

Psychology 381 (Spring 2010) Paper (due 1 June 2010)

Assignment Overview

In this short paper you are to critically analyze and interpret the theory, methodology, results, and interpretation of a research article from the field of learning and behaviour.

Pedagogy

There are several pedagogical goals motivating this assignment. First, it will expose you to the process of critically reading a scientific journal article. Journal articles are the primary means by which scientists communicate with one another. If you continue on in the sciences you will spend a great deal of time reading journal articles. The ability to evaluate scientific material is of great use even if you are not planning to continue in the sciences. People tend to be overly trustful of statements made by “authority” figures. While the majority of scientists do not purposefully attempt to “dupe” the public, occasionally errors are made in research. There is also an increasing amount of pseudoscientific material available, especially via the internet, which actively seeks to promote erroneous claims. Knowing how to critically read, analyze, and interpret scientific writing will be an increasingly valuable skill in the coming years. The second purpose of the assignment is to give you an opportunity to practice your writing skills. With the growth and development of computer-based communication more and more employers are expecting a higher level of writing competence in people they hire. The third goal is to expose you to original research articles. Several of the articles selected for this assignment are pivotal papers from the field of comparative psychology. By necessity, textbooks can only summarize research results. No matter how good the text something is invariably lost in the process.

Articles

Links to PDF versions of the articles are available on the course website (www.psych.ualberta.ca/~msnyder/p381/course/paper.html). Select *one* of the articles to write your paper on. I recommend that you read through all of the articles before making your final selection.

Length and Format of the Paper

You must follow these requirements. Each violation will result in a 5% penalty.

Use 12pt. Times font.

Use 1 inch margins (top, bottom, left, right) throughout.

Use double spacing (i.e., 23 lines per page).

Include a title page with the name of the article you are critiquing, your name, and your ID number. Do not include your name or ID anywhere else in your paper.

You must staple your paper together; no paper clips, binders, etc.

The paper must be between 2.5 to 3.5 pages in length (not including the title page).

Assessing the Article

Here are a few (but by no means all) of the things to look for when critically evaluating a research article. Is the purpose of the research adequately explained? Was there a theory that was being tested? Did the author(s) notice some gap in previous knowledge that required testing. Was the research an attempt to replicate an earlier finding? Do the methods provide you with enough information to duplicate the research if you wanted to? Are there any obvious flaws, such as lack

of controls, extraneous variables, placebo effects, chances for distortion in self-report, demand characteristics, or sampling and experimenter bias? Think about what you would change if you could, but also keep in mind the reasons why certain procedures were carried out in the way that they were (e.g., costs, availability of subjects, space and time constraints, etc.). Is there sufficient analysis of the research data? How are the results presented (e.g., descriptions, in graphs, in tables, etc.)? Might there have been a better way to have done this? Does the author(s) draw incorrect inferences about the results? Is there a test or comparison that you think should have been carried out but wasn't? Were the results significant? Was the appropriate statistical analysis conducted? Is the research valid and reliable? What conclusions are discussed? Are the conclusions justified? Can the research be fit into a theoretical context? Does the work advance the field of study? Can more research be derived from it?

Remember that critiques need not only focus on the negative. Also be aware of those things that are done particularly well in the study.

Writing the Paper

Refer to key elements, points, methods, etc. as needed to contextualize your critiques, but do not simply summarize the whole (or even substantial parts) of the article in your paper. What else you do with the paper is largely up to you. Keep in mind that a critical review paper doesn't have to be entirely negatively critical. It doesn't have to be negative at all, really. If you are reviewing the perfect article, the most brilliant article that has ever been written, the article that sets the standards for all other articles to follow, then say this. Scientists read articles not only for the information they contain about the results, but also to get ideas about how to conduct research of their own.

Whatever points you raise in your critique, ensure that you *fully support* them!

Because this is not a research article, you would not follow the standard abstract, introduction, methods, discussion, references for your paper assignment. Basically, all you need to do here is briefly introduce the article you're reviewing, spend the bulk of your paper raising critical points, and wrap with a short conclusion.

References

Appropriate referencing is extremely important in scientific writing. By referencing you show where you have taken your information and ideas, thereby allowing other readers to consult the same sources and more successfully evaluate your reasoning. More practically, failure to reference source material is plagiarism.

However, for this assignment you are only required to make use of the one journal article that you are critiquing. No additional library work, additional research, etc. is necessary. As such, if you limit yourself to only using the article that you are critiquing I do not require that you include a reference list. Also, in this case you would also not need to use embedded citations; any time you refer to "the article" or "the authors" it will be clear enough that you are specifically dealing with the one source that you are critically evaluating.

That being said, if you do decide to do additional research or bring in additional sources (e.g., you want to mention something from the textbook, or refer to a statistical article or text to support a critique you are making) then you are required to include proper embedded citations and an appropriate reference list using APA formatting (for details see the APA Style Manual). Failure to use appropriate referencing for source material other than the actual article you are critiquing constitutes plagiarism.