s viewpoint, then to be able to add in further explanation where this seems necessary.

### **Editing fatigue**

There may come a point at which you feel that you have lost the critical eye you need to review your writing. It is important to recognise when this happens. There is little point in continuing to edit that piece of work if you are losing your sense of judgment. When this happens you can put it aside to look at it yourself a few days later. Editing is best done in a series of short, focussed efforts, rather than attempting a long, sustained effort.

### **Draft 5: Proof reading**

Proof reading is the last stage in the editing process. It needs to be done thoroughly and systematically, otherwise it is very easy to miss details that need to be changed. Here are five suggestions to feed into a proof reading strategy.

1. Take a structured approach: focus in turn on specific potential problems, rather than trying to identify everything at one go.
2. Make your proof reading relevant to your own writing. Look through some previous writing that has been marked, and make a list of your own typical errors, then use this to form the basis of your proof reading strategy.
3. Examples of common problems are:
  - faulty abbreviations
  - duplication of words
  - spelling errors
  - too much space between two words
  - missing or misplaced apostrophes
  - inappropriate changes of tense
  - singular and plural mixed up
  - inaccurate cross-referencing of pages
  - leaving a reference in the list, when it has been removed from the text
4. Check referencing format in detail: it must be appropriate, accurate, and consistent.
5. Final check of tables; figures; diagrams; page numbering; contents list; appendices; and all the references to any of these within the text.

## **References**

- Barrass R. (1978) *Scientists must write*. Chapman & Hall: London.
- Brookes I. and Marshall D. (2004) *Good writing guide*. Chambers: Edinburgh.
- Wolcott H. (2001) *Writing up qualitative research*. 2nd Edition. Sage: Thousand Oaks.

## Critical reading

Critical reading is an important precursor to critical writing. This Study Guide explains why critical reading is important, and gives some ideas about how you might become a more critical reader. Other Study Guides you may find useful are [What is critical writing? Using paragraphs](#) and [The art of editing](#).

### What is critical reading?

The most characteristic features of critical reading are that you will:

- examine the evidence or arguments presented;
- check out any influences on the evidence or arguments;
- check out the limitations of study design or focus;
- examine the interpretations made; and
- decide to what extent you are prepared to accept the authors' arguments, opinions, or conclusions.

### Why do we need to take a critical approach to reading?

Regardless of how objective, technical, or scientific the subject matter, the author(s) will have made many decisions during the research and writing process, and each of these decisions is a potential topic for examination and debate, rather than for blind acceptance.

You need to be prepared to step into the academic debate and to make your own evaluation of how much you are willing to accept what you read.

A practical starting point therefore, is to consider anything you read not as fact, but as the argument of the writer. Taking this starting point you will be ready to engage in critical reading.

### Critical reading does not have to be all negative

The aim of critical reading is not to find fault, but to assess the strength of the evidence and the argument. It is just as useful to conclude that a study, or an article, presents very strong evidence and a well-reasoned argument, as it is to identify the studies or articles that are weak.

### Evidence

Depending on the kind of writing it is, and the discipline in which it sits, different kinds of evidence will be presented for you to examine.

At the technical and scientific end of the spectrum, relevant evidence may include information on: measurements, timing, equipment, control of extraneous factors, and careful following of standard procedures. Specific guidance will be available within specialties on what to look for.

At the other end of the spectrum is writing where there is clearer scope for personal interpretation, for example:

- analysis of individuals' experiences of healthcare;
- the translation of a text from a foreign language; or
- the identification and analysis of a range of themes in a novel.

In these cases the evidence may include items such as quotes from interviews, extracts of text, and diagrams showing how themes might connect.

The nature of the evidence presented at these two extremes is different, but in both cases you need to look for the rationale for the selection and interpretation of the evidence presented, and the rationale for the construction of the argument.

## **Broadening the definition of evidence**

This Study Guide takes a broad view of evidence: it maintains that all that you read can be considered as evidence, not purely the actual data collected/presented. This encompasses:

- the report of the context within which the data were collected or created;
- the choice of the method for data collection or selection;
- the audit trail for the analysis of the data i.e.: the decisions made and the steps in the analysis process;
- the rationale for the interpretations made and the conclusions drawn;
- the relevance of, and the use made of the theoretical perspective, ideology, or philosophy that is underpinning the argument.

## **Linking evidence to argument**

On its own, evidence cannot contribute to academic debate. The interpretation and presentation of that evidence within an argument allows the evidence to make a contribution.

The term 'argument' in this context means the carefully constructed rationale for the enquiry, and for the place of its results within the academic arena. It will explain for example:

- why the authors considered that what they did was worth doing;
- why it was worth doing in that particular way;
- why the data collected, or the material selected, were the most appropriate;
- how the conclusions drawn link to the wider context of their enquiry.

Even in the most technical and scientific disciplines, the presentation of argument will always involve elements that can be examined and questioned. For example, you could ask:

- Why did the writer select that particular topic of enquiry in the first place?
- Why did the writer decide to use that particular methodology, choose that specific method, and conduct the work in that way?
- Why did the writer select that particular process of analysis?

## Note taking

As you read, it can be helpful to use a table to record the information that you know you will need later. In addition to the usual bibliographical details, you can devise your own list of extra information you want to collect at the initial reading stage. Some suggestions are given below.

Two important points about using such tables are:

- it is essential that you devise your own list of information to collect from each source, based on what you know you will need to comment upon; and
- realistically, it is probably best not to try to collect this information from every single source you use, only from those you decide to refer to in your report or assignment. Otherwise it could really slow down your background reading, and result in the collection of a mass of material that you never use.

## Descriptive details you may want to record about sources

Setting	Type of data
Sample size	Use of theory
Sample profile	Equipment
Follow up	Style of writing
Statistics used	Measurements
Methods	Sources of bias
Questions raised	Limitations
Main arguments	Intended audience

## Some interpretative questions you may need to ask about sources

These are questions that need more input from you as the critical reader. You will need to make judgements about your answers, and will need to record the reasons for your answers. This list is a mix of arts and science-based questions, as there are several areas of common interest.

- How well-developed are the themes or arguments?
- Did the theoretical perspective used introduce any potential bias?
- Are you convinced by the interpretations presented?

- Are the conclusions supported firmly by the preceding argument?
- How appropriate are the comparisons that are used?
- Did the response options, or measurement categories or techniques used affect the data that were collected?
- Have any ethical considerations been adequately addressed?

If you take a critical approach right from the start of your reading and note taking, it can save a lot of time later on. When you come to write your assignment or thesis, you will need to comment on the validity of the writing that you refer to. So, if you have kept a systematic record of the results of your critical reading, you will be able to refer to it easily. If you have not, you will find yourself wasting a lot of time re-reading material, and re-reviewing the evidence presented.

## Helpful guidance from other sources

There are many sources of guidance on how to engage in critical reading: some are in books on general study skills; others are on the internet. Chapter 10 of the ‘Study Skills Handbook’ by Stella Cottrell (2003) Basingstoke: Palgrave Macmillan, is particularly recommended. The following questions are based on material from that chapter:

- Does the writing assume a causal connection when there may not be one?
- Are general conclusions drawn based on only a few examples?
- Are inappropriate comparisons being made?
- Might there be other explanations apart from the one proposed?
- Are there any hidden assumptions that need to be questioned?
- Is enough evidence presented to allow readers to draw their own conclusions?
- Does the line of reasoning make sense?

## Critical writing

Study guide

It is common for feedback on student writing to focus on the need to engage more critically with the source material. Typical comments from tutors are: ‘too descriptive’, or ‘not enough critical analysis’. This Study Guide gives ideas for how to improve the level of critical analysis you demonstrate in your writing. Other Study Guides you may find useful are: [What is Critical Reading?](#) [Using Paragraphs](#) and [The Art of Editing](#).

## What is critical writing?

The most characteristic features of critical writing are:

- a clear and confident refusal to accept the conclusions of other writers without evaluating the arguments and evidence that they provide;
- a balanced presentation of reasons why the conclusions of other writers may be accepted or may need to be treated with caution;

- a clear presentation of your own evidence and argument, leading to your conclusion; and
- a recognition of the limitations in your own evidence, argument, and conclusion.

## What is descriptive writing?

The most characteristic features of descriptive writing are that it will describe something, but will not go beyond an account of what appears to be there. A certain amount of descriptive writing is needed to establish for example:

- the setting of the research;
- a general description of a piece of literature, or art;
- the list of measurements taken;
- the timing of the research;
- an account of the biographical details of a key figure in the discipline; or
- a brief summary of the history leading up to an event or decision.

## The difference between descriptive writing and critical writing

With **descriptive writing** you are not developing argument; you are merely setting the background within which an argument can be developed. You are representing the situation as it stands, without presenting any analysis or discussion.

Descriptive writing is relatively simple. There is also the trap that it can be easy to use many, many words from your word limit, simply providing description.

In providing only description, you are presenting but not transforming information; you are reporting ideas but not taking them forward in any way. **An assignment using only descriptive writing would therefore gain few marks.**

With critical writing you are participating in the academic debate. This is more challenging and risky. You need to weigh up the evidence and arguments of others, and to contribute your own. You will need to:

- consider the quality of the evidence and argument you have read;
- identify key positive and negative aspects you can comment upon;
- assess their relevance and usefulness to the debate that you are engaging in for your assignment; and
- identify how best they can be woven into the argument that you are developing.

A much higher level of skill is clearly needed for critical writing than for descriptive writing, and this is reflected in the higher marks it is given.

## Finding your academic voice

When you engage in critical writing you are developing your own academic voice within your subject. Wellington et al. (2005 p.84) offer some suggestions for distinguishing between the academic and the non-academic voice. They suggest that the academic voice will involve:

- “healthy scepticism ... but not cynicism;
- confidence ... but not ‘cockiness’ or arrogance;
- judgement which is critical ... but not dismissive;
- opinions ... without being opinionated;
- careful evaluation of published work ... not serial shooting at random targets;
- being ‘fair’: assessing fairly the strengths and weaknesses of other people’s ideas and writing ... without prejudice; and
- making judgements on the basis of considerable thought and all the available evidence ... as opposed to assertions without reason.”

Wellington J., Bathmaker A., Hunt C., McCulloch G. and Sikes P. (2005). *Succeeding with your doctorate*. London: Sage.

Try to get into the habit of writing critically, by making sure that you read critically, and that you include critique in your writing.

## Stringing together of quotes

It can be tempting to string together quotes to support an argument, feeling that the more quotes you include, the stronger your argument. It is important, however, to remember that you also need to interpret the quotes to the reader, and to explain their relevance, discuss their validity, and show how they relate to other evidence.

## Strategic use of paragraphs

There are several ways in which you can use the paragraph to enhance your critical writing.

You can use paragraphs to make a clear and visual separation between descriptive writing and critical analysis, by switching to a new paragraph when you move from description to critical writing, and vice versa. This can help in:

- emphasising to the reader that you are including both description and critical analysis, by providing a visual representation of their separation; and
- pushing you to produce the necessary critical writing, especially if you find that your description paragraphs are always longer, or more frequent, than your critical analysis paragraphs.

A paragraph break can provide a brief pause for your readers within a longer argument; giving them the opportunity to make sure they are keeping up with your reasoning. Paragraphs that are overly long can require readers to hold too much in their mind at once, resulting in their having to re-read the material until they can identify the point you are making.

You can also use paragraphs to push yourself to include critical writing alongside descriptive writing or referencing, by considering each paragraph almost as an essay in miniature. Within each paragraph you would:

- introduce the point you want to make;
- make the point, with supporting evidence;

- reflect critically on the point.

## **If it's worth including, it's worth telling us why**

A certain amount of descriptive writing is essential, particularly in the earlier parts of the essay or assignment or dissertation. Beyond that, however, there is a danger that too much descriptive writing will use up valuable words from your word limit, and reduce the space you have for the critical writing that will get you higher marks.

A useful habit to get into is to make sure that, if you describe some evidence relevant to your argument, you need then to explain to the reader why it is relevant. The logic of your explanation contributes to the critical component of your writing.

So, a sentence or two might describe and reference the evidence, but this is not enough in itself. The next few sentences need to explain what this evidence contributes to the argument you are making. This may feel like duplication at first, or that you are explaining something that is obvious, but it is your responsibility to ensure that the relevance of the evidence is explained to the reader; you should not simply assume that the reader will be following the same logic as you, or will just work out the relevance of the quote or data you have described.

## **Line of argument**

So far this Study Guide has considered the detail of what you write. The other key element in critical writing is the overall structure of your piece of writing. For maximum effectiveness, your writing needs to have a line, or lines of argument running through it from the Introduction to the Conclusion.

Just as you have used paragraphs on a micro scale to present your critical writing, so you need to consider the ordering of those paragraphs within the overall structure. The aim is to lead your readers carefully through the thread of your argument, to a well-supported conclusion.

## **Example of effective critical writing**

The text below is an example of good critical writing, and is based on essay material supplied by University of Leicester's School of Psychology.

The author refers to the available evidence, but also evaluates the validity of that evidence, and assesses what contribution it can realistically make to the debate.

There are a number of inherent methodological difficulties in evaluating treatment efficacy in this area, and this has contributed to controversy within the research literature surrounding treatment outcomes for this group of offenders (Marshall, 1997). Firstly, while there is no doubt that the primary criterion of treatment success is a reduction in the rate of re-offending (Marshall et al., 1999), reconviction data does not, in isolation, provide a realistic representation of actual levels of re-offending by this group. It is well established that there is a discrepancy between re-offending and reconviction rates: the latter underestimating the number of offences committed (Grubin, 1999). Indeed, a significant proportion of offences

committed by offenders are either unreported, or do not result in the offender being convicted (Abel *et al.*, 1987).

You can see how the author is considering the available evidence, but also the limitations on that evidence, and will be taking all of this into account in drawing conclusions.

## Checklist for an overall review of your writing

It is always worth taking a critical look at your own writing before submitting it for assessment. The kinds of questions that might be useful to ask at that stage are:

### **What is the balance between descriptive and critical writing?**

While a certain amount of description is necessary to set the context for your analysis, the main characteristic of academic writing is its critical element. A useful way to check this balance in your own writing is to use two coloured pens and to mark in the margin whether the lines are descriptive or critical. The balance will change at different points, but you need to make sure there is enough of the colour that represents critical writing.

### **Why should the reader be convinced by what I've just written?**

Remember that, just as you are asking 'Why should I believe what I've just read?', the readers of your work will be asking the same question of your writing. A critical read through your own writing may reveal gaps in your logic, which you can rectify before you submit it for the critique of others.

### **Is my conclusion trailed and supported sufficiently well by my preceding analysis and argument?**

Check out the conclusions that you have drawn, then locate and check the supporting evidence you provide earlier on. This is a good way of making sure you haven't forgotten to include a crucial piece of evidence. It is also a way of checking that, when your reader comes to the end of your writing, the conclusions make sense, rather than being a surprise, or an unconvincing leap of logic.

### **Have I included any unsubstantiated statements?**

Sometimes a generalised, sweeping statement can slip through: the kind of statement that might be acceptable on conversation, but not in academic writing. There are three main ways of dealing with such statements:

- present the evidence to support the statement
- re-phrase the statement to sound more cautious e.g.: 'it could be argued ...' or 'this suggests that ...'
- remove the statement

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Essays are a particular form of writing, with their own structure and conventions. This guide explains the conventions of the essay and shows you how to write clear, well structured essays that communicate effectively with the reader.

Other useful guides: [Planning essays](#); [Referencing and bibliographies](#); [Avoiding plagiarism](#).

### The key elements

A good essay takes the reader into account by clearly presenting material in a way that is logical, coherent and easy to follow. Before you begin to write your essay, you need to select and order your material in the form of an essay plan. Refer to the guide [Planning essays](#) for information on preparation and planning. When you have an effective essay plan you are free to concentrate on the expression of your ideas and information. You can learn to guide your reader by being aware of how to use the key elements of an essay. This guide shows you how to make the best use of:

- the introduction;
- paragraphs;
- evidence;
- the conclusion.

This guide uses the following essay question as an example:

Examine and compare the nature and development of the tragic figures of Macbeth and Dr Faustus in their respective plays.

### The introduction

The introduction is a signpost for your reader, showing how you intend to answer the question. You will need to show your understanding of the key issues and indicate the main areas your essay will cover. One possible structure for an introduction is shown below.

- Begin with a general point about the central issue  
Dr Faustus and Macbeth are both plays which show their respective playwrights at the pinnacle of their careers.

- Use the words of the title to show your understanding of the question  
When comparing the nature of the two plays' respective heroes, both parallels and contrasts can be found.
- Show what your essay structure will be  
In the first section of this essay, the role of the tragic hero will be considered ... The second section of this essay will examine the ... Finally, a comparison will be made of the development of the two ...
- Make a link to the first point  
In examining the characters' tragic qualities, a useful starting point is Aristotle's definition of tragedy...

## The use of paragraphs

Your essay plan should show clearly what the main sections of your essay will be and which points will be including in each section. Ordering your points in each section should also take place at the planning stage. You now need to use paragraphs to take your reader step by step through each section. Each paragraph you write should express clearly one point or one aspect of a point. Your paragraphs should link together to provide the reader with a sense of logical progression. The example below shows how a paragraph can have its own internal structure which:

- introduces the paragraph's point;
- presents and comments on evidence;
- makes a link to the next paragraph.

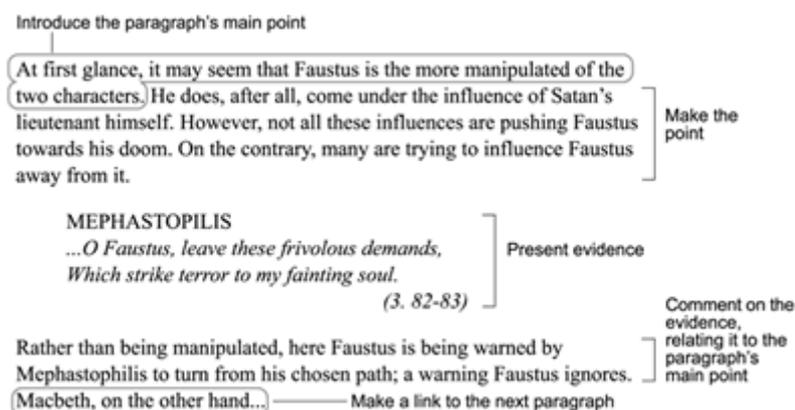


Figure 1: Sample paragraph

## The use of evidence and/or examples

You should use evidence to illustrate and support your points. Evidence may be the opinion of an expert or the results of a study or experiment. It may be written or in diagram format. Use the evidence to:

- add authority to your point;
- add credibility to your argument;
- add interest to your discussion.

Whenever you refer to someone else's ideas or opinion you must acknowledge your source through referencing. It may be in the form of a quotation:

Gardner believes that Faustus' inability to change is, "a human representation of the inability of the fallen angels to turn back from their damnation." <sup>2</sup>

or you may paraphrase or summarise an opinion or idea:

Faustus' inability to change can be seen as the same inability that the fallen angels have, but represented in human terms (Gardner, 1982).

There are two main ways of referencing your evidence:

- the use of a number referring to a note at the end of the essay or bottom of the page (as in the first example);
- the inclusion of the author and date of publication in the body of the essay with the full details included in your bibliography (as in the second example).

At the end of your essay you must include a bibliography which lists all the books you have consulted in writing your essay, whether or not you have referred to them in your essay. A bibliography should include the details of author, title, date, place of publication, publisher and edition for each book.

Gardner, H. (1982) *The Tragedy of Damnation*. New York: Oxford University Press.

Most departments have their own preferred style of referencing and bibliographies. Check your department handbook for details. For further guidance, refer to the

## The conclusion

The conclusion is another signpost to your reader. It gives you the opportunity to:

- use the words of the title to show you have answered the question;
- remind the reader of what has been covered;
- show the overall significance of the material;
- provide an overall assessment of theories or arguments, summarising your own view point.

An example of an effective concluding paragraph is shown below.

- Brief recap

The characters of Macbeth and Faustus are very similar in many respects; they both willingly follow a path that leads to their damnation, for example.

- Reference to the larger issue

The differences lie in the development of the characters in what are essentially two different types of plays.

- Evaluation of the main arguments

As has been shown, the character of Macbeth has a nadir from which he ascends at the conclusion of the play. This is in keeping with Aristotle's definition of tragedy. For Faustus however, there is no such ascension. This fits the style of the morality play: the erring Faustus must be seen to be humbled at his end for the morality to be effective.

- Highlighting the most important aspects

It is this strong element of morality in Dr Faustus which ultimately divides the two plays.

## Drafting your essay

Planning your material before you begin writing should reduce the need for drafting. Whether or not your department requires all essays to be word processed, learning to write essays on a computer has many advantages. It enables you to easily make amendments and changes to your work without the need to rewrite whole parts of the essay. If you find it necessary to make a first draft by hand, then write each section on a separate piece of paper, so that changes can be made easily.

Don't try to make significant changes to the sequence of your material through redrafting. Go right back to the planning stages and revise your original essay plan or make a new one. Remember that just as the essay question should be your focus in the planning stages, you can regularly refer to the question in the writing of your essay. Use the essay question to check that you are keeping to the point and that all your material is relevant to answering the question.

## Editing your essay

It is often difficult to edit your own writing. Read your work aloud, carefully adhering to the pauses of the punctuation you have used. This will help you identify problems with clarity of expression or sentence structure. Spell checks on computers are useful, but be aware that they don't identify an inappropriate use of a correctly spelt word. Have a break from your essay (preferably overnight) to make the final check more effective.

## Presentation

Your department will have its own guidelines for the presentation of essays which may include word-processing. Check your departmental handbook for details. The Computer Centre and the University book shop have written guides on using the University's word-processing packages.

## Feedback

The feedback and comments you receive with your marked work are an invaluable aid to identifying the strengths and weaknesses in your written work. By rereading your essay in the light of this feedback you can see the areas you want to develop and then decide on a strategy for improvement. To develop your writing skills further you can:

- discuss your essay with your tutor;
- share your experience with other students;
- attend a Student Learning Centre workshop or individual consultation.

## Summary

- Select and order your material in an essay plan before you begin writing.
- Guide your reader by making the best use of the introduction and conclusion.
- Use paragraphs to present your points in a clear, linked sequence.
- Use evidence to support and illustrate your points. Be sure to acknowledge all your sources.
- Make use of essay plans to reduce the need for redrafting.
- Check your handbook or ask your tutor for the department's guidelines to referencing, bibliographies and presentation.
- Take a break before checking your essay and read your work aloud to check your expression and sentence structure.
- Make the most of feedback to plan your strategy for improving your writing skills.

## Writing for science

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This study guide offers you some strategies for making your scientific writing more effective, helping you to write with accuracy and clarity.

Other useful guides: [Planning essays](#), [Writing essays](#).

## Introduction

Writing is a very important part of science; it is used to document and communicate ideas, activities and findings to others. Scientific writing can take many forms from a lab notebook to a project report, or from a paper in an academic journal to an article in a scientific magazine. This guide focuses on scientific writing for academic course work, much of which is devoted to describing and explaining.

## Characteristics of good scientific writing

Good scientific writing is:

- **clear** - it avoids unnecessary detail;
- **simple** - it uses direct language, avoiding vague or complicated sentences. Technical terms and jargon are used only when they are necessary for accuracy;
- **impartial** - it avoids making assumptions (Everyone knows that ...) and unproven statements (It can never be proved that ...). It presents how and where data were collected and supports its conclusions with evidence;
- **structured logically** - ideas and processes are expressed in a logical order. The text is divided into sections with clear headings;
- **accurate** - it avoids vague and ambiguous language such as about, approximately, almost;
- **objective** - statements and ideas are supported by appropriate evidence that demonstrates how conclusions have been drawn as well as acknowledging the work of others.

## Developing good scientific writing

To reflect the characteristics of good scientific writing in your own work, you need to think about the way that you write and the language that you use. A good scientific author will have given consideration to the following choices in writing, making decisions that improve the effectiveness of the writing.

## Choosing the words

To make your writing clear, accurate and concise you should consider carefully the words that you use, and the ways in which you use them.

### Technical terms

In most scientific writing you will need to use some scientific or technical terms in order to be clear and unambiguous. However, use such terms only when you need to do so and do not try to impress the reader by using unnecessary technical jargon or lengthy words.

### Abbreviations

Abbreviations can be a very useful way of saving time and avoiding repetition, but they can be confusing and might not be understood by everyone. Use standard abbreviations where these exist, and reduce your use of abbreviations to an absolute minimum; they are rarely essential.

### Use objective rather than subjective language

Objective language is language that is impartial and states a fact or process; subjective language is open to question or interpretation as it implies personal thought or belief. For example:

**objective** *The car travelled at 38 kilometres per hour*

is a clear, objective statement of fact. However:

**subjective** *The contents of the test tube turned a beautiful blue colour*

uses *beautiful* in a way that is subjective because it cannot be measured or accurately explained to the reader. Always use language that is concrete and specific rather than vague and personal.

## Choosing a 'voice'

Scientific writers have a tendency to use *passive* rather than *active* expressions; stating that *a* was affected by *b* uses the passive voice while stating that *b* did something to *a* uses the active voice. The following example shows a sentence written in both the passive and active voices.

**passive** *The experiment was designed by the research officer*

**active** *The research officer designed the experiment*

The passive voice is particularly useful when:

- you wish your writing to be formal and depersonalised:

**passive** *It was agreed that the experiment should be...*

**active** *We agreed that the experiment should be...*

- information about the agent is obvious or unimportant:

**passive** *Extra solvent was added to the flask*

**active** *The technician added extra solvent to the flask;*

- you do not know the identity of the agent:

**passive** *The water pipe was broken in three places*

**active** *Something/someone had broken the water pipe in three places*

However, the use of the passive voice can lead to clumsy and overcomplicated sentences.

**passive** *Difficulty was experienced in obtaining the product in a high state of purity*

is rather convoluted way of saying

**active** *The product was difficult to purify*

which is a much clearer and more straightforward statement.

In general, the active voice is clearer, more direct and easier to read, but the passive voice can be more appropriate in particular circumstances. What is most important is for you to be aware of how you are writing, and how the voice that you choose affects the tone and the meaning of your words.

## Personal or impersonal?

Scientific writers often try to avoid the use of personal expressions or statements in order to make their writing seem more impartial and formal. The following sentence has been written with both personal and impersonal expressions to highlight the contrast between the two writing styles.

impersonal The explanation for this phenomenon may be found in...

personal We/I believe that the explanation for this phenomenon may be found in...

However, used indiscriminately, writing impersonally can result in clumsy statements through an excessive use of the passive voice. This can lead to ambiguity or inaccuracy in your written work, for example:

### impersonal & passive

It was decided that the temperature should be raised gives no information about the identity of the people who made the decision.

### personal & active

We decided that the temperature should be raised avoids ambiguity and makes the sentence sound more direct, but uses the personal and rather informal we.

### impersonal & active

The research team decided that the temperature should be raised is clear and direct.

Think carefully about your use of impersonal and personal expressions, taking care to ensure that your writing is always clear and unambiguous.

## Using tenses

Scientific writing frequently uses the past tense, particularly when the main focus of the writing is to describe experiments or observations that took place prior to the time of writing, for example:

The data were analysed.

The solution was decanted.

The temperature was recorded.

However, the past tense may not be appropriate for everything that you write and sometimes you will need to combine different tenses in the same piece of writing. For example, the use of different tenses can help to clarify what happened or what you did in the past (past tense), what you conclude (present tense) and what will be an issue for the future (future tense). The following sentences show how different tenses can be used to achieve clarity in your written work.

**The experiment was carried out in a sterile environment (past tense for a statement of what happened).** It is particularly important to avoid contamination (present tense for a statement that is a general 'truth'). It will be necessary to ensure that the same conditions are replicated in future experiments (future tense for a recommendation for the future).

An appropriate use of past, present and future tenses can contribute to a clear and unambiguous writing style.

## Sentence length

Sentences that are too short and poorly connected can be irritating to read. Conversely, sentences that are too long and rambling are difficult to follow and are likely to be confusing. Use a sentence length that allows your thoughts to flow clearly. As a general rule there should be no more than 20-25 words in any one sentence. You may be able to reduce your sentence length by:

- cutting out unnecessary words

*like* might replace *along the lines of*

*now* may be just as appropriate as *at the present time*

*we can now turn our attention to* could perhaps be cut out entirely;

- dividing complex sentences into separate phrases or sentences.

*If a breakdown occurs it is important that alternative supplies are available and the way that this is done is for the power stations to be linked through the high voltage transmission lines so that all of them contribute to the total supply of energy and an unexpectedly large demand can be handled.*

can be re-written thus:

*If a breakdown occurs it is important that alternative supplies are available; this is done by linking power stations through the high voltage transmission lines. All of them thus contribute to the total supply of energy and an unexpectedly large demand can be handled.*

## Summary

Writing well requires as much care and thought as the experiments or research that are written about. This study guide has defined a number of characteristics of good writing, and has highlighted some of the key choices that scientific authors must make if they are to write with accuracy and clarity. If you require further help in the development of your writing, please contact the Student Learning Centre in College House.

## Writing reports

### Aims and Objectives

This guide has been written to provide a general introduction to writing reports. It outlines the typical structure of a report and provides a step by step guide to producing reports that are clear and well structured.

### What is a report?

A report is written for a clear purpose and to a particular audience. Specific information and evidence are presented, analysed and applied to a particular problem or issue. The information is presented in a clearly structured format making use of sections and headings so that the information is easy to locate and follow.

When you are asked to write a report you will usually be given a report brief which provides you with instructions and guidelines. The report brief may outline the purpose, audience and problem or issue that your report must address, together with any specific requirements for format or structure. This guide offers a general introduction to report writing; be sure also to take account of specific instructions provided by your department.

### What makes a good report?

Two of the reasons why reports are used as forms of written assessment are:

- to find out what you have learned from your reading, research or experience;
- to give you experience of an important skill that is widely used in the work place.

An effective report presents and analyses facts and evidence that are relevant to the specific problem or issue of the report brief. All sources used should be acknowledged and referenced throughout, in accordance with the preferred method of your department/university. The style of writing in a report is usually less discursive than in an essay, with a more direct and economic use of language. A well written report will demonstrate your ability to:

- understand the purpose of the report brief and adhere to its specifications;
- gather, evaluate and analyse relevant information;
- structure material in a logical and coherent order;

- present your report in a consistent manner according to the instructions of the report brief;
- make appropriate conclusions that are supported by the evidence and analysis of the report;
- make thoughtful and practical recommendations where required.

## The structure of a report

The main features of a report are described below to provide a general guide. These should be used in conjunction with the instructions or guidelines provided by your department.

### Title Page

This should briefly but explicitly describe the purpose of the report (if this is not obvious from the title of the work). Other details you may include could be your name, the date and for whom the report is written.

*Geology of the country around Beacon Hill, Leicestershire*  
*Angus Taylor*  
*2 November 2004*

(Example of a title page)

### Terms of Reference

Under this heading you could include a brief explanation of who will read the report (audience) why it was written (purpose) and how it was written (methods). It may be in the form of a subtitle or a single paragraph.

*A report submitted in fulfilment of the requirements for Course  
GL456, Department of Geology, University of Leicester.*

(Example of terms of reference)

### Summary (Abstract)

The summary should briefly describe the content of the report. It should cover the aims of the report, what was found and what, if any, action is called for. Aim for about 1/2 a page in length and avoid detail or discussion; just outline the main points. Remember that the summary is the first thing that is read. It should provide the reader with a clear, helpful overview of the content of the report.

*Exposure of rocks belonging to the Charnian Supergroup (late Precambrian) were examined in the area around Beacon Hill, north Leicestershire. This report aims to provide details of the stratigraphy at three sites - Copt Oak, Mount St. Bernard Abbey and Oaks in Charnwood. It was observed that at each of these sites, the Charnian Supergroup consists mainly of volcanoclastic sediments (air-fall and ash-flow tuffs) interbedded with*

*mudstones and siltstones. These rocks show features that are characteristic of deposition in shallow water on the flanks of a volcano (e.g. welding and alteration of ignimbrites). Further studies are required to understand depositional mechanisms and to evaluate the present-day thickness of individual rock units.*

(Example of a summary (abstract))

## **Contents (Table of Contents)**

The contents page should list the different chapters and/or headings together with the page numbers. Your contents page should be presented in such a way that the reader can quickly scan the list of headings and locate a particular part of the report. You may want to number chapter headings and subheadings in addition to providing page references. Whatever numbering system you use, be sure that it is clear and consistent throughout.

## **Introduction**

The introduction sets the scene for the main body of the report. The aims and objectives of the report should be explained in detail. Any problems or limitations in the scope of the report should be identified, and a description of research methods, the parameters of the research and any necessary background history should be included.

In some reports, particularly in science subjects, separate headings for **Methods** and **Results** are used prior to the main body (**Discussion**) of the report as described below.

## **Methods**

Information under this heading may include: a list of equipment used; explanations of procedures followed; relevant information on materials used, including sources of materials and details of any necessary preparation; reference to any problems encountered and subsequent changes in procedure.

## **Results**

This section should include a summary of the results of the investigation or experiment together with any necessary diagrams, graphs or tables of gathered data that support your results. Present your results in a logical order without comment. Discussion of your results should take place in the main body (**Discussion**) of the report.

## **Discussion**

The main body of the report is where you discuss your material. The facts and evidence you have gathered should be analysed and discussed with specific reference to the problem or issue. If your discussion section is lengthy you might divide it into section headings. Your points should be grouped and arranged in an order that is logical and easy to follow. Use headings and subheadings to create a clear structure for your

material. Use bullet points to present a series of points in an easy-to-follow list. As with the whole report, all sources used should be acknowledged and correctly referenced. For further guidance check your departmental handbook and the Student Learning Centre guide: [Referencing and Bibliographies](#).

## **Conclusion**

In the conclusion you should show the overall significance of what has been covered. You may want to remind the reader of the most important points that have been made in the report or highlight what you consider to be the most central issues or findings. However, no new material should be introduced in the conclusion.

## **Appendices**

Under this heading you should include all the supporting information you have used that is not published. This might include tables, graphs, questionnaires, surveys or transcripts. Refer to the appendices in the body of your report.

In order to assess the popularity of this change, a questionnaire (Appendix 2) was distributed to 60 employees. The results (Appendix 3) suggest the change is well received by the majority of employees.

Example of use of appendices

## **Bibliography**

Your bibliography should list, in alphabetical order by author, all published sources referred to in your report. There are different styles of using references and bibliographies. Refer to the study guide [Referencing and Bibliographies](#) and check your departmental handbook for guidelines. Texts which you consulted but did not refer to directly could be grouped under a separate heading such as 'Background Reading' and listed in alphabetical order using the same format as in your bibliography.

## **Acknowledgements**

Where appropriate you may wish to acknowledge the assistance of particular organisations or individuals who provided information, advice or help.

## **Glossary of Technical Terms**

It is useful to provide an alphabetical list of technical terms with a brief, clear description of each term. You can also include in this section explanations of the acronyms, abbreviations or standard units used in your report.

**You will not necessarily be required to use all of the headings described above, nor will they necessarily be in the order given here. Check your departmental guidelines or instructions.**

## **Writing the report: the essential stages**

All reports need to be clear, concise and well structured. The key to writing an effective report is to allocate time for planning and preparation. With careful planning, the writing of a report will be made much easier. The essential stages of successful report writing are described below. Consider how long each stage is likely to take and divide the time before the deadline between the different stages. Be sure to leave time for final proof reading and checking.

### **Stage One: Understanding the report brief**

This first stage is the most important. You need to be confident that you understand the purpose of your report as described in your report brief or instructions. Consider who the report is for and why it is being written. Check that you understand all the instructions or requirements, and ask your tutor if anything is unclear.

### **Stage Two: Gathering and selecting information**

Once you are clear about the purpose of your report, you need to begin to gather relevant information. Your information may come from a variety of sources, but how much information you will need will depend on how much detail is required in the report. You may want to begin by reading relevant literature to widen your understanding of the topic or issue before you go on to look at other forms of information such as questionnaires, surveys etc. As you read and gather information you need to assess its relevance to your report and select accordingly. Keep referring to your report brief to help you decide what is relevant information.

### **Stage Three: Organising your material**

Once you have gathered information you need to decide what will be included and in what sequence it should be presented. Begin by grouping together points that are related. These may form sections or chapters. Remember to keep referring to the report brief and be prepared to cut any information that is not directly relevant to the report. Choose an order for your material that is logical and easy to follow.

### **Stage Four: Analysing your material**

Before you begin to write your first draft of the report, take time to consider and make notes on the points you will make using the facts and evidence you have gathered. What conclusions can be drawn from the material? What are the limitations or flaws in the evidence? Do certain pieces of evidence conflict with one another? It is not enough to simply present the information you have gathered; you must relate it to the problem or issue described in the report brief.

### **Stage Five: Writing the report**

Having organised your material into appropriate sections and headings you can begin to write the first draft of your report. You may find it easier to write the summary and contents page at the end when you know exactly what will be included. Aim for a writing style that is direct and precise. Avoid waffle and make your points clearly and concisely. Chapters, sections and even individual paragraphs should be written with a

clear structure. The structure described below can be adapted and applied to chapters, sections and even paragraphs.

- **Introduce** the main idea of the chapter/section/paragraph
- **Explain** and expand the idea, defining any key terms.
- **Present** relevant evidence to support your point(s).
- **Comment** on each piece of evidence showing how it relates to your point(s).
- **Conclude** your chapter/section/paragraph by either showing its significance to the report as a whole or making a link to the next chapter/section/paragraph.

### **Stage Six: Reviewing and redrafting**

Ideally, you should leave time to take a break before you review your first draft. Be prepared to rearrange or rewrite sections in the light of your review. Try to read the draft from the perspective of the reader. Is it easy to follow with a clear structure that makes sense? Are the points concisely but clearly explained and supported by relevant evidence? Writing on a word processor makes it easier to rewrite and rearrange sections or paragraphs in your first draft. If you write your first draft by hand, try writing each section on a separate piece of paper to make redrafting easier.

### **Stage Seven: Presentation**

Once you are satisfied with the content and structure of your redrafted report, you can turn your attention to the presentation. Check that the wording of each chapter/section/subheading is clear and accurate. Check that you have adhered to the instructions in your report brief regarding format and presentation. Check for consistency in numbering of chapters, sections and appendices. Make sure that all your sources are acknowledged and correctly referenced. You will need to proof read your report for errors of spelling or grammar. If time allows, proof read more than once. Errors in presentation or expression create a poor impression and can make the report difficult to read.

## **Feedback**

Any feedback from tutors on returned work can be used to create a checklist of key points to consider for your next report. Identify priority areas for attention and seek out further information and advice. Speak to your tutor or an adviser from the Student Learning Centre. Used in this way, feedback from tutors can provide a useful tool for developing and improving your writing skills.

## **Planning and conducting a dissertation research project**

### **Introduction**

This guide addresses the task of planning and conducting a small research project, such as for an undergraduate or masters' level dissertation. It aims to help you develop a clear sense of direction early on in the project, and to support you in organising, planning, and monitoring your project.

## What is a dissertation?

A dissertation is a particular kind of academic task. You will usually be asked to generate a topic for yourself; to plan and execute a project investigating that topic; and to write-up what you did and what your findings were. Important stages in the dissertation process include:

- choosing a topic;
- developing a research question;
- effective planning of the research;
- being organised and methodical while conducting your research; and
- reporting the research.

## Choosing a topic

While some students come to their research project with a clear research question to address, many others arrive at this point with several ideas, but with no specific research question. In view of the pressure to get started fairly quickly, this can cause anxiety and even panic. It is, however, a common situation to be in. There are several ways forward:

- Talk to others: what topics are other students considering? Does this spark an interest? Don't wait until you have a fully formed research question before discussing your ideas with others, as their comments and questions may help you to refine your focus.
- Look at other writing: set aside some time to spend in the library, skimming through the titles of research papers in your field over the past five years, and reading the abstracts of those you find most interesting.
- Look through the dissertations of previous students in your department: the topics may give you inspiration, and they may have useful suggestions for further research.
- Think about your own interests: which topic have you found most interesting, and is there an element that could be developed into a research project?
- Is there a related topic of interest to you that has not been covered in the syllabus, but would fit with the theory or methodology you have been working with?
- Be extra critical: is there something in your course so far that you have been sceptical about, or which you think needs further study?
- Read about an interesting topic and keep asking the question 'Why?', this may identify a research question you could address.

Remember that a research study can:

- replicate an existing study in a different setting;
- explore an under-researched area;
- extend a previous study;
- review the knowledge thus far in a specific field;
- develop or test out a methodology or method;
- address a research question in isolation, or within a wider programme of work; or
- apply a theoretical idea to a real world problem.

This list is not exhaustive, and you need to check whether your department has a preference for particular kinds of research study.

Discuss your proposed topic with a member of academic staff who you think might be appropriate to supervise the project. Provided they feel that they know enough about the subject to supervise it, and provided that it can be interpreted as falling within the broad fields of your degree subject, academic staff are generally open to suggestions.

You should think realistically about the practical implications of your choice, in terms of:

- the time requirement;
- necessary travelling;
- access to equipment or room space;
- access to the population of interest; and
- possible costs.

For example, a project on coal mining may require you to visit a Records Office, or to interview coal miners from the region. Is this something that you are prepared and able to do? If the practical considerations associated with your research ideas are unrealistic, you need to consider whether you are willing to modify or reconsider your project.

## Developing a research question

Once your topic has been accepted by your department, you need to begin the process of refining the topic and turning it into something that is focused enough to guide your project. Try describing it as a research problem that sets out:

- the issue that you are going to be investigating;
- your argument or thesis (what you want to prove, disprove, or explore); and
- the limits of your research (i.e. what you are not going to be investigating).

It is important that you establish a research problem at, or close to the start of, your project. It is one of the key tools you have, to ensure that your project keeps going in the right direction. Every task you undertake should begin with you checking your research problem and asking “will this help me address this problem?”

You should be willing to revise your research problem as you find out more about your topic. You may, for example, discover that the data you were hoping to analyse is not

available, or you may encounter a new piece of information or a new concept while undertaking a literature search, that makes you rethink the basis of your research problem. You should always talk to your supervisor before you make any substantial revision to your plans, and explain why you think you need to make the change.

Research problem	Commentary
'Public transport in Scotland'	This sets out your research field but does not frame a research problem because it is too general. You do not have time to study everything about a topic, so you should focus on an aspect that you are interested in.
'Examination of the influence of public transport links on new housing development in Western Scotland'	This is a much better research problem as it establishes an argument (existence of public transport may have some influence on new housing development). However, it is still quite general and could be improved by further focus.
'Investigation of the relationship between public transport links and the development of new areas of housing in Western Scotland: a comparison of local plans and building development since 1990'	This is better still. It shows the limits of the project. You will be investigating a complex subject (public transport in Scotland), but will be focusing on only one aspect of it (possible influence on new housing development). You will make this large subject manageable by focusing on a limited period of time (1990 onwards), and limited sources.

## Effective planning of the research

### Writing a research proposal

A research proposal is a more detailed description of the project you are going to undertake. Some departments require you to submit a research proposal as part of the assessment of your dissertation, but it is worth preparing one even if it is not a formal requirement of your course. It should build on the thinking that you have done in defining your research problem; on the discussions that you have had with your supervisor; and on early reading that you have done on the topic. A comprehensive research proposal will make you think through exactly what it is that you are going to do, and will help you when you start to write up the project.

You could try outlining your project under the following headings

Topic:	this project will study...
Question/problem:	to find out...
Significance:	so that more will be known about...
Primary resources:	the main data will be...

Secondary sources:	additional data comes from...
Methods:	the research will be conducted as follows...
Justification:	the method is most appropriate because...
Limitations:	there are some matters that this methodology may not help me to explain. These might include...

You may find that some of these headings are difficult to fill in right at the start of your project. However, you can use the gaps to help identify where you need to begin work. If, for example, you are unsure about the limitations of your methodology you should talk to your supervisor and read a bit more about that methodology before you start.

### Creating a research plan

A dissertation is an extended project that asks you to manage your time and undertake a variety of tasks. Some courses schedule the dissertation at the end, while others have it running along concurrently with other modules. Whichever way your course is organised, it is essential that you create a plan that helps you allocate enough time to each task you have to complete.

It is useful to work out how many weeks you have until you need to submit your completed dissertation, and draw a chart showing these weeks. Block out the weeks when you know you will be unable to work, and mark in other main commitments you have that will take time during this period. Then allocate research tasks to the remaining time.

<b>January</b>				
Christmas	Write research proposal	Literature review	Complete literature review and conduct pilot study	Main data collection
<b>February</b>				
Complete data collection	Analyse data	Analyse data	Write dissertation plan, then begin first draft	
<b>March</b>				
Complete first draft	Discuss draft with supervisor	Second draft	Second draft	Proofing/checking

It is very important to be realistic about how long each task is likely to take. Some focused thought at the beginning, then at the planning stage of each phase, could save hours later on. Write down the resources needed for each stage. It could be time in the library; the resource of your working hours; or the use of equipment or room space that needs to be booked in advance.

## **Procrastination**

Some people find that they procrastinate more than they would like. This is a common problem, so it is probably best to be well-prepared to identify it and deal with it if it does start to happen. People procrastinate for various reasons for example:

- poor time management
- daunted by the scale of the task
- negative beliefs
- loss of motivation
- perfectionism
- difficulty concentrating
- need to feel under pressure
- personal problems

Early identification of the signs of procrastination will give you the best chance of minimising any negative effects. Once you suspect that you are procrastinating, it can be helpful to review what you are expecting of yourself, and check that those expectations are realistic. This is where planning is vital.

## **Realistic planning**

To improve the prospect of completing on time, and avoiding procrastination, you need to:

- be realistic about when you can/will start;
- devote time to planning and revising your plan;
- try to work out if any of your research will take a set amount of time to complete;
- allocate appropriate time for any travelling you need to do for your research;
- include other (non-dissertation related) things that you have to do between now and then;
- have clear and achievable objectives for each week;
- focus on one thing at a time;
- leave time for editing and correcting;
- reward yourself when you complete objectives that you have timetabled; and
- if you fall behind make sure you spend time reworking your plan.

Your research plan should also include information about what equipment you will need to complete your project, and any travel costs or other expenses that you are likely to incur through the pursuit of your research. You should also think about whether you are dependent on any one else to complete your project, and think about what you are going to do if they are unable to help you.

Once you have created your plan it is a good idea to show it to someone else. Ideally you will be able to show it to a member of academic staff or take it to your Student Learning Centre, but talking it over with a friend may also help you to spot anything that you have forgotten or anywhere that you have been unrealistic in your planning.

## **Being organised and methodical while conducting your research**

### **The role of the supervisor**

Although a dissertation is an opportunity for you to work independently, you will usually be allocated a member of academic staff as a supervisor. Supervisors are there to help you shape your ideas and give you advice on how to conduct the research for your dissertation. They are not there to teach you the topic you have chosen to investigate: this is your project. They are, however, one of the resources that you can call on during your research.

Academics are busy people, so to get the most out of your supervisor you will need to be organised and to take responsibility for the relationship. It is not your supervisor's job to chase you into completing your dissertation, or to tell you how to manage the different stages of the project. To ensure that you get the most out of your supervisor you need to:

- agree a timetable of meetings at the start of your project and stick to it;
- make sure that each meeting has a focus e.g. "setting a research problem", "analysing the data";
- send something that can form the basis of a discussion about your progress to your supervisor before each meeting. This could include your research plan, early results of your data collection or draft chapters;
- turn up on time to each meeting you have arranged. Do not assume that your supervisor is available at all times to see you;
- at the end of each supervision agree some action points for you to focus on before the next time you meet; and
- keep a record of what you decide in supervision sessions.

If you are not happy with the way you are being supervised, explain why to your supervisor or discuss the issue with your personal tutor.

## **Undertaking a literature survey**

Regardless of whether you have been given a dissertation topic or you have developed your own ideas, you will need to be able to demonstrate the rationale for your research, and to describe how it fits within the wider research context in your area. To support you in doing this you will need to undertake a literature review, which is a review of

material that has already been published, either in hard copy or electronically, that may be relevant for your research project. Key tools that are available to help you, include:

- internet search engines, especially ones that offer advanced search features (see <http://www.google.com/> and <http://scholar.google.com/>);
- your University's Library Catalogue
- electronic journals available via your university library
- bibliographies in any key texts about your topic.

It is a good idea to make an appointment to see the librarian specialising in your subject. An information librarian should be able to give you advice on your literature search, and on how to manage the information that you generate.

You will probably generate more references than you can read. Use the titles and abstracts to decide whether the reference is worth reading in detail. Be selective by concentrating on references that:

- are recommended by your supervisor;
- contain a high number of specifically relevant keywords;
- are cited in a number of other works; and
- are published in the last five years, unless they are key texts in your field.

Once you start reading, ensure that you think about what you are trying to get out of each article or book that you read. Your notes should enable you to write up your literature search without returning to the books you have read.

## Collecting data

For most research projects the data collection phase feels like the most important part. However, you should avoid jumping straight into this phase until you have adequately defined your research problem, and the extent and limitations of your research. If you are too hasty you risk collecting data that you will not be able to use.

Consider how you are going to store and retrieve your data. You should set up a system that allows you to:

- record data accurately as you collect it;
- retrieve data quickly and efficiently;
- analyse and compare the data you collect; and
- create appropriate outputs for your dissertation e.g. tables and graphs, if appropriate.

There are many systems that support effective data collection and retrieval. These range from card indexes and cross-referenced exercise books, through electronic tools like spreadsheets, databases and bibliographic software, to discipline-specific tools. You should talk about how you plan to store your data with your supervisor, an information librarian, or a study adviser in your Student Learning Centre.

As you undertake your research you are likely to come up with lots of ideas. It can be valuable to keep a record of these ideas on index cards, in a dedicated notebook, or in an electronic file. You can refer back to this 'ideas store' when you start to write. They may be useful as ideas in themselves, and may be useful as a record of how your thinking developed through the research process.

## Pilot studies

A pilot study involves preliminary data collection, using your planned methods, but with a very small sample. It aims to test out your approach, and identify any details that need to be addressed before the main data collection goes ahead. For example, you could get a small group to fill in your questionnaire, perform a single experiment, or analyse a single novel or document.

When you complete your pilot study you should be cautious about reading too much into the results that you have generated (although these can sometimes be interesting). The real value of your pilot study is what it tells you about your method.

- Was it easier or harder than you thought it was going to be?
- Did it take longer than you thought it was going to?
- Did participants, chemicals, processes behave in the way you expected?
- What impact did it have on you as a researcher?

Spend time reflecting on the implications that your pilot study might have for your research project, and make the necessary adjustment to your plan. Even if you do not have the time or opportunity to run a formal pilot study, you should try and reflect on your methods after you have started to generate some data.

## Dealing with problems

Once you start to generate data you may find that the research project is not developing as you had hoped. Do not be upset that you have encountered a problem. Research is, by its nature, unpredictable. Analyse the situation. Think about what the problem is and how it arose. Is it possible that going back a few steps may resolve it? Or is it something more fundamental? If so, estimate how significant the problem is to answering your research question, and try to calculate what it will take to resolve the situation. Changing the title is not normally the answer, although modification of some kind may be useful.

If a problem is intractable you should arrange to meet your supervisor as soon as possible. Give him or her a detailed analysis of the problem, and always value their recommendations. The chances are they have been through a similar experience and can give you valuable advice. Never try to ignore a problem, or hope that it will go away. Also don't think that by seeking help you are failing as a researcher.

Finally, it is worth remembering that every problem you encounter, and successfully solve, is potentially useful information in writing up your research. So don't be tempted to skirt around any problems you encountered when you come to write-up. Rather, flag up these problems and show your examiners how you overcame them.

## Reporting the research

As you conduct research, you are likely to realise that the topic that you have focused on is more complex than you realised when you first defined your research question. The research is still valid even though you are now aware of the greater size and complexity of the problem. A crucial skill of the researcher is to define clearly the boundaries of their research *and to stick to them*. You may need to refer to wider concerns; to a related field of literature; or to alternative methodology; but you must not be diverted into spending too much time investigating relevant, related, but distinctly separate fields.

Starting to write up your research can be intimidating, but it is essential that you ensure that you have enough time not only to write up your research, but also to review it critically, then spend time editing and improving it. The following tips should help you to make the transition from research to writing:

- In your research plan you need to specify a time when you are going to stop researching and start writing. You should aim to stick to this plan unless you have a very clear reason why you need to continue your research longer.
- Take a break from your project. When you return, look dispassionately at what you have already achieved and ask yourself the question: 'Do I need to do more research?'
- Speak to your supervisor about your progress. Ask them whether you still need to collect more data.

Remember that you cannot achieve everything in your dissertation. A section where you discuss 'Further Work' at the end of your dissertation will show that you are thinking about the implications your work has for the academic community.

## Summary

- Think carefully about your topic and ensure that it is sufficiently focused.
- Write a detailed research proposal to help you anticipate the issues/problems that you are going to deal with.
- Devote time to planning and stick to your plan.
- Work closely with your supervisor and respect the time and advice that they give you.
- Be organised and take detailed notes when you are undertaking your literature survey and data collection.
- Make a clear decision about stopping data collection.
- Move positively into writing-up your research.
- Allocate enough time to reviewing and editing your writing.
- Remember that you cannot achieve everything in your dissertation, but you can critically appraise what you have done, and outline ideas for further, relevant research.

## References

Booth, Williams, & Colomb, 2003. *The craft of research*. Chicago: The University of Chicago Press.):