

# TIPS FOR WRITING A RESEARCH PAPER

## A. Grading:

Your grade will be based on the following criteria:

- a. **Bibliography**---30 points, with 2 points being awarded for each peer-reviewed publication cited. Be aware of two things: (i) you can not list a source in your bibliography unless it is also cited in the text; and (ii) peer-reviewed publications are from the primary and secondary literature (defined below).
- b. **Style**---10 points for spelling and grammatical correctness.
- c. **Content**---60 points total, with 20 points each awarded for:
  - (i) **Extensiveness**, i.e., have you hit all the major points or not?
  - (ii) **Factual correctness**, i.e., have you correctly summarized the information you're presenting or not?
  - (iii) **Explanation**, i.e., do you clearly explain each of your points so that someone with no background could understand what you are writing about? With regard to this, you should definitely avoid repeating chunks of text from your sources verbatim because, aside from the plagiarism issues, it is not obvious when you do this that you actually know what you're talking about. Always try and summarize things in your own words.

## B. Researching your topic:

There are two things to keep in mind here: be **current** and be **exhaustive**. Your research needs to assess the current state-of-the-art on your topic. This means that relying on old textbooks in the library is not going to work. Nor will doing a search with the library's computers. Although GALILEO is a good place to start, the indexing of articles in the databases is usually 2-4 months behind the appearance of journals in the library. In addition, you have to be careful about how you perform your search or else you may miss important articles. This is not to say you shouldn't use this method, just be sure it is not the only method you use. To find out what's going on right now, you will need to look in the current issues of various journals (*Science*, *Nature* and others). Only then can you be sure your coverage is up-to-date. One final point concerns the kinds of sources you use. Your paper should focus on the **primary** literature. Scientific papers come in several forms. The primary literature deals with the specific findings of a particular experiment. These are the kind of papers one finds in most of the journals in the library. The secondary literature deals with summaries of a series of experiments by an individual (written by that individual or someone else active in that field). These can be found in journals (e.g. in the Articles section of *Science*) or in annual series (e.g., *Advances in the Study of Behavior*, *Annual Review of Ecology and Systematics*, *Quarterly Review of Biology*, *Biological Reviews*, etc). The tertiary literature is a summary of a research area written by someone not necessarily working in that area that is meant for the general public. These are things

like textbooks, *Scientific American* articles etc. A fourth level concerns things like newspaper articles which are essentially summaries of summaries of work. In this last case, the author may have no first-hand knowledge of the subject matter. Your paper should use mostly sources from the primary and secondary literature. You may use the others as well, but use them as a guide to locating sources in the primary and secondary literature.

In addition, you need to find out everything that is known about your topic. Your model should be the journal articles that you read as you research your topic. Notice that most of these papers have tons of references. While it is unlikely that you will be quite as exhaustive, you should try to be as complete as possible. The articles that you read will help you research your paper. For example, if Smith (1993) cites a paper by Jones (1989) on the evolution of sexual reproduction, then you need to track down the paper by Jones and have a look at it yourself. If you employ this method in all the papers you read, you will very rapidly develop a large bibliography.

### **C. Writing your paper:**

The following are stylistic issues to bear in mind while writing your paper. You do not need to adhere to these slavishly, but use them as a guide (the papers that you read in researching your topic can also serve as good stylistic models).

1. All papers should be typed, double-spaced, with approximately 1-inch margins all around.
2. All pages, including the bibliography, should be numbered.
3. If you are going to include figures or tables as components of your report, place them after the references with each figure or table on a separate, numbered page. DO NOT include any tables or figures that you do not refer to in the text of your paper. When referring to a table or figure, do not restate all the information presented there. Instead, state generally what the illustration or table shows and then refer the reader to it (e.g., "males had significantly lower survivorship than females, implying stronger selection on males, see Table 1").
4. Citations of sources:
  - a. You must provide the source for any factual statement about your topic. For example, if you say that intra-sexual selection is more common than inter-sexual selection, you need to state where this information came from. In addition, you need to provide the citation immediately after making your statement. Do not put all your citations at the end of a paragraph and leave it to the reader to figure out which reference applies to which information.
  - b. Citations in the text should follow these formats:
    - Single author: (Smith 1991) or Smith (1991)
    - Two authors: (Smith & Jones 1996) or Smith & Jones (1996)
    - > 2 authors: (Smith et al. 1993) or Smith et al. (1993)
    - Same author(s) with more than 1 paper in same year: (Smith 1997a, b)

c. Multiple citations for the same information should list authors alphabetically, separating each author by a semi-colon, e.g.,:

(Allen 1994; Barnes & Noble 1990; Dickerson et al. 1987; Smith 1997a)

d. Direct quotations from a source should be encased in quotation marks and the page number of the source indicated, e.g.,:

"...blah, blah, blah." (Smith 1995, p. 198)

5. Bibliography: list sources alphabetically using the following formats:

**a. Journal article:**

Smith, W. J., Devilla, J. C. & Oaken, T. L. 1990. The ontology of nothingness. International Journal of Existentialism 70: 23-79.

**b. Chapter in Edited Book:**

Barnes, M. & Degrigorio, E. 1975. Success and the role of providence. In: Beyond abstractionism (D. Smith, ed.). University of North Carolina Press, Chapel Hill, pp. 69-81.

**c. Single Authored Book:**

Thomas, D. 1947. Portrait of the artist as a young dog. Harper, New York.