

Scientific and Historical Perspectives on Computer Science and Artificial Intelligence: Student Assignments Report July 2004

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The assessment of the *Scientific and Historical Perspectives on Computer Science and Artificial Intelligence* course was based on a written report, and a short presentation based on a research paper identified by the student's supervisor. The majority of reports and presentations were of a rather high quality. However, a number of common problems were identified, and are being documented so as to be used by the students as feedback for future report writing and presentation delivery.

Frequent problems with student reports:

- *"I couldn't have said it any better"*: A common problem encountered in reports was over-quoting of papers read. Although it was (almost) always attributed to the original author, and (usually) quoted or written in italics as it should be, some reports ended up becoming a colourful collage of quotations from books, papers and websites. The excuse usually given was that the original author expressed the idea or opinion so elegantly, that they could not express it any better. Most probably, the cause of this was that most students identified just one source of material for most of the arguments and notions presented, and used the texts actively while writing the report. The fact that a scientific report should only be written once one is sufficiently familiar with the literature that it need only be occasionally consulted, should be emphasised more in the Technical Writing sessions.
- *"Yes, I was heavily influenced by those papers"*: A closely related problem arose from most students writing up their report based directly on their reference material. Although we had no blatant cases of flagrant plagiarism, most reports were not much more than reworked versions of the primary paper that the student read. As noted in the previous point, students should be encouraged to assimilate the papers they

read (which should include material beyond the paper/s their supervisor assigned to initiate the scientific investigation), before they start writing their report.

- *"This is only meant to be an overview"*: One of the major problems was that a number of reports were rather superficial. Although one cannot expect a first year student to understand papers completely, it was felt that most students made no effort in understanding the more technical and complex parts of the papers they were reading. In most cases, they turned to informal descriptions (usually off the web, from non-technical sites such as www.howstuffworks.com) or simply skip more complex parts as though they were not in the paper.
- *"Everything's on the web nowadays, anyway"*: The bibliography was probably the most common source of problems in most reports. Few students kept to usual bibliography standards, with books being cited without any reference to publisher or publication date, papers referred to by giving a link to the author's webpage. Another recurring problem was that of secondary references listed as though they were direct ones. Finally, the most common shortcoming was that most bibliographies consisted primarily of links to webpages. Although students are expected, indeed encouraged, to use the internet for their research, most students did all their "research" sitting down on their machine at home connected to the internet. Most did not bother reading a single chapter from a book or a paper other than what was recommended by the supervisor.

Frequent problems with student presentations:

- *"Well, I can talk really fast, you know"*: Preparing far too many slides was one of the most common problems in presentations. As a guideline, students should understand that more than one slide per minute is far too much. Usually, one slide per two minutes is the right ratio. This gives the audience time to listen to the presenter, and read the slides.
- *"I was told not to include too many slides"*: Some students remembered being told that they should not use too many slides. The solution they came up with was to place all the information they had in the recommended number of slides by reducing text size, and the size of figures and diagrams. Trying to avoid having separate issues in the same slide, and avoiding cluttered slides in general cannot be over-emphasised to first year students.
- *"I use slides to direct my presentation"*: The reason why most students had cluttered, and verbose slides was so as to enable them to

practically read off the presentation off the slides. Few things can be more boring than listening to someone quickly read through a number of slides you could easily have read yourself. Students should be encouraged to use simpler slides, and prepare and practice (see next point) their presentations so as to be able to explain their material without resorting to reading off the slide.

- *"I wanted the presentation to sound impromptu"*: Lack of practice was another common problem. This also led to a number of the other problems mentioned, since one can fine-tune the timing, and avoid having to read off the slides by practicing the presentation.
- *"The audience? Which audience?"*: A number of students diligently kept eye-contact throughout the presentation with the text of the projected slides. It may be due to lack of presentation practice, or due to the "reading off the slide" syndrome, and usually also due to timidity of presenting to an audience for the first (or at most, one of the first times) of their life. Students should be encouraged to thoroughly practice their presentations, ideally in front of an audience (at least in front of the family dog, or the mirror), and try to keep eye-contact with their listeners.