Student Responses to the World Wide Web as the Primary Educational Medium in the Classroom

Scott Gazzard and James R. Dalziel, Department of Psychology, The University of Sydney
scottg@psych.usyd.edu.au jamesd@psych.usyd.edu.au

In 1997 the Department of Psychology at The University of Sydney initiated a project to develop a "Reasoning and Argument" tutorial using the World Wide Web for the presentation of material. This format was chosen for a number of reasons, including cost-effectiveness, flexibility, and accessibility. This Web-based tutorial (WBT) was designed primarily for use in a classroom situation (unlike much web-based content), but also as a stand-alone resource which students could access from points external to the University. Student evaluations of the WBT were undertaken to determine students' reaction to the use of this new format. Results presented here show that overall responses were very positive, although some time problems were found to detract from students' enjoyment. Students completed the WBT in pairs in their usual tutorial classes, and evaluations indicated that the social interaction afforded by other students and tutors was a positive experience. Other positive aspects included interactivity, the inclusion of informative and stimulating content, and the ability to revisit material at the student's convenience. Student evaluations of this project have encouraged further development of teaching materials using the World Wide Web, and the feedback obtained from students has proven to be a valuable aid to the design and application of future Web-based tutorials.

The "Reasoning and Argument" Web-based tutorial (WBT) may be viewed at:
http://psychalpha.psych.su.oz.au/teach.htmls/psych1/p101/reasoning/Welcome.html

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Option(s) for Mathematical Notation on the Web

David Green, Department of Applied Physics, University of Technology, Sydney
dcg@phys.uts.edu.au

Many universities and colleges are embracing the world wide web as part of their teaching strategy. For scientists, mathematicians and engineers, there is a genuine need to use scientific notation as part of the way we communicate. To do so *interactively* on the web has been, *at best* inconvenient, and *at worst* almost impossible.

There are several ways to produce web compatible mathematics for static web pages. These include exporting from word processing packages and scientific typesetting programs the text as HTML which incorporates scientific formulae as a gif image. One can even digitise handwritten formulae. These approaches work well, but are only appropritate if you write the equations for the web once, load them onto a web server and then leave them alone.

A student or a teacher in a technical discipline who is trying to communicate via the web using newsgroups, chat rooms and the like has great difficulty with anything more complex than superscripts and subscripts and a few special symbols. The latter are supported in standard HTML

sequences like ² for ^{2} and ° for °. Libraries of special symbols can be accessed but the flow of thought is severely disrupted by needing to gather special symbols from out on the internet. The MathML standard will improve this situation somewhat, by supporting math layup more naturally within the web document.

The package that we have developed makes creation of mathematical notation as simple as using a web browser. No special markup language is needed, and it handles matrices, sums, integrals, fractions and includes superscripts, subscripts, greek and a variety of special symbols. The package provides WYSIWYG (what you see, is what you get) HTML, and allows the user to have their equation as either, HTML, LaTeX source or as a rendered GIF image stored on a server for easy reference and later use. A new version which is MathML compliant is planned.

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Student-created Hypertexts and the Understanding of Psychology

Stephen Provost, Department of Psychology, University of Newcastle
provost@psychology.newcastle.edu.au

Teaching psychology in a Faculty of Science presents some interesting, and slightly unusual academic challenges. Students are convinced that psychology is a "helping profession", and that gaining a degree with the word "psychology" in it will prepare them for a rich and rewarding career assisting individuals to improve their well-being. Academic psychologists know, of course, that Psychology is a Scientific Discipline, and that a good education in the intricate, and extremely diverse, theories which support it, as well as a solid dose of statistical training, must precede any opportunity to be let loose on an unsuspecting public. The difficult balance between science and practice in psychology provides a never-ending source for curriculum design and redesign, professional accreditation anxiety, and a steady stream of disillusioned students.

The CAUT-funded project which I conducted in 1995 and 1996 was designed to allow me to implement and evaluate the usefulness of collaborative, student-created hypertext as a teaching method in a conventional psychology subject (PSYC311, Associative Learning). The intention was that hypertext creation would lead to more effective understanding of the theoretical content in this subject. What was revealed, however, is that allowing students more scope in the kinds of media which they may employ to meet assessment requirements created an environment in which they could successfully articulate the relationship between this theoretical content and the practical application of this knowledge. Students created quite beautiful hypertext markup language documents with almost no instruction; documents which revealed their understanding of how associative principles may influence behaviour with far greater diversity than any single academic could hope to achieve. In this poster I will report on the quantitative analysis of the students' evaluations of the teaching method, display some of their work as hypertext, and show a video taken at their laboratory presentations. I hope that these will reveal the value and enjoyment which can be derived from the use of "homespun hypertext" in any educational context.