Essay Grading

CS 6606: Human Factors in On-Line Information Systems

30 December 2004

1 Basic Expectations

- length (your essay must not be much shorter or longer than the specified length)
- format (must be appropriate for an academic essay, and conform the specification in the syllabus)
- structure
- spelling & grammar

Violations of any of these expectations will result in deductions or outright failure.

Use Of References

Your essay should be self-contained. References to any external sources should be for additional information and sources of evidence rather than being necessary for the reader to understand the essay.

Plagiarism will not be tolerated. You must give proper credit when referring to or using work by others. If you require guidance about the mechanics of citation and what constitutes plagiarism consult with the Computer Science librarian, or staff at the Killam Library reference desk.

2 Content

According to Dalhousie's undergraduate calendar [1]:

'A'-level grades reflect 'considerable evidence of original thinking; demonstrated outstanding capacity to analyze and synthesize; outstanding grasp of subject matter; evidence of extensive knowledge base.'

'B'-level grades reflect 'evidence of grasp of subject matter, some evidence of critical capacity and analytical ability; reasonable understanding of relevant issues; evidence of familiarity with the literature.'

I evaluate your essay for the demonstrated understanding of underlying issues and terminology.

In particular, the most important aspects of your essay that I evaluate when grading content are:

- quality of research (how well you selected appropriate high-quality materials by others);
- quality of analysis (your contributions to making sense of the material you have selected);
- demonstrated understanding of underlying issues and terminology; and
- style (how the essay is organized, and how well the text flows).

References

[1] Dalhousie University. Section 17.1 Grade Scale and Definitions In Undergraduate calendar. ⟨URL:http://www.registrar.dal.ca/calendar/ugrad/acaregs.htm⟩. Downloaded 14 Dec. 2002.

3 Examples of Grade Levels

Essay Characteristics	**Grade**
• does not violate basic expectations • includes introduction about importance of topic and motivation for its study • survey of article within an area, with one section about each article • little or no clear connection between sections	C
• as above but with a concluding summary comparing and contrasting the various articles	B^-
• survey beginning with motivation for study • examination of relevant articles ordered by issue and with a clear, rational connection between sections • insights throughout • conclusion that summaries key points	B^+
• comprehensive survey (within reasonably defined limits) • clear structure of the essay follows from the goals in the introduction • insights throughout • conclusion that summarizes the essay and points the way for future work and outstanding issues	A
• discussion of a research problem with a plan • begins with an introduction to the area and explanation of why the issues are important • all relevant technical terms are clearly defined without interrupting the flow of the essay • survey of background material (as above) • a statement of hypotheses justified by evidence in the survey • plan for an experiment to test the hypotheses including descriptions of dependent and independent variables, experimental design, and planned statistical tests (see Appendix, on page 3) • concluding summary that serves as a short, complete précis of the essay	A^+

A What Is A 'Plan For An Experiment'?

We will have studied several articles describing experiments before your term paper is due. In addition to the lessons you should have learned from such articles here are some specific points that should be explicit parts of your plan for an experiment.

A.1 Motivation & Expected Importance

Always remember that an experiment is an investigation and never an attempt to prove anything. You must explain what you expect to learn from the experiment and why that information will be useful or interesting.

A.2 Hypotheses

Clearly state what you are planning to investigate with your experiment. A simple example could be that your new interface will be more effective than another interface.

The values you are measuring are described as Factors in §A.3.

Traditionally hypotheses come in pairs: the *null hypothesis* which is that there is no difference between the values you are measuring, and the *alternative hypothesis* (which is that there is a difference). The alternative hypothesis can be one-tailed or two-tailed. *One-tailed hypotheses* are directional (the result of the treatment will be strictly greater than, or less-than, the control condition). The control is a condition in which everything is exactly the same as in the treatment except that the factors are missing. For example: if one of the factors is that users are predicted to improve with practice, then a control condition could be that you measure before and after practice. The measurements before practice are a control for the practice factor in the after practice condition. It can be appropriate to control for several factors with separate conditions.

A.3 Factors

List and describe the independent and dependent variables.

Independent variables are the factors that you hypothesize as causes. Sometimes these can be measured directly (such as time to complete a task), but sometimes they must be operationalized as dependent variables instead. For example you might expect that users' understanding of a subject will be improved by using the interface you propose to create. But you cannot measure understanding directly, so you measure something that depends on understanding: how much users' scores in comprehension tests improves after using your interface for instance.

You must account for all factors that could influence your experiment so that you can design adequate controls. For instance if you use a repeated-measures design then you will need to control for order effects even if you do not expect them to be significant.

A.4 Statistical Investigation

- What descriptive statistics will you present?
- What statistical tests will you perform?
- What standards will you use the decide to accept or reject the null hypothesis? (In particular, is a one- or two-tailed test most appropriate?)

A.5 Possible Implications

A well-planned experiment can often make use of so-called negative (or unexpected) results as well as results which confirm the alternative hypothesis. You must foresee the implications of both positive and negative results as part of the design of your experiment. Include a brief description of what accepting or rejecting each of your alternative hypotheses would mean for further experiments (and for practice, if it is appropriate to your experiment).