

Academic Writing Guide

*for Student Assignments in
Environment and Sustainability*



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Academic Writing Guide

for Student Assignments in Environment and Sustainability

Preface

This is a simple guide to academic writing for student essays in certain courses in the Environmental/Sustainability Sciences disciplines at the University of Southern Queensland.

I have essentially developed this Guide for students in REN1201 Environmental Studies, REN2200 Ecology for Sustainability, REN3301 Biodiversity & Conservation, REN3302 Sustainable Resource Use, ECO8011 Global Issues in Sustainability, REN8101 Environment, Society & Sustainability and REN8202 Conservation for Sustainable Futures; however, you may find it a useful reference in other courses that require formal academic writing as part of their assessment.

You should first check with your examiner regarding the general suitability of this information for other courses.

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Introduction

Many university students regard writing an academic essay or literature review as one of the most daunting tasks they need to undertake during their studies. However, being able to effectively and accurately communicate in a scholarly way is an important attribute for all graduates. As a tertiary student, we would expect you to be able to write in clear, grammatically correct, and correctly spelt English. The information contained in this *Academic Writing Guide* should help you to achieve at least the **minimum** standard of essay writing expected.

The Academic Essay

The objective of writing any academic essay is to demonstrate that you can think critically about a topic. An academic essay is a type of assignment in which you present your point of view, usually on a single topic, through the analysis and discussion of scholarly (academic) sources. This generally means you need to address a *question* through *critical analysis*. To effectively demonstrate critical thinking you need to go beyond simply regurgitating what you've read. Therefore, an important characteristic of academic essay writing is that it is *persuasive*.

Your essay will need to argue a position on the question posed and present an argument to convince the reader of your view. An argument in an academic sense is the provision of a coherent list of reasons, supported by evidence, that are used to persuade readers of that position.

To argue a position, you will need to go beyond the description or simple presentation of facts – you will need to demonstrate that you understand the question and the major issues involved, and can use evidence critically. The most common approach to achieve this is to provide a well-considered 'thesis' or 'problem' statement. The **thesis statement** informs the reader about the point of your essay. This essentially is an answer to the question. The rest of the essay then presents the evidence that supports the position taken by the thesis statement.

The Academic Essay:

- addresses a question through critical analysis;
- is persuasive;
- is evidence based;
- contains a thesis or problem statement.

The Essay Writing Process

The seemingly daunting task of academic essay writing should be somewhat eased once you understand the process involved.

Figure 1 (over page) outlines the basic steps involved in academic essay writing. However, this should not be considered a simple linear process, but rather *iterative*. As you begin reading and researching your topic, you will find you will need to refine the focus of your topic, adjust your thesis statement and look for new evidence. You should consider the essay writing process as a dynamic one.

The Topic

To answer an essay question and develop an argument, you need to analyse the question initially, particularly in cases where the question (topic) has been given to you by your instructor. This usually means breaking down the question and identifying *task words* (verbs that direct you and tell you how to go about answering a question), *content words* (tell you what the topic areas are and help to focus your research and reading) and *limiting words* (focus the topic area further by indicating aspects to more narrowly concentrate on). This is an important component of the essay writing process as you need to understand what the question is asking in order to effectively answer it.

If you have been given a more open assignment task and are able to develop your own question, then identifying and thinking about task, content and limiting words will also help you to produce a more considered question.

In either case, look for keywords in your essay question and work out what they mean – understanding the question is crucial to writing a good essay.

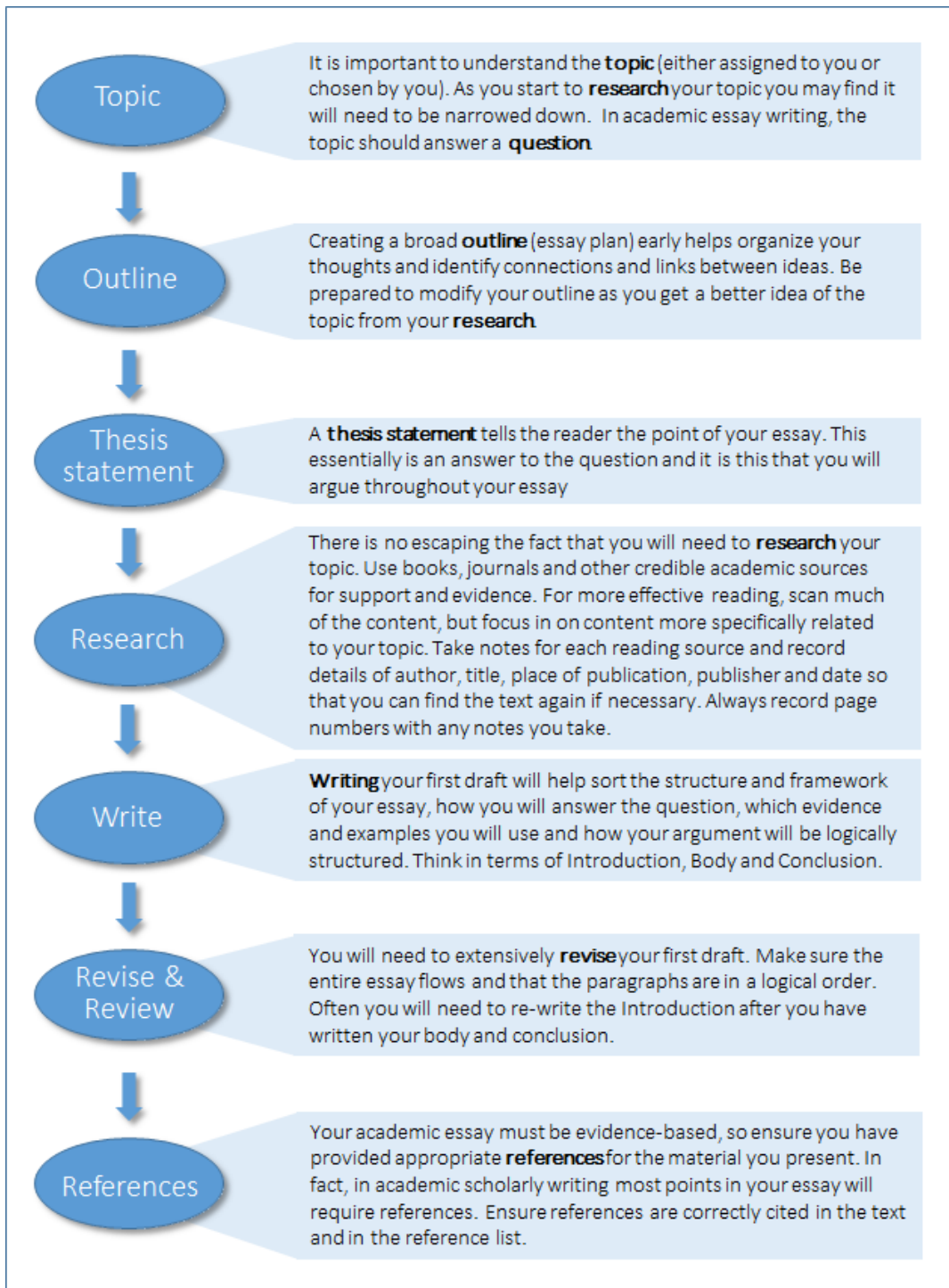


Figure 1: Basic steps for writing a successful academic essay (Image: AF Le Brocque)

Outline

It is important to develop an **outline** or draft **essay plan** early. This will make the structuring of your essay much easier once you see what content you need and where it should go. The essay plan helps organize your thoughts and identify the connections and links between ideas. Be prepared to modify your outline as you get a better idea of the topic from your research.

Such a plan as indicated in Figure 2 is very useful when you are first starting to think of what your paper should contain. This is usually devised in the initial stages of writing, after you have read enough material on the topic to have some understanding of the subject matter. Of course, you will need to come back and revise your plan as your essay takes shape.

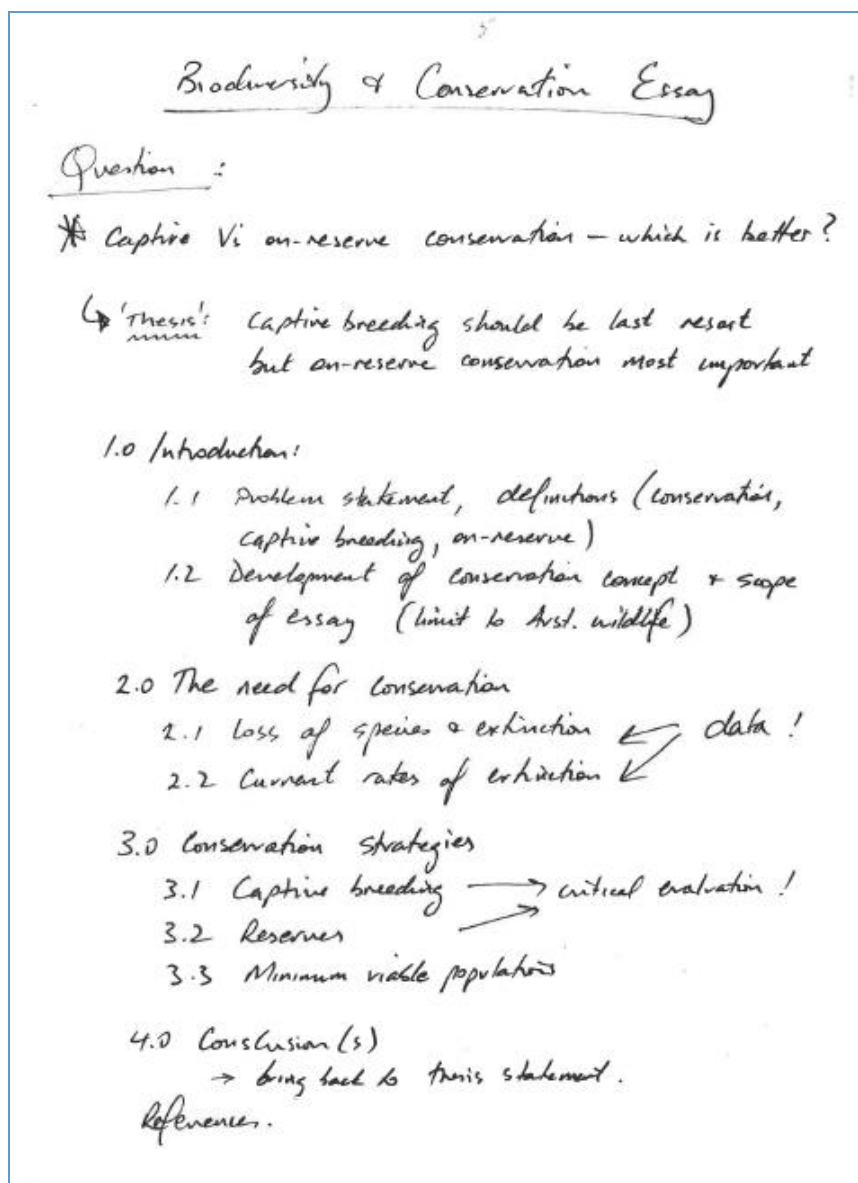


Figure 2: Example essay plan (image: AF Le Brocque)

Thesis Statement

It is important to set out your thesis statement early – readers want to know what the essay will argue as well as how the writer plans to make the argument (overview). The thesis statement is expressed as one or two sentences in the introductory paragraph of your essay. A good thesis has two parts: it should clearly articulate what you plan to argue; and, it should indicate how you plan to argue—that is, what particular support for your claim is going where in your essay.

However, it may take you some time to develop your final thesis statement as it will constantly change and become more refined while you are researching and reading appropriate material through the essay writing process.

Research

You will spend much time researching information for your academic essay. It helps to know what you are looking for by focusing on the question/task. Identify keywords within your question and thesis statement and use these to assist in searching for relevant literature.

Additional strategies in researching your academic essay include:

- be purposeful in your research and reading – look for information that answers specific questions you have on the topic;
- look for evidence in the readings that you think may support your position; however, it is also important to engage with evidence that may contradict your position. Part of your critical evaluation may be in being able to explain or dismiss counter-evidence;
- read strategically in the early stages of research – skim sources initially rather than trying to read deeply. You can return to key readings and re-read them in-depth at a later point;
- highlight key ideas in a reading;
- break the reading up into manageable segments;
- be systematic in notetaking and include brief citation details so you can find the reading at a later point.

Write

First draft: Writing the first draft helps sort the structure and framework of your essay, how you will answer the question, which evidence and examples you will use and how your argument will be structured. The first draft is only ever a rough attempt that will require further editing, but it does make it easier to begin writing.

Think in terms of **Introduction**, **Body** and **Conclusion**. The **introduction** informs the reader of your topic and approach. It tells the reader what the essay will be about and what you will be arguing. Following the thesis statement, you should provide a mini-outline (overview) which previews the examples you will use to support your thesis in the rest of the essay.

The **body** of the essay develops your argument and analysis. The main purpose of the essay body is to spell out in detail the examples that support your thesis. Each paragraph in the body of the essay should contain:

- a *topic sentence* (the topic of your paragraph);
- *supporting sentences* to explain and develop the point you're making. Provide supporting *evidence* with citations – ensure that you *paraphrase* (express the meaning of something written using different words) and limit direct quotes. *Analyze* and interpret the evidence you are providing and comment on implication/significance/impact;
- a *concluding sentence* that restates your point, analyses the evidence or acts as a transition to the next paragraph.

The **conclusion** of the essay brings everything together, making the conclusions of your discussion clear for the reader. It moves the context from the specific (the detail provided in the essay body) to the general. Do not add new information, arguments or citations in the conclusion. Restate the essay topic and provide a brief summary of how you have successfully addressed it by restating some of the key points. Link back to broader context (significance) and suggest potential directions for further research. Do not merely repeat the introduction.

Review & Revise

You will need to extensively revise your first draft. Make sure the entire essay flows and that the paragraphs are in a logical order. Often you will need to re-write the Introduction after you have written your body and conclusion.

References

Your academic essay must be evidence-based, so ensure you have provided appropriate references for the material you present. In fact, in academic scholarly writing most points in your essay will require references. Ensure references are correctly cited in the text and in the reference list.

The Essay Structure

Overall Format

Please check the specific requirements for your individual course. The following formatting requirements are for REN1201, REN2200, REN3301, REN3302, REN8101, REN8202 and ECO8011.

Essays should be word processed, 1.5 line spaced (minimum) throughout for ease of reading and to allow room for corrections and comments by markers. Use A4 page size, with minimum 2.5 cm margins, and a 12 point font (although headings and subheadings may use larger fonts to distinguish them from text).

Many courses, including REN courses, utilizing the electronic assignment submission, require use of an assignment template and cover sheet, often set up in the required format. If provided, this should form the first page of your assignment. These cover sheets may require you to make a declaration regarding the originality of material presented, in terms of the work being your own (except where acknowledged) and that you have not previously presented this material for assessment, nor colluded with others. Please check that you have not altered any formatted template file.

A title page should also be provided that contains the title of the paper, author, student number, course number and name, examiner/marker and due date. You may also have to include a cover sheet and marking scheme (assignment template) if provided by the examiner.

Pages should be numbered sequentially (either centered at the bottom or placed in the upper right-hand corner of the page). Each paragraph should be separated from the preceding paragraph with a line space (no need to indent the first line). Headings and sub-headings should be clearly indicated with consecutive numbering such as the following example of a scheme for an essay on Conservation (Figure 2).

Formatting Summary:

- Follow marking scheme
- Word processed (A4 page set up) using 12 pt font
- Minimum 2.5 cm margins and minimum 1.5 line spacing
- Number all pages

Assignment Template/Cover Sheet (not always required)

If you are provided with a marking scheme from your examiner that must be included in your paper, then it is best placed as the first page of your assignment (unless otherwise indicated by your examiner).

Written assignments in REN courses generally require use of an Assignment Template containing:

- space for student name and number;
- a statement by student that this is their own work except where the work of others has been appropriately indicated – ensure you tick the acknowledgement of the statement otherwise your assignment may not be marked;
- a brief description of the assignment task (please note that you should also consult the detailed assignment task indicated in the Assessment requirements on the Course Studydesk);
- a detailed marking scheme showing criteria on which the written assignment will be judged.

Ensure that you have addressed any specific points that are noted in the marking scheme, as this is how the examiner/marker will be grading you!

Title Page

Make the title a succinct statement of what is in the paper. Try to include significant key words that alert the reader to the content. Include author(s), student number, unit number and name, examiner/marker and due date. If an assignment cover sheet and /or marking scheme is required, make sure this is included before the title page.

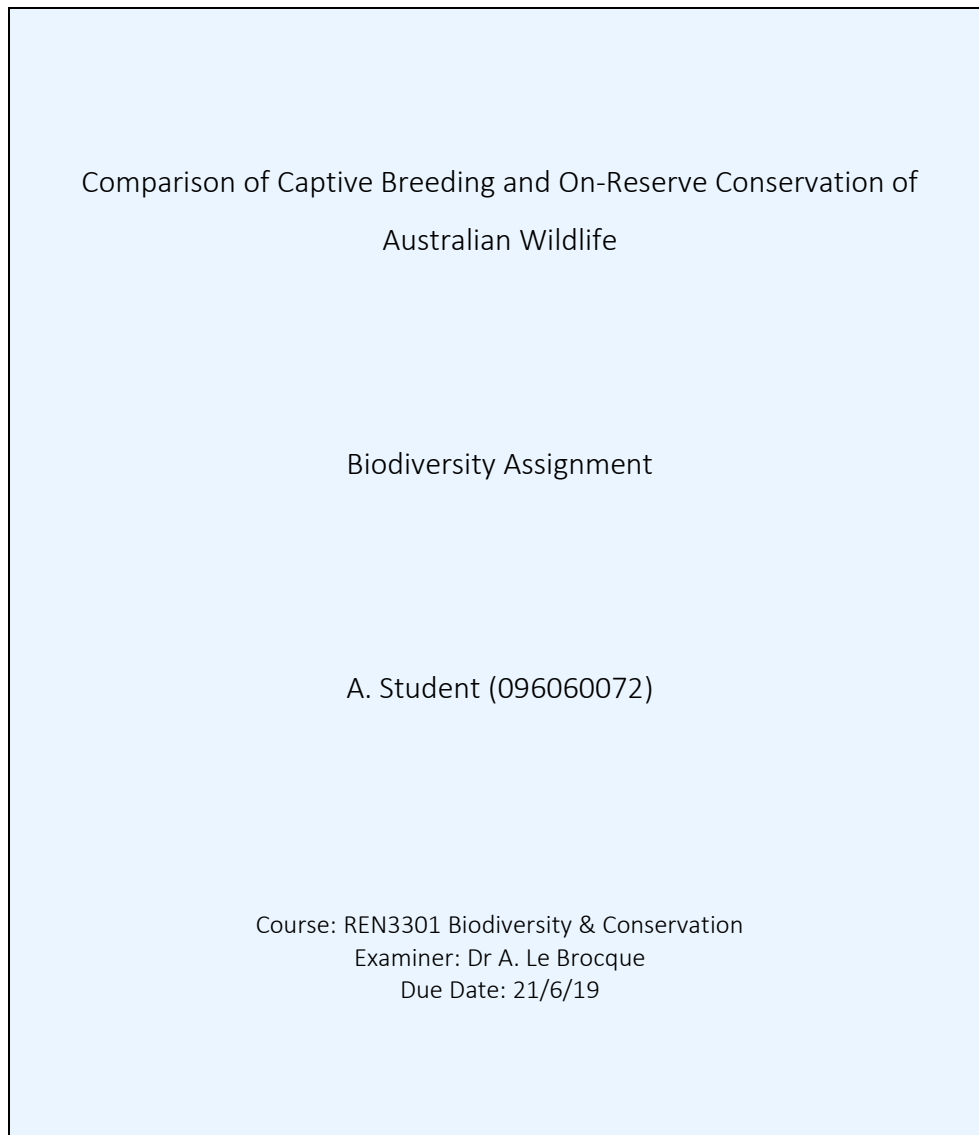


Figure 3: Example essay title page.

Title Page Summary:

- Include appropriate descriptive title
- Provide author (including name and student number) and course details
- Use appropriate **Assignment Template/Cover Sheet** if required

Abstract/Summary (not always required)

An abstract presents a summary of the entire essay. Most published research papers contain an abstract, but not always (different journals have different practices). The abstract indicates what the essay contains, in a form longer than the title, but much shorter than the essay as a whole. Abstracts are typically difficult to write, as they involve a considerable reduction of information to just the main points. It is generally more helpful to write the Abstract last. Typically an abstract contains an opening sentence or two providing general background – usually outlining ‘the problem’, a clear statement of the objectives/purpose of the paper, an overview of the critical review of the literature, and finally the main conclusion(s). All these are presented in extremely concise form (usually only a couple of hundred words). Look at some papers in nearly any scientific journal in the Library to get a feel for the style and contents of an abstract.

The requirements in different courses may vary. Consult with your examiner about whether an Abstract is required for any particular paper.

Introduction

This section provides a background to and general overview of the issues involved, and states the purpose or objectives of the essay. The overall problem needs to be stated early, sometimes as a question. Provide definitions of concepts or terms that are to be used later in the paper can also here, so too is the context and scope of the paper. In other words, the introduction sets the scene for the bulk of the paper that follows. It is wise to clearly set out the thesis statement early in the essay. As noted previously, the thesis statement represents your position on a topic and will form the central argument of your essay. The thesis statement is often introduced in an essay as, *'This essay will argue ...'* or *'In this essay I will argue ...'*.

A brief overview of how you will develop and present your essay (how you will set out your arguments) is also worthwhile in the opening paragraphs of your Introduction.

A strong introduction:

- explains the context.
- answers the question “what is this about?” by explaining the focus.
- contains the thesis statement.
- lays out the structure and organization.

So, based on these requirements, an introduction should include the following:

- background information – this is usually made up of one or two sentences to introduce the topic and give background information.
- thesis statement – this introduces the main topic or argument on which the essay is based.
- outline – the outline lets the reader know what the essay covers, and how it is organised.
- scope – this informs the reader of the focus of the essay.

In the example below, the problem is the high rate of extinction of mammal species in Australia and the thesis statement is that current conservation efforts may be less than effective and a more holistic approach is required (*“It will argue that current strategies for mammal conservation require a more holistic and multi-pronged approach to better ensure positive conservation outcomes”*). The overview of how this is to be achieved in the example is stated as *“This paper will review of some current conservation strategies for Australian mammals and some of their major limitations”*.

The rest of the essay must then critically evaluate and explain the research (evidence) which supports the position taken by the thesis statement.

1.0 Introduction

More than one hundred mammal, bird or reptile species have become extinct during the twentieth century (Hickey, 1997). The extinction rate of other vertebrate and invertebrate species is largely unknown (IUCN, 2009). While it is widely recognized that extinction of species may be a natural phenomenon, the present and predicted rates of extinction are much higher than the natural levels (Magin *et al.*, 1994).

Australia has one of the worst extinction rates of any developed country, with the majority of extinctions occurring in the last two hundred years (Strahn, 1998; Slattery & Wallis, 1995). Since European arrival, 18 mammal species have become extinct, and a further 40 species are now endangered or threatened (Strahn, 1998).

To reduce the number of species extinctions, a number of strategies are often employed. One strategy is the preservation of a threatened or endangered species in isolation through captive breeding programs. This paper will review of some current conservation strategies for Australian mammals and some of their major limitations. It will argue that current strategies for mammal conservation require a more holistic and multi-pronged approach to better ensure positive conservation outcomes.

Figure 4: An example essay introduction.

Body of Essay

This is essentially where the author provides much of the 'information' (content) on the chosen topic. It is also where the author develops and expresses his/her arguments in the case of a critical review.

Use appropriate sub-headings to help structure your paper into a logical format. However, avoid the use of too many sub-headings as they will make your paper rather disjointed. Conversely, too few headings may make the paper rather tedious for the reader.

Avoid using dot points ('bullets') in an academic essay to ensure adequate flow of content. In REN courses, it is rare that you would use dot points (perhaps only once in an entire essay), rather put your text into a more linear style. There are some forms of writing (e.g. scientific reports) where dot points are accepted. Some courses may also allow dot points in academic essays. Check with the lecturer and ensure that you use the appropriate format and punctuation for using dot points in that discipline.

Avoid long, complex sentences. Too complex sentences will increase the potential for readers to lose track of what you are trying to say. If you need to link a number of ideas together in a sentence, make sure you separate them with appropriate punctuation: commas, semi-colons, colons and parentheses.

Using longer or seldom used words don't make your writing any more academic. Look for the words that will best communicate your ideas, rather than just trying to impress with your language skills.

Conclusions

This section may sometimes be included in the body above; however, it is generally necessary to provide some form of a synthesis of all the information presented earlier into some concluding remarks. This is a very important part of a critical review, as it will often involve considerable critical input from the author (i.e. thinking). In simpler essays, it would still be necessary to summarize the main findings of the literature presented into a brief, coherent and logical form.

Remind the reader of the main issues you have addressed and what you have argued. Your conclusions should be clear, leaving the reader in no doubt as to what you think. You should also explain why your conclusions are important and significant. In size, the conclusion should be no more than 10% of the essay.

It is wise, when you are writing your conclusions that you look back at your original objectives that you set out in the Introduction and what you have laid out in the bulk of the paper and structure your conclusions accordingly. However, it is generally not advisable to introduce any new material in your conclusions section.

Introduction, Body and Conclusions Summary:

- clearly set out the problem in the Introduction and provide a thesis statement and an overview of the essay
- ensure your Introduction has correctly identified the topic, purpose and structure of the essay
- define any keywords or concepts in the Introduction
- ensure important points in the main body supported by evidence, argument or examples
- use headings to help structure the main body
- avoid using dot points and keep language clear and concise
- ensure conclusion is directly related to the original question/problem stated in Introduction and summarizes the main points

Academic Style

Academic style differs from other writing in that the language used is *formal*, *objective* and *cautious*.

Formal language

Academic writing uses a formal language, avoiding the use of slang and colloquialisms associated more commonly with speech, text chat, as well as publications such as newspapers, magazines and online social media. A such, formal language is less personal (impersonal) than informal (relaxed, conversational) language.

The following will help you achieve a more formal language in your essay:

- be specific, clear and to the point;
- avoid vague and general phrases;
- avoid slang and colloquialisms – e.g. ‘kids’ (use ‘children’), ‘good/bad’ (‘positive/negative’), ‘right/wrong’ (‘correct/incorrect’), ‘mother nature’;
- do not use contractions – e.g. ‘don’t’ (use ‘do not’), ‘isn’t’ (‘is not’), ‘they’re’ (‘they are’);
- do not use non-conventional abbreviations and informal shortened forms – e.g. ‘asap’, ‘pros and cons’, ‘&’, ‘lol’ – however, shortened forms of institutions, titles and the like (e.g. USA, UN, IMF, USQ) are generally appropriate in academic writing, although should be spelt out in full in the first instance in your essay, followed by the shortened form in brackets;
- avoid *informal verbs* – e.g. ‘go up/down’ (use ‘increase/decrease’), ‘look at’ (‘examine’), ‘find out’ (‘discover’), ‘seem’ (‘appear’); *informal transitional words* – e.g. ‘but’ (use ‘however’), ‘so’ (‘therefore/thus’), ‘also’ (‘in addition/additionally’), ‘to sum up’ (‘in conclusion’); *informal emphasis words* – e.g. ‘lots of’ (use ‘many’);
- do not use clichés – e.g. ‘thinking outside the box’, ‘leaving no stone unturned’, ‘in a nutshell’, ‘in the current climate’.

However, formal does not necessarily mean verbose or overly technical. Unnecessary or jargonistic words will often confuse or even irritate the reader. Students tend to overuse words and often make sentences more convoluted and longer than necessary.

Objective language

Objective writing involves writing that is based on evidence in order to avoid *bias* in your academic essay. Bias can weaken your arguments and hence, will make your essay less convincing.

Avoid subjective language that can be prone to exaggeration or bias. Subjective language tends to be based on assumptions, judgements, opinions, rumours and suspicion, while objective language tends to be based on fact, observation and logical argument. Subjective language is used to express opinions based on personal values, beliefs or preferences rather than evidence, and hence, are based on subjective judgment rather than on information that can be verified.

The following will help you achieve a more objective language in your essay:

- avoid personal pronouns – e.g. ‘I’, ‘my’, ‘we’, ‘you’, ‘our’ – however, some topics may ask you discuss personal opinions/experiences and this rule may be relaxed – check with your course examiner;
- avoid emotive or judgemental phrases – e.g. ‘shocking findings’, ‘surprising results’, ‘extremely important’, ‘in a fantastic study’;
- do not use stereotypes and gender-specific or discriminatory language – e.g. ‘mankind’ (use ‘humankind’), ‘man’s effects’ (‘humans’ effects’) or language that may offend groups of people (e.g. racial, ethnic, religious, age, sexual).

Cautious language

Cautious language is common in academic writing, particularly in the sciences, where there is recognition of the lack of ‘definites’ or ‘absolutes’. Instead, the cautious writer accepts that there is room for doubt and tends to refer to *probability* of patterns or phenomena.

The following will help you achieve a more cautious language in your essay:

- avoid absolutes – e.g. ‘proves’, ‘no doubt’, ‘always’, ‘all’, ‘never’, ‘none’;
- use more *tentative* phrases – e.g. ‘indicate’, ‘appear’, ‘may’, ‘possibly’, ‘suggest’, ‘arguably’;

Writing Sentences and Paragraphs

Sentence Structure:

In academic writing, every sentence must be grammatically complete. Each sentence must contain a *verb*, usually contains a *subject*, and an *object*. A verb (or a verb phrase – a single word or group of words) informs on the action undertaken by the subject. A subject (i.e. a noun phrase, which can be a

single word or group of words) informs on who/what does the action. An object (i.e. a noun phrase, which can be a single word or group of words) informs on who/what receives the action.

Complements (a group of words) are sometimes used to provide more information about the verb.

Most sentences in an academic essay will be simple declarative sentences with the structure: subject > verb > object. Avoid sentences that are excessively long and wordy and be direct and concise whenever possible.

Others sentence problems frequently encountered in poor academic writing include:

- incomplete or fragmented sentences
- run-on sentences
- unclear subjects

Paragraphs:

Most paragraphs should consist of three or more sentences, usually in the same tense. A sentence usually contains a single point or idea. A paragraph should contain several sentences exploring the point/idea and should generally consist of an introductory sentence or two (maybe linking to the previous paragraph), the point being made, and finally some concluding sentence. A series of paragraphs should contain a step-by-step consideration of an idea - usually moving from a general to a more specific set of considerations (or the reverse - a specific point to a general conclusion). Usually, the last sentence in a paragraph includes a transitional phrase (link) indicating its relationship to the next paragraph or, if the paragraph concludes a section, then the last sentence or two expresses a conclusion.

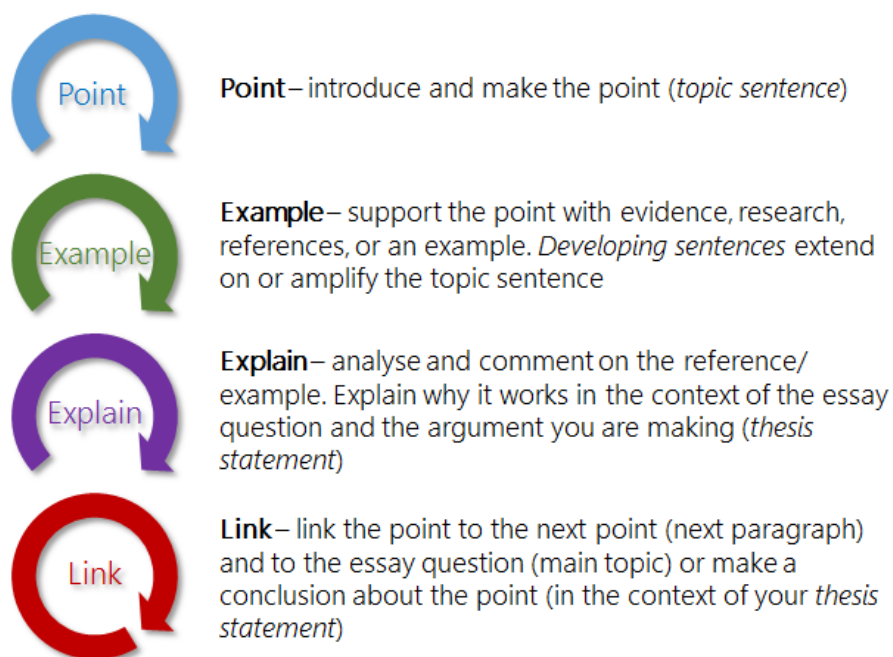


Figure 5: Basic structure of a paragraph.

Referencing

Whenever you make a statement of fact or opinion that is not common knowledge, you must support that statement with your own data and arguments or you must indicate that someone has already done this work. If you refer to another person's work, then you must provide the reader with a citation to a published account or to a personal communication. This serves two purposes: it protects you from a charge of plagiarism and it allows your readers to verify your statements. For example, 'the sky is blue' does not require a substantiating citation. Anyone can check the sky and develop their own opinion about its blueness.

In the Faculty of Health, Engineering and Sciences, and indeed across most of the University, we predominantly use the Harvard system of referencing as the default system. The main aspects of this system of referencing is given below, for more detailed information see the USQ Library's website on referencing at <http://www.usq.edu.au/library/help/referencing/harvard.htm>..

The References section should list the literature that you cited in the main text of your paper. Generally you should cite primary literature (i.e. journal articles or academic books). You should not be citing encyclopaedias, either online (e.g. Wikipedia) or print based, and discipline-specific dictionaries at this level. It is also becoming increasingly commonplace to cite material from the internet. In this case, you should provide, as a minimum, the author ('anon.' if none are indicated), complete URL and date & time accessed. However, you should be aware that much material can be placed on the internet that cannot be substantiated, so you will have to be discerning on your use of this material. Often, the internet provides a useful starting point when searching literature on any particular topic, but you are strongly encouraged to use a majority of primary sources of literature when developing your paper.

It is expected that normally **no more than 10%** of the references included in your essay will be an internet reference.

Note: in some courses, there may be more specific restrictions on the use of internet references. You should check for any requirements within your particular course.

Two common mistakes in referencing are not including references that are used in the text in the Reference section, and including references in Reference section that are not cited in the text.

Referencing Summary:

- All ideas, statements or materials from other people's work must be appropriately attributed to that person(s)
- Statements of fact or opinion that is not common knowledge must be supported by appropriate evidence (either your own or that of another person(s))
- References cited in the body of the essay must be correctly listed in the Reference section
- Check that all of the references are accurate

Citing a reference in the body of the text.

Numbered footnotes are common in some disciplines, but not in science. Instead, a source is cited by the **author's surname** and **date of publication**.

- If you refer directly to the source, use the surname and place the date in brackets:

Frankham (1995) has also suggested that an increase in the generation length will also increase the degree of genetic adaptation of species to captivity.

- If you refer to the publication indirectly, both author and date go in brackets:

Inbreeding in vertebrate species has reduced the viability and fecundity of a population (Senner 1980).

- For a source with two authors, indicate the surnames of both along with the date:

The maintenance of genetic diversity reduces the risk of extinction for a species (Sherwin and Brown 1990).

- For a source with three or more authors, cite the surname of the first author, and add "*et al.*" to represent the other authors. This is an abbreviation of *et alia* (Latin "and others"), so be sure to punctuate it correctly (not "et al" and not "et. al.").

Simulating natural selection in captivity is not recommended on the grounds that we do not know enough about it to effectively enforce it (Frankham *et al.* 1986).

- You may cite more than one paper in support of a point. Within brackets, separate the citations by a semicolon. Usually, multiple citations are ordered by date of publication.

The extinction of rufous hare-wallabies has been attributed to fire and predation by foxes (McLean *et al.* 1996; Hickey 1997).

- You may cite more than one paper published by the same author(s). If the year of publication differs, there is no ambiguity: give the surname once and the several dates. If the publication date is the same for more than one paper, the letters a, b, c ... are added after the year to distinguish them.

Studies of plant reproduction have yielded many insights about evolution (Darwin 1876, 1880).

Studies of mate searching behaviour (Parker 1974a) and post-mating defense of females (Parker 1974b) in the fly species *Scatophaga stercoraria* show how time investments affect male reproductive behaviour.

- A citation is part of the sentence it refers to. A full stop goes after the citation, not before.

Wrong: Inbreeding in vertebrate species has reduced the viability and fecundity of a population. (Senner 1980)

Right: Inbreeding in vertebrate species has reduced the viability and fecundity of a population (Senner 1980).

- Sometimes it is not possible to see the primary literature source on a given topic and it may be necessary to use a 'second-hand' reference; however, this should be kept to a minimum:

Grazing is one of the most important land uses in Australia, occurring across 75% of the continent and 95% of Queensland (CSIRO 1990, cited in Roberts 1992).

Listing references in the References section

List all sources cited with full publication details. List references in alphabetical order according to the surname of the first author. If you cite something in the text, be sure to include it in the reference list. Do not include any "reference" that you do not actually cite in the text of the report. There are slight differences in the format for a paper in a scientific journal, a book, or a chapter from an edited book. One common format (and one expected here) is explained below.

Journal article:

Author(s) (Date of publication) Title. Journal Volume: Pages.

Watson, JD and Crick, FHC 1953, 'Molecular structure of nucleic acids: a structure for deoxynucleic acids', *Nature*, vol. 171, pp. 737–738.

Gibberd, R, Snow, PT, Rice, PG & Patel, NB 1991, 'Nuclear power at what price?', *The Bulletin*, vol. 113, pp. 51-5.

All authors are listed (“et al.” is not used in the References list), and initials of their given names are included. Give the title of the article, and place a full stop at the end. The journal name should be spelled completely, not abbreviated and underlined or italicized.

Book:

Author(s) (Date) Book title (in italics). Publisher: City of Publication.

Fisher, RA 1930, *The genetical theory of natural selection*. Oxford University Press, Oxford.

Chapter from an edited volume:

Author(s), date, chapter title, “in” followed by the book title (in italics), the editor(s) of the book (in parentheses), and the pages on which the chapter occurs. Finally, publisher and city of publication, as for any book.

Gray, AJ 1996, ‘The genetic basis of conservation biology’ in Spellerberg IF ed, *Conservation Biology*, pp. 105–121. Longman, Singapore.

Thesis extract:

Author (Date) Thesis title (in italics). Award (degree, diploma etc), Institution: City of Publication.

Kench L 1995, ‘Captive Breeding of Australian Mammals for Reintroduction’, Diploma of Natural Resources Thesis, University of New England, Armidale.

Web page:

Author(s) [**'Anon.'** if no author indicated or organisation name if indicated], the document date or date of last revision, title of document if indicated (in single quotation marks), the title of the complete work (if any, in italics), the URL address (preceded by the 'less than' symbol and followed by the 'more than' symbol), organisation (if indicated), and the date the material was accessed (in brackets).

Australian Bureau of Statistics, 1997, 'Key national indicators', *ABS Statsite*.
<<http://www.abs.gov.au/>>, Australian Bureau of Statistics (accessed 26 June 2009).

Le Brocque, AF 2000, 'Major Australian Terrestrial Ecosystems (Biomes)'. *Supplementary Resource Materials*. <<http://www.usq.edu.au/users/lebrocq/b-resources/austecosys.htm>> Faculty of Sciences, University of Southern Queensland (accessed 18 July 2011).

Including Tables and Figures

The inclusion of tables and figures to back up your ideas and arguments differs for different Examiners, and each has their own idea on whether to include these in an academic essay. For students in REN courses, I am happy for tables and figures to be included in your academic essay **if**:

- they add to the argument – figures in particular, need to be specifically
- they are specifically referred to in the text of the essay;
- they are of reasonable resolution that they can be read either on-screen or in printed version
- there is not an excessive use of tables/figures.

Generally large tables and figures should be presented on separate pages with a suitable descriptive caption (title). Smaller tables can be presented in the body of the text. Regardless of size, tables and figures should appear as close as possible to where they are first mentioned in the text. Tables are just that, material presented in tabular form. Figures, on the other hand, usually include just about everything else: graphs, maps, photographs and electronic images, flow charts, diagrams, etc.

Tables and figures should be numbered separately with Arabic numerals. If the material presented in these forms is from someone else's work then you should provide a suitable source.

By convention, figure captions are placed under the figure and table captions placed above the table. Captions should be descriptive of the material presented in the table/figure and have sufficient detail that the reader can interpret the information correctly.

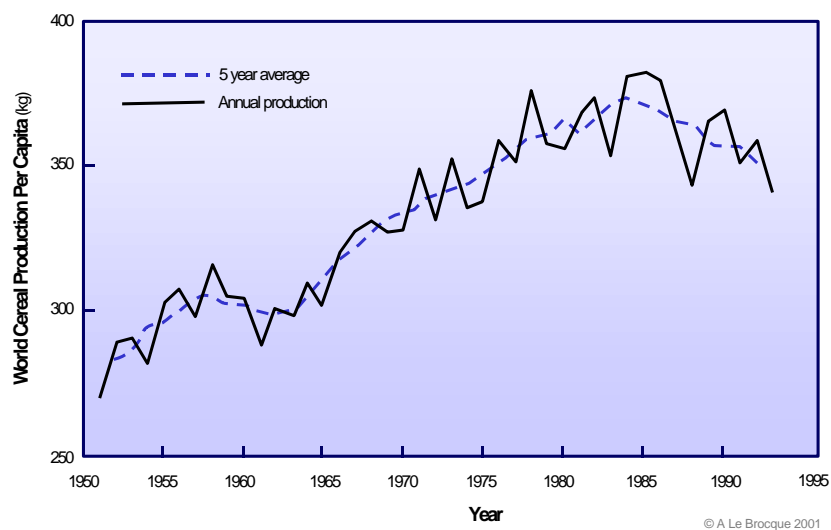


Figure 1: Changes in World Cereal Production (Image AF Le Brocque; after: UN Food and Agriculture Organisation, 1999)

Table 1: Changes in greenhouse gas concentrations in the atmosphere (After Australian Academy of Science, 1996).

Greenhouse gas	1850 (ppm)	1990 (ppm)	Increase (%)	Current annual increase (%)
Carbon dioxide	280	350	26	0.4
Methane	0.75	1.70	126	0.8
Nitrous Oxide	0.285	0.310	9	0.3
Chloroflouorocarbon 11	0	0.00024	-	4.0
Chloroflouorocarbon 13	0	0.0005	-	4.0

Hints for Good Writing

General

Use an outline (plan) to divide the report or essay into sections before attempting to actually write it. This will help to focus your thoughts and will quickly identify any aspects of the topic that you need to further research.

Read widely and do not base an essay or report on one or two references. It usually shows.

Write at least one rough draft that you re-read and correct before producing the final copy. Check your spelling. Most word processors have spell-check features. Spell-checkers pick up incorrectly spelt words, not words that are simply inappropriate (e.g. there and their) so you should carefully read your work. Read what you have written with a critical eye, and revise when the writing isn't good enough. Reading the report aloud or having a friend read it to you will help you find inconsistencies and mistakes. If your report doesn't make sense when you hear it read, then it won't make sense to your reader. If you don't want to bother revising, okay, but no one writes well on the first pass, so expect a poor mark.

Avoid using direct quotes

Direct quotes in no way shows the reader that you have actually understood the material you are quoting. It is far better to write the point in your own words (i.e. re-word the material), giving suitable acknowledgement to the originator of the idea you are presenting. Very rarely would a direct quote be used in scientific writing.

Avoid using footnotes

Avoid using footnotes: if it can go in a footnote, it can generally go in the text. In some disciplines, footnotes are used to clarify some point made in the text or provide an interesting aside to main arguments. Given the need to

Make sure that your bibliography has only the references cited in the text, and that it contains all of the references cited.

Scientific Names

Latin binomials (e.g., *Homo sapiens*) are always underlined or, more commonly, *italicized*. The first time you use the Latin binomial name of a microbe, plant, or animal in the body of a paper (i.e., from the introduction on), you should spell the generic name in full and follow the specific name with the last name(s) of the author(s) who described the species. Parentheses are used around an author's name if the current generic placement of a species differs from the original. Do not underline the author's name. Subsequent to its first use, write out the generic name only if it begins a sentence, otherwise abbreviate it using its first letter (include the second letter if there are two genera starting with the same letter) followed by a full stop.

Some Other Points

1. Print the title and your name clearly on the cover page.
2. Add diagrams and tables to give factual data wherever this is available. Refer to these as figures and tables, e.g. see Figure 3, see Table 4 etc. The term 'figure' is used for all graphics (graphs, bar charts, photos, models).
3. Show the source of each figure and table in brackets below each, e.g. (Brown 1993, Smith 1981).
4. Avoid emotive language based on unsubstantiated opinion.
5. Check your language, use a dictionary, get a friend to proofread if necessary. Poor spelling and unclear language lose many marks.
6. Don't use images/coloured pictures simply for appearance
7. Be aware of the following when writing your essay:
 - order and sequence (logical sections)
 - accuracy (get the facts straight)
 - sound reasoning (use evidence to support your views)
 - simplicity (simple words, no jargon, short sentences)
 - clarity (say exactly what you mean)
 - brevity (minimum words).
8. Literature sources should be fully documented at the end of the essay
9. See course specification for policy on late assignments.

How to Ensure an Academic Style

Academic writing is formal, researched based and shows evidence of critical thinking. The notes below suggest ways of achieving an academic writing style.

To ensure a formal tone:

- write in full grammatical sentences and do not use contractions such as ‘can’t’.
- express ideas in a clear and concise way. Use the sentence structure – subject, verb and the rest of the sentence – and try to avoid beginning sentences with ‘as’, ‘while’, ‘although’ and ‘if’. Avoid the use of ‘...ing’ words such as ‘being’ and where possible write in the simple present or past tense.
- avoid conversational or casual tone, which is more suited to everyday speech – avoid use of first person (‘I’, ‘we’ and ‘our’) and second person (‘you’ and ‘your’) pronouns.
- use non-discriminatory or non-offensive language.
- avoid direct quotes in your work as these do not necessarily show that you have understood the material; instead, summarise the point/argument in your own words.

How to Make Sure What You Write is Research Based

- Support what you say with relevant, up to date research rather than relying on personal experience.
- Use credible sources – be guided by your course reading lists and exercise caution when using open web sites.
- Employ appropriate referencing to avoid plagiarism.

How to Show Evidence of Critical Thinking

- Develop arguments based on research.
- Concentrate on analysing and explaining rather than simply describing.
- Try to relate concepts to each other.
- Look for different interpretations of an issue or problem in the research literature and try to explain the differences.

Some Useful References and Further Reading

Anon., 2002, *Style manual for authors, editors and printers*. 6th Edit. Australian Government Publishing Service, Canberra.

University of Reading. No date, *Writing Academically*. University of Reading, Reading, UK.
<http://libguides.reading.ac.uk/freshers/writing>, accessed 19-09-2018.

Day, RA 1989, *How to write and publish a scientific paper*. Second edition. ISI, Philadelphia.

Gopen, GD and Swan, JA. 1990, The Science of Scientific Writing. *Amer. Sci.* 78: 550-558.

Griffith University, no date, Writing and Editing Guide, Griffith University,
<https://www.griffith.edu.au/editorial-style-guide>, accessed 17-09-2018

Locke, D 1992, *Science as writing*. Yale University Press, New Haven.

Monash University, no date, *Essential Skills for Academic Success*, Monash University
<https://www.monash.edu/rlo>, accessed 17-09-2018.

Checklist

General

- 1.5 line-spaced or Double-spaced text, tables, and legends?
- Have you provided suitable margins? (At least 2.5 cm left & right)
- Pages numbered?
- Paragraphs separated by a line space?
- Paragraphs composed of more than one sentence?
- Do all your sentences have subjects and verbs?
- Are any sentences too long and wordy?
- Have you used the Spell Checker?
- Are Latin binomials underlined or italicized?
- Tables & figures have explanatory legends & descriptive captions?
- Have you used commas where they are required?
- Have you provided the marking scheme (If required)?

Title page/Abstract

- Title Page with Title, Author (Student Name & Number), Course designation (Course Name & Number), and submission date?
- Abstract providing suitable overview of paper/report? (If required)

Introduction

- Do you briefly review your topic, providing a suitable overview of the paper?
- Do you explain the purpose of the paper (including aims & objectives)?

References

- Is all literature referred to in the essay properly cited?
- Are journal titles abbreviated properly?
- Are your citations correct? in alphabetical order?
- Do all citations that appear in the body of the work appear in the reference section?
- Have you only referenced those citations that are referred to in the text?