iResearch: information skills for life

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Abstract: The provision of information skills training and resources is a core service, which the University of Sydney Library has developed over many years. Annually, over 33,000 participants attend Library information skills training sessions to develop generic and specific information literacy skills.

Although some clients enjoy visiting the Library, preferring face-to-face contact with a helpful staff member when they need assistance; the new generation of students is primarily made up of technologically literate individuals who use IT solutions regularly for functions such as social networking and learning. Students are increasingly using 'Web 2.0' applications such as blogs and wikis, and social networking services such as YouTube *(http://www.youtube.com/),* del.icio.us *(http://del.icio.us) and* MySpace *(http://www.myspace.com) as part of their everyday activities. Research tells us that students expect to access information and resources online 24/7, and engage in absorbing learning experiences that mirror social use of technologies and allow learning at point-of-need.*

The challenge was to create a common quality framework for information literacy resources that meets best practice for content and presentation, allow materials to be easily adapted at point of need and over time; and most importantly, that offers an excellent student experience for range of learners from all Faculties.

In Semester 1, 2008, the University of Sydney Library launched a series of short, interactive online learning objects, designed to address the challenges mentioned (http://elearning.library.usyd.edu.au/index.php). At present, the topics cover a range of core information skills, such as, plagiarism and academic honesty and how to reference, and includes 'real experiences' through scenario-based learning, humour and fun and interactive games and activities.

Usability testing results and other feedback from students have indicated a positive response to the learning objects approach. Feedback from staff have also been encouraging.

The poster presentation will discuss the development of the learning objects in detail and the feedback/responses that we have received so far.

Glimpses of Science revisited: 'Multimedia-assisted' science activities for primary school teachers and their students

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Abstract*:* Glimpses of Science *presents some concepts and techniques of science to the primary school classroom through a student-centred approach that utilises hands-on activities accompanied by instructional multimedia resources. The project was funded by Australian School Innovation in Science, Technology and Mathematics (ASISTM) and represents a collaborative effort between the School of Physics at the University of New South Wales and a cluster of primary schools in the Sydney metropolitan region. The modules were developed in conjunction with eight primary school teachers through a series of professional development workshops and consist of a number of inexpensive kits for hands-on activities accompanied by illustrative material in the form of teacher's notes, film clips, animations and so forth. The multimedia resources are presented in an interactive slide show. Each slide shows some information, but presents a question or instructional cue that lead to small group participation in the hands-on activity under investigation. The four modules developed cover the physics topics of sound, energy, light and the pendulum. The supporting multimedia was designed to assist the teacher in facilitating the small group work and can be viewed at http://www.phys.unsw.edu.au/ASISTM/catalogue.html. Feedback from both teachers and students suggests that the activities are engaging and informative.*
Glimpses of Science *can be viewed at http://www.phys.unsw.edu.au/ASISTM*

The psychology of university student learning and performance: using the wiki tool in *Blackboard* to support collaborative hypertext development among first-year psychology students

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Abstract: Before wikis and mind-maps there was hypertext. Somehow hypertext lost popularity at exactly the same time as its direct descendent, the world-wide web, become omnipresent. One of the problems for educators wishing to use and evaluate hypertext was the lack of availability of tools that students could understand for its generation. Times have now changed. Social networking is rampant, Wikipedia has been a huge success, and universities have now developed pervasive computer systems based on Blackboard *and similar products. These provide easy-to-learn tools for hypertext creation, if you know where to look. We have been using the wiki tool in blackboard to support a collaborative hypertext project. Students in their first year of psychology are asked to gather information regarding career paths in the profession. They then cooperate in small groups with overlapping interests to present this information as a wiki on the MySCU site. At the end of semester, each group gives a brief presentation regarding their wiki and its development. Use of the wiki tool editor requires almost no training, and the majority of students were able to complete this assignment with ease. Gentle encouragement to incorporate hypertext design elements, as opposed to a linear presentation, was effective in many cases. Pleasingly, the experience leaves a (small) group of students interested in how to develop these skills further, manipulating CSSs and trying to get images on the background. Feedback on the unit was generally positive, and very few intra-group problems emerged. The success of this project suggests that the educational benefits of hypertext may now be achievable: at the very least it is now possible for educators to focus upon evaluation of the conceptual skills acquired rather than the technical details of hypertext creation for their students.*

Using Threshold Concepts to generate a new understanding of teaching and learning Biology

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Abstract*: Students come to tertiary institutions with misconceptions of key concepts in the disciplines they are studying. Their misconceptions commonly relate to conceptually difficult or troublesome knowledge (Perkins 1999) and can be: incomplete, contradictory, stable and highly resistant to change and remain intact despite repeated instruction at successively higher levels, being perhaps reinforced by teachers and textbooks (Driver 1983; Driver, Guesne and Tiberghien, 1985; Gabel 1994). For sometime, we have known that a range of concepts in Biology are conceptually difficult e.g. biochemical pathways, evolution and genetics (Brown 1995; Ross and Tronson 2007, Taylor 2006, 2008), but whether these are the 'threshold concepts' of (Meyer and Land 1995) is a question that needs to be explored further. We propose an alternative perspective where threshold crossing can be envisaged more productively as a cognitive process with students transported across a conceptual chasm or threshold. Misconceptions may then lie with an underlying 'cognitive threshold' and not a 'threshold concept' (Ross et al 2008). This current ALTC funded collaborative project involves three Australian universities and aims to identify the cognitive processes which underlie difficult Biological concepts; develop intervention strategies to improve students' framework of conceptual understanding, in one or more related concept areas (that is, to help the students cross a conceptual threshold); test whether students can subsequently transfer this thinking process to aid their understanding of other similarly difficult concepts (that is, to see if they have learnt how to cross unfamiliar thresholds). In this paper we present the preliminary results of a survey which asked biology academics (both nationally and internationally) to identify troublesome biological concepts in their teaching, describe the cognitive process that underlies them which may determine why they are troublesome, and to identify the links they perceive with our nominated cognitive thresholds.*