

A GUIDE TO ESSAY WRITING

Essays are written as part of a training in science, with the specific aims of developing skills in:

1. finding information
2. assimilating and integrating that information concisely
3. planning and developing a logical presentation
4. presenting a well-formatted manuscript.

This short guide offers some advice on how to plan and structure an essay.

Preparing the Essay

After taking careful note of the essay topic, first define the scope of the essay. This means analyze the subject matter carefully, using a dictionary if you need to; formally *write down* (1) the instruction words (e.g. discuss, criticize, etc.) and (2) the topics to cover. For example, look at the essay topic below:

“Inter-relate evolutionary trends in the foraging habits, communication systems and colony sizes of ants. Illustrate each level of evolutionary development with an example”.

You could begin by noting

5. Inter-relate
6. Illustrate
7. Evolutionary trends in ant foraging habits
8. Evolutionary trends in ant communication system
9. Evolutionary trends in ant colony sizes
10. The interactions of the trends.

Read around each topic, relying first on any references supplied by your set works or with the essay title. Then read some of the references cited by these readings if they seem relevant. Try to find recent scientific articles in journals (note that electronic resources in most libraries are useful for this), and especially the original articles, but cross-check second-hand reports or older work by reading the originals yourself. Make notes as you read, asking yourself:-

“What is this evidence based on?”,

“How logical is the argument?”, and

“Does this have direct relevance to the title of the essay?”.

Keep critical notes about your reading and all details of the source(s) of your facts, especially quotations (see citation). Failure to acknowledge your sources (i.e. plagiarism) is theft, and has the same consequences if you are caught. Try to avoid photocopying information. Rather make your own notes from reference sources, putting information into your own words. You will find that by doing this you will develop a greater understanding of the topic.

Writing The Essay

Break each topic down into logical parts and arrange them in a logical sequence so that the background to each part is clear before the reader reaches it. Write a paragraph for each point you raise. It may help to make sure that each paragraph addresses one point, and give each paragraph an appropriate **temporary** heading. Check that the outline created by the order of these headings is logical and complete. Remember to remove these temporary headings before printing your essay. Create a summary based on these headings and include it as an abstract at the start of your essay. Add sub-headings to major sections of the essay based on your analysis of the essay material.

After drafting the body of your essay, create a discussion that summarizes YOUR opinion of the topic. Support your arguments with precise, quantitative information and accurate citations. Above all, do not be vague as it creates the impression that you do not understand the topic. Your essay should finish with a concluding paragraph which ‘ties’ the essay together. It is usually easiest to write your introduction last, when you know what is in the rest of the essay. The introduction should put the essay title into context and lay out the aims and structure of the rest of the essay. Remember to define your terms before you use them.

Finally, use tables and figures to summarize data, and refer to these in the text. Do not use redundant phrases such as “Table 1 shows that.....”; rather state “.....ants were more abundant than other insects (Table 1)”. Legends or titles usually go at the top of tables and the bottom of figures. All drawings, graphs and charts are called figures. If you copy figures

or tables from other sources, you must acknowledge this e.g.

Table 3. Life history parameters of palaeotropical holothuroids (from Young 1976).

Ideally you should try to produce your own version of a figure or table by redrawing the original. For example a table may contain far more information than you require to illustrate the point you are making. You can therefore edit out the superfluous information. Alternatively, you may need to combine and synthesize information from several sources (tables, text or figures). Such editing of information and/or synthesis will gain you a great deal of credit when your essay is marked. The ability to synthesize information is another valuable skill to acquire.

Essays should be typed or produced using a computer and word processing package. Such facilities are readily available to students and should be used. Most employers expects that employees to have basic skills in the use of computers. The text should be, **double-spaced on one side** of A4 paper. This makes it easier to read the work and there is space for the assessor to write comments. Figures and tables can be placed on separate pages at the end of the manuscript if they disrupt the text too much. Although an essay is primarily a demonstration of your grasp of a subject, your spelling, grammar and general use of English are also important. Spelling mistakes and grammatical errors are seldom excusable, so proof read your work thoroughly.

Referencing formats

In the text of your essay, you will make references to the work of other scientists. These are called citations. They are complemented by a detailed reference list of the cited works which is placed at the end of the text.

Citations in the text

Citations are used in the essay whenever you state a fact that is supported by someone else's work. This gives them credit, protects you from others' mistakes, and allows your reader to follow up the work. Remember that plagiarism is illegal (and immoral), and you will lose marks if you are caught. If the plagiarism is extensive you will be asked to rewrite the essay (see end of this section for more details on plagiarism).

There are two major forms of citation: footnotes and what is called the Harvard or Cambridge system; scientific writing generally uses the latter. Within the text citations take the following general forms:

11. one author - (Fox, 1986)
12. two authors - (Crane & Driver, 1965)
13. three or more authors - (Grynche et al., 1990 or Grynche *et al.*, 1990)
14. several citations - (Smith, 1986, 1988a, 1988b)
15. complex citations - (Sieve, 1990, 1991; Sieve & Roe, 1991)
16. indirect citations - (Payne, 1922 cited by Hurt, 1980)

Example - "...are the longest in the Amazon (Hall & Wu, 1989). Some of..."

A direct reference to an author is followed by the date alone, for example; "Dawse (1972a, 1972c) claims that mad cow disease is..."

In complex cases, citations are usually listed first in order of year of publication, and then alphabetically by author; "...has been reviewed several times (Reed, 1922; Soule *et al.*, 1956; Mickle, 1969, 1987; Klutter, 1992b)."

When making particularly accurate citations, e.g. of quotations, you should include the page number: ".....these reasons, Berndt (1989: 26) concluded that reinforcement "has no time to operate before extinction".

Avoid using too many quotations, especially long ones. All quotations must be so accurate that they even include any mistakes made in the original text.

Indirect citations should be used when you have not read the original work yourself. You need to let your reader know where they can follow up your claims. Indirect citations are not listed in the reference list, only the paper in which you found reference to the citation.

The Reference List

A list of references is placed after the text and contains all the works you cited, and no others. The list helps readers to trace other papers on the subject. The references are listed in alphabetical order by author(s), and then by date. Works by the same authors in the same year are given as an identifying letter after the date, and this letter is used in the text. The general format includes the following information:-

i. For a scientific paper (journal article):

Author (surname and initials), date of publication, title of article, name of journal (in full or abbreviated - underlined or in italics), volume number (often in bold), page numbers.

Example:

Carpenter, B., Ball, I. & Green, C. 1992. Methods for measuring Quine intervals. *Journal of Quantitative Biology* **34**: 23-27.

ii. For a chapter from an edited book:

Author(s) surname(s) and initials, year, title of paper, editor, title of book (often underlined or in italics), publisher, city of publication, inclusive page numbers.

Example:

Cale, J.J. 1987. Antiguan polydesmid millipedes. In: *Invertebrates of Antigua*. Ed. B.R. Eath, Greenhouse Press, London. pp. 221-234.

iii. For a book:

Author(s) surname(s) and initials, year, title of book (usually underlined or in italics), publisher, city of publication, number of pages.

Example:

Freedman, Y.K. 1990. *Introductory Quantitative Oology*. Practical Press, New York. 147 pp.

If you have doubts as to how a reference should be cited examine recent copies of journals for appropriate examples.

Before listing your cited references it is important to check the details of punctuation within the reference against a recent copy of the journal you are writing for. Detailed information can be found in the instructions to authors, which are usually inside the back cover of one of the issues of the journal. **The references for your entomology and zoology essays must be presented in the formats required by African Entomology and African Zoology, respectively.** Other departments may expect other formats. Copies of both journals are in the library.

Internet Citations

There is a great deal of information available at internet sites. Care should be taken in the citation of information from such sources. Unlike journal articles which are strictly refereed, internet websites may not have been subjected to any rigorous peer review process. The accuracy of website data may not have been authenticated. At present internet information is generally not regarded as “primary literature” (such as journals or books) and you should avoid citing such information unless the information has an author(s), date, and there is some proof that the article has been reviewed. If you do quote an internet site ensure that you give the internet address accurately.

Internet citations should be given as:

Author(s) surname(s) and initials, date of the release of the web page, title of article, internet address, author affiliation, date the web site was accessed.

Example

Smith, A.A. 1999. The density and distribution of frogs in Grahamstown, South Africa.
<http://www.ru.ac.za/zoology/toad.htm>. Rhodes University, Accessed 20/3/99.

Plagiarism (L. plagiarius - a kidnapper)

Plagiarism is the act of stealing the thoughts or writings of others and presenting these as one's

own. It is a crime and is also immoral. Therefore copying text verbatim from printed works, or cutting and pasting from the internet is an act of plagiarism. We regard plagiarism as a serious offence and students who do this will have their work penalised and will be required to re-write assignments. One of the aims of assignments such as essays is to give students experience in synthesizing information obtained from a variety of sources. It is therefore important that students develop the ability to present this information in their own words and to give credit to the ideas of others. If it is necessary to quote from the work of others ensure that the text is placed in quotation marks and an accurate citation given.