

## Academic Writing & Report Formatting

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Manchester Metropolitan University

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### 1 Introduction

The aim of this lecture is to explain how to write a research essay or report and reference it correctly. The requirements for writing an academic essay can be described by talking about four 'R's:

- Relevance
- wRiting
- Research
- Referencing

### 2 Relevance

To get a good mark you should actually answer the question, so:

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## 1. Stick to the specified topic

If the question says discuss teleworking then don't write most of the essay on telecommunications. Telecommunications are relevant, but as an enabler and at the level of general developments, not specific technologies.

## 2. Answer each part of the question

If the question says 'give two distinct examples of the use of spreadsheets' there will be specific marks allocated to the two examples.

## 3. Obey any other instructions

The word limit has been chosen to ensure that the subject is covered to a certain level of detail: any more words and there will be too much detail; any fewer and there won't be enough, or you will have overlooked some important part of the subject.

## 3 Writing

### 3.1 Structure

In order to make sense an essay should have a logical structure. It can take some thought to work out how best to order the information that you wish to present. This being the case it is often best to have a good idea of the structure of the essay before you start writing.

Sometimes the question, with its various parts, might indicate how to structure the essay, for example in the below question there are several parts each of which will need to be tackled to get all of the marks:

*A number of organisations have sub-contracted all or part of their information systems / information technology function to specialist consultancies / contractor; a process known as outsourcing.*

- a. *Discuss the nature of outsourcing, the types of IS/IT functions that might be outsourced and the advantages and disadvantages of IT/IS outsourcing to the outsourcing organisation.*
- b. *Give at least one real life example of the use of IS/IT outsourcing (i.e. an outsourcing contract) and critically discuss it. You should try to bring out what your example says about IT/IS outsourcing in general.*

Sometimes the question will be more open and you will be left to decide what to include and what not to include yourselves. Whatever is the case, material should be ordered in a logical manner. To develop the argument you should: introduce a point, develop that point, and then move on to the next point. Repetition should be avoided except in a summary or conclusions.

#### 3.1.1 Section Headings and Structure

With reports and more scientific essays section and sub-section headings are used to help make the structure of the document clear, and so to help the reader to navigate. As well as having a main body that will need to be structured, and will, itself, contain section headings, a report or scientific essay will normally have a more or less standard overarching structure.

The overarching structure of all reports is generally the same and can be described by listing the following section headings:

1. Contents list
2. Introduction
3. Body of report
4. Conclusion
5. Bibliography

## 3.2 Content

### 3.2.1 Contents list

For reports longer than six pages it is useful for the reader if a contents list is placed at the beginning of a report. The table of contents consists of a list of the section headings with the corresponding page within the document that the section title first occurs.

Usually it is just the main section and subsection headings that are included in the table of contents although for larger documents additional levels may be added.

### 3.2.2 Introduction

The contents of the introduction depend on the circumstances but would normally include:

1. An expansion/explanation of the title
2. A summary of the approach to the problem (this normally outlines the structure of the document)

Taking for example the essay question given above, the introduction could be along the following lines:

*Outsourcing has become a popular trend in recent years with many organisations seeking the cost savings and instant expertise that such a strategy offers on tap. IS/IT outsourcing is particularly common however outsourcing such mission critical functions can be a risky business.*

*This essay starts by discussing the nature of outsourcing, before moving on to consider IS/IT outsourcing in particular. Here the types of IS/IT functions that can be outsourced are discussed, as well as the potential impacts of outsourcing these functions to the outsourcing organisation. This is followed by an examination of a real life IS/IT outsourcing contract, which will be considered with reference to the general discussion.*

For reports, the introduction is normally replaced by an executive summary. This allows readers with little time to rapidly become acquainted with the report without having to read it all. Depending upon the size of the report it can be several pages long, but for a small report should be a minimum of 2 to 3 paragraphs, and normally includes:

1. General background and purpose of report
2. Key points
3. Summary of approach taken in the document

The purpose may include the reasons for the production of the report. For an IS system analysis and design, key points will be at a very summary level of detail and would normally include:

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1. Current system summary
2. Key problems summary
3. Suggested improvements summary

For example:

*This report looks at CompX, a print and IT service provider. CompX has 200 employees and a turnover of £2.3 million a year and serves the printing and IT infrastructure needs of over 500 small to medium sized businesses. The purpose of this report is to analyse the current IS and to document the design of a new IS.*

*Key points:*

- *Currently its information system (IS) is dated and fragmented and it is now struggling to keep up with the demands placed on it.*
- *A new IS will include a database with and several reports for daily operations and management use.*
- *Additionally, web based procurement system has also be designed to make order entry easier for clients.*

*The report starts by outlining the current system giving system problems and requirements, provides use case diagrams and specifications covering the functionality of the current system. System design is then covered, with data models (including an entity relationship diagram) and screen designs for input forms. Several reports covering both data enquiries and management data are outlined. Code for the various system components can be found in the appendices.*

## 3.2.3 Body of report

This is the main and most complex part of the essay or report, and so structure is very important here.

The space given to each element of your argument should be proportionate to its import. For example, if there are four points of equal importance to be made and 50-100 words have been written on the first three, do not write 1,000 words on the fourth one: either cut out the excess material on the fourth point or summarise it and put it into an appendix.

Do not include excessive material just because you have it: if the point has been made and adequately explained or justified then move on. Again, if there is material that is relevant but excessive for the main body of the report it can be included in an appendix.

## 3.2.4 Conclusion

A conclusion is necessary to show that your discussion is finished and should draw the argument together. An essay without a conclusion is like a telephone conversation without a "Good-bye".

The conclusion is not the place to introduce new ideas but to summarise and give emphasis to the relevant parts of your work. A conclusion is normally a simple, short restatement of the main ideas of your report. If a report has an executive summary a conclusion is not normally necessary.

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## 3.2.5 Other sections

There are a number of other sections that might be included, for instance:

- An abstract: a summary of the main ideas of an article or report, required for academic papers
- Acknowledgements: used to acknowledge the help of others in the construction of the work
- Appendices: holds excessive material that the reader may wish to refer to

## 3.3 Style and Formatting

### 3.3.1 Writing Style

In general scientific reports are formal and therefore written in the passive voice. So you should try to avoid using personal terms such as 'I', 'we' or 'you'. You should also avoid mixing up tenses. Reports are used to report something that has already happened and so should use the past tense.

Remember that the reader may make assumptions about the author or the organisation that they represent that are based upon the quality of their written communication. Spelling and grammar checkers should be used but you should be aware that these do not detect words that are spelt correctly but used in the wrong context.

### 3.3.2 Typesetting

It is always best to use a standard font for the preparation of a report. Times New Roman, Arial or Helvetica seem to be the most popular for formal reports. Avoid using 'quirky' fonts such as *Comic Sans* as this can create a poor impression on the reader. A font size of 11pt ensures that the text is readable without looking too large on a page, but different fonts may be larger or smaller with the same pt size. Use larger font sizes such as 14pt and 16pt for the main titles and section headings.

Common abbreviations are permitted (e.g., i.e., cf.) however any non-English words that appear in the text should be italicised, for example, *via*. Common subject specific acronyms are defined by using upper case characters for the letters in the acronym and these should be identified the first time they are used e.g., Artificial Neural Networks (ANN). Respect the use of non-English characters in proper nouns such as ö, ç, é etc.

Text alignment should either be left aligned or justified. Often justifying the text flush to the right margin gives it a blocky look thus making it difficult to read, but this is mainly a case of personal preference. All new paragraphs should be preceded by a line break and the first line should not be indented.

### 3.3.3 Page Numbers

All pages within a report, with the possible exception of the title page, should have a page number. It doesn't really matter where the page numbers appear on the page but it is common to have them centred at the bottom. For large reports the pages that make up the preamble (abstract, table of contents, acknowledgements, list of figures etc.) are numbered using Roman numerals (I, ii, iii,...,etc.) and first page of the introduction is numbered page 1.

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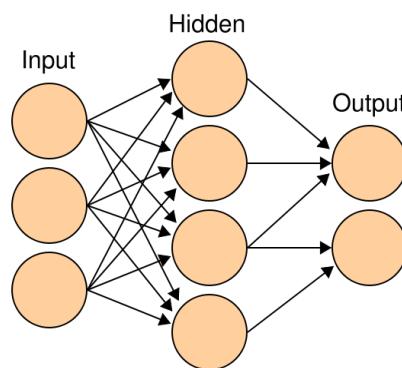
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## 3.3.4 Figures and Tables

Relevant diagrams (figures) and tables can and should be included in a report or scientific essay.

Figures are used for illustrating concepts, displaying results and generally helping the reader to understand what is being discussed in the text (Davies, 2001). All figures should be centred on the page and should include a figure caption that appears immediately below the figure. The figure caption should contain enough information so that the reader can understand the figure without having to read the main text.

Any figure that is taken from another author's work must be cited in the caption, using the correct notation (see Section 4.2.2). Figures are numbered consecutively from the beginning of the document or from the beginning of the section. All figures or diagrams should be clearly referred to in the body of your report. For example, Figure 1 shows you how you should include and label a figure appropriately.



**Figure 1.** An example artificial neural network with a hidden layer (Wikipedia, 2007).

Tables are a good way of presenting data in a clear and easy to understand manner. Like figures, each table should have a caption that explains to the reader what the data is representing. The table captions should appear above the table as shown in Table 1. The table is bounded at the top and bottom by double ruled horizontal lines with single ruled horizontal lines separating the column headers/footers.

**Table 1.** Final standings of the top five Guinness Premiership teams for 2006/2007 season.

Position	Team	Bonus Points	Points
1	Gloucester	7	71
2	Leicester	14	71
3	Bristol	6	64
4	Saracens	11	63
5	Wasps	11	61

## 4 Research

When answering a question it is essential to say something worthwhile. An academic essay is not just an expression of opinion or general knowledge rather it should be based on research. Finding relevant sources can be difficult and time consuming, but it is part of your assignment, and it should be seen for what it is: an opportunity to find out something new.

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An essay normally involves trying to put across a particular argument; in this case, the knowledge gained from research would be used to back up this argument. Arguments contrary to your own should not be simply ignored; rather the gist of them should be included and your reasoned disagreement presented in a logical manner. A report generally involves presenting results and conclusions, and here research can be used to help to categorise and to define terms, as well as to provide evidence.

A first year essay is likely to involve consulting a few books and/or articles. Two obvious starting points are the internet, and the university library, although you could also use public libraries. In libraries there are a number of sources to choose from, these include:

1. Books
2. Academic journals (good for current material)
3. Newspapers and magazine articles (can be accessed through library computers)

It should be remembered that anyone with the necessary resources can publish an article on the internet. It is therefore essential when using the internet for research to select material carefully, ensuring that it is referenced to reliable sources. Something to watch out for is bias: good academic sources are not biased, but, for example, a company trying to sell goods or services is likely to be biased in favour of those goods or services.

Once sources have been found the references within them can be used to search out further material. Where you find references and use them, you must reference their source.

## 4.1 Presenting Research

Two common ways in which research can be presented are by means of:

1. A direct quote
2. A paraphrase (a summary of a point or points that were made)

In both cases the source **must** be acknowledged. In the case of a quote:

1. It will be in quotation marks (and italics if you wish)
2. If it is more than a few words long it will normally be placed in a separate, indented paragraph
3. It can be abbreviated, using '...' between segments
4. It can, if necessary, have words interpolated in order to help it make sense; these interpolations are given in square brackets [ ]
5. The reference (see Section 4.2) should include a page number

Below is an example of the same information being presented in two different ways.

A quote:

'[Program] Testing proves the presence of bugs, not their absence.'  
(Dykstra, 1989: 232)

A paraphrase:

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Testing cannot prove the absence of program errors (Dykstra, 1989)

Both of these are referenced as they would be using the Harvard referencing system.<sup>1</sup>

## 4.2 Referencing

It is very important that any facts, ideas, explanations, categorisations, figures, data etc. used in the creation of a report are acknowledged. To properly acknowledge the work of others it needs to be referenced clearly and cited correctly. When an author cites a source in the text, a label is inserted that directs the reader to the full citation. The full citation should be listed at the back of the document in the bibliography (Levin, 2004).

Acknowledging a source is important because:

1. All of the information that is used in an essay or report must have come from somewhere and you must show where you got it from. If you don't acknowledge a source it looks like there isn't one and that you might have just made it up. If you fabricate evidence this makes your essay or report unreliable and so academically worthless.
2. Neglecting to acknowledge a source is likely to be seen as plagiarism. Ideas, categorisations and definitions that have been taken from somewhere should be credited to that somewhere: whoever had the idea and, most likely, provided the justification for that idea should be credited; to pretend it is your own idea is deceptive, and deception is not good academic practice.
3. From a pedagogical perspective, acknowledging work shows that the author has carried out thorough research and is therefore likely to have a good understanding of the subject.

Referencing in reports can be done using two main methods: the Harvard system and the numbering system. The Harvard system is the preferred method at MMU and it should be used in all writing carried out by students in the School of Computing, Mathematics and Digital Technology.

### 4.2.1 The Harvard Referencing System

The Harvard system uses the author's name and the year of publication to label sources in the text whereas the numbering system simply uses a number within square brackets to index to the list of references. Therefore the Harvard system makes it easier to recognise the source without looking at the full reference at the end of the report.

Outside of MMU it is often a matter of personal preference which referencing system to use. The Harvard system is easier to manage when writing a document although there are programs such as Endnote that can help with any system.

### 4.2.2 How to Cite References Correctly

Section 4.1 demonstrates how to correctly label both a paraphrase and a quotation in the text using the Harvard system, with the citations used in this report and in Appendix B providing further examples.

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<sup>1</sup> This is an example of a footnote. They may be used in reports but they should be used sparingly. DO NOT place references in footnotes. Put them in the reference list at the end of the report.

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To avoid lots of unnecessary information clogging up the essay or report full citations are not given in the text, but cited in short form. This allows them to be looked up at the end of the report or essay in the 'list of references' or bibliography. The bibliography is given in alphabetical order by author's surname. Here all of the information that the reader needs to locate the source should be given e.g., the authors names, title, year of publication, where the work was published, page numbers, volumes, etc.

Below gives the format expected of full citation entries for various media, as well as an example for each:

1. For a book:

Author's Name. (Date) *Title of the Book*, Publisher

Earl M. J. (1989) *Management Strategies for Information Technology*, Prentice Hall

2. For an article in a magazine:

Author's Name. (Date) 'Title of the Article', *Title of the Magazine*, Issue, Pages

Malone T., Yates J. and Benjamin R. (1987) 'Electronic Markets and Electronic Hierarchies', *Communication of the ACM*, Vol. 30, No.6, pp 484-97

3. For a web page:

Author's name [or name of the organisation responsible], (online), *Title of the Article* (citation date), Available from <Webpage address>.

Total Outsourcing Ltd. (online), *Why Outsource* (cited 15<sup>th</sup> October 2011), Available from <<http://www.totaloutsourcing.co.uk>>

## 5 Conclusions

This is not really a conclusion but rather a reminder to put conclusions at the end of the document, before the references, and appendices.

## 6 List of References

Davies, J. W. (2001) *Communication Skills: A Guide for Engineering and Applied Science Students*, Pearson.

Levin, P. (2004) *Write Great Essays*, Open University Press.

## 7 List of Figures

Wikipedia (online) 'Artificial neural network' (cited 12<sup>th</sup> September 2007). Available from <URL: [http://en.wikipedia.org/wiki/Artificial\\_neural\\_network](http://en.wikipedia.org/wiki/Artificial_neural_network)>

## 8 Appendices

### **Appendix A – Note on Appendices**

The appendices (singular: appendix) appear at the back of the report and contain data, code listings, or supplementary information that may not be of immediate use for the reader or is

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too large to be included in the main body of the text. The appendices are numbered using uppercase characters for the main section index as are figures, tables and equations contained in the appendices.

## Appendix B - Extract from an Essay

Below is an extract from an essay, included here to demonstrate the correct citation of research material in an essay context.

As Russell (1930: 3) states,

*'Causation in the modern world is more complex and remote in its ramifications than it ever was before, owing to the increase in large organisations; but those who control these organisations are ignorant men who do not know the hundredth part of the consequences of their actions... Is this problem insoluble? I do not think so, but I should be the last to maintain that it is easy... I do not see any prescription except the old one advocated by Disraeli: 'Educate our masters'.*

Unfortunately, the strategy of the current Labour Government follows that of Japan and America in engaging in an expensive education programme which attempts to provide a flexible, adaptable and high-skilled workforce with which poorer countries cannot compete, in a bid to stimulate a competitive economy, and as such, attract global capital (Bottery, 1999).

Such a strategy will ensure that non-democratic forms of governance continue to influence prescriptive education and, this, in turn, is likely to distort any citizenship curriculum and work against critical citizenry in general. As Inglis (1985: 122) puts it:

*'Teaching has long been the avenue of social promotion for working-class children with the wits and opportunity. To obtain promotion they had to do as they were told, and if the so-called reproduction theory has anything in it, it is (to compress dramatically) that educators seek to make students in their own image.'*

## Bibliography

Bottery, M. (1999) 'Global Forces, National Mediations and the Management of Educational Institutions', *Educational Management & Administration*, Vol. 27(3), 1999, (pp 199-312)

Inglis, F. (1985) 'The Management of Ignorance – A Political Theory of the Curriculum', Basil Blackwell

Russell, B. (1930) 'On Youthful Cynicism', Available from:  
[http://www.physics.wisc.edu/~shalizi/Russell/on\\_youthful\\_cynicism.html](http://www.physics.wisc.edu/~shalizi/Russell/on_youthful_cynicism.html)