

Full and concise presentations (in alphabetical order of first author)

Student centred teaching of accounting to engineering students: Comparing blended learning with traditional approaches

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Blended learning is growing in popularity, but there is conflicting empirical evidence in relation to how it affects students' exam marks and final grades. This paper compares a blended learning approach to the traditional delivery of an accounting subject to engineering students. Data was collected from two cohorts of students over two semesters and analysed to determine whether the students who were exposed to the blended environment displayed increased participation in a non-compulsory learning task and higher marks in both in-session and final examinations. Results indicated significant improvements in every area, supplying valuable evidence that the adoption of a blended approach in higher education can appreciably enhance students' results and experience by providing a more student-centred learning environment.

Keywords: blended learning, student-centred learning, higher education, accounting, pedagogy, accounting

The impact of audience response systems in a multicultural Asian context

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This research investigated the implementation of an Audience Response System (ARS) to learning in a multicultural Asian context using multiple case methodology. Four academic staff teaching in four diverse units with different student numbers (n=133) used ARS as one of their teaching approaches with each using it in very different ways. Both quantitative and qualitative data was collected through questionnaires and convergent interviewing of staff and students. Six constructs emerging from the literature were investigated and five are reported. Although some results aligned with other research, some specific issues were identified and appear relevant not only to other similar cultural contexts but possibly all contexts. The paper concludes with questions for further research into ARS in a multicultural Asian context in pursuit of choices for learners and learning.

Differentiating the curriculum: A lot of effort for little gain

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The Learning Federation (TLF) project employs emerging technologies to produce online curriculum content to encourage student learning and support teachers in Australian and New Zealand schools. Teachers and students in 20 schools participated in a field trial of a differentiated curriculum model that incorporated online curriculum content and associated assessment components. Teacher and student interviews were conducted to collect information in accordance with the study aims, which were to ascertain the extent to which the Differentiated Curriculum model resulted in increased knowledge by the teacher of individual student achievement; increased knowledge of the next appropriate activity for teaching and learning; increased knowledge by the student of their content understanding; and increased knowledge by the student of the next appropriate activity for learning.

The Differentiated Curriculum model used a Learning Management System (LMS) for delivery. Upon commencement, each student completed a pre-test conducted as a diagnostic tool. On the basis of the pre-test results, the student progressed through an individualised learning pathway, culminating in the completion of a post-test.

The data reported in this paper is qualitative in nature, reflecting teacher and student perceptions of the value of explicit and immediate feedback on student understanding against specified learning outcomes. This paper reports on initial findings and how they are being used to inform the technical and educational design principles for production of digital assessment resources.

Keywords: assessment, differentiated curriculum, learning pathway, diagnostic, LMS

Symposium Meet the Editors

Roger Atkinson (Chair)

Australasian Journal of Educational Technology and Proceedings ascilite 2007

Fang Yanping

Pedagogies: An International Journal

Clare McBeath

Issues in Educational Research and Proceedings ascilite 2007

Alistair Inglis

Distance Education

Catherine McLoughlin

Australasian Journal of Educational Technology

This session is for delegates who wish to know more about publishing their work in educational journals and conference proceedings, to meet these editors face to face and discuss their problems and concerns. The editors will present briefly a number of issues which they consider important, and then invite the audience to ask questions and make comments. The session will be run in panel format and is expected to be highly interactive, so bring along your questions and concerns.

Virtuality, veracity and values: Exploring between virtual and real worlds using the 3V model

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With the emergence and popularity of online social networking technologies (Web 2.0) students are exploring new concepts of self, identity and community both in real and virtual spaces. New theories are necessary to develop social policy responses, including those of educational systems and institutions, to the consequences of these new conceptualisations. We present an original theoretical model, the 3V model, to assist in the interpretation of existing theory, illustrated through an exploration of higher education students' concept of identity in the interface between the 'real' and 'virtual' worlds. We wish to explore whether the theoretical and methodological instruments available within the broader Social Sciences are adequate to examine emerging notions of identity. Our emergent theoretical model outlines a set of complex assumptions concerning the concept of the "real-virtual" interface; it presents an internal structure to this realm and provides a framework for further empirical study.

Keywords: social networking, Web 2.0, value orientation, culture

Teaching business English to adult Malay learners: The potential of agent technology

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Kinshuk

School of Computing and Information Systems, Athabasca University

We analyse the needs of adult Malay business English learners, and demonstrate that they can be met by using an on-line teaching environment relying on animated pedagogical agent technology to implement scenario-based learning.

Keywords: business English, Malay learners, agent technology

The impact of faculty interaction on the learning experience and outcomes of online learners

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The last decade has witnessed e-learning evolving as a major force in higher education delivery. The role of faculty in an e-learning educational environment is still debated. This paper reports the findings of a study of the role of faculty interaction in a pedagogically rich online environment, grounded in a constructivist model of learning. The study examines the

results from 145 sections of graduate management programs, covering 2005, 2006 and 2007, and also covering quantitative, behavioural and hybrid subjects. The findings of this study support the arguments that faculty interaction adds value to learner perception and satisfaction, and finally, may also positively impact actual learning outcomes as measured by student grades. It also showed that there is value placed on email communication by graduate learners. Finally, the study showed that both perceived and real value (in terms of grades) is found by learners in both quantitative subjects and behavioural subjects.

Keywords: faculty interaction; learning experience; learning outcomes; online learners

Learning designs: Bridging the gap between theory and practice

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Barry Harper

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This paper summarises the work being conducted in an ongoing research agenda focused on exploring how the 'learning design' construct can be used to support university educators to create both pedagogically sound and interoperable e-learning experiences. The premise of this work is that a learning design can be used to support the pedagogical design process and the integration of international e-learning standards, such as learning object metadata and IMS-LD, enabling resources and tools to be technically interoperable across different standards-compliant systems. The paper presents the rationale guiding this research focus, describes the features of the research that is underway, and outlines future directions of this research.

Keywords: learning design, university, education, design, e-learning, online learning, online teaching

Teaching in context: Some implications for e-learning design

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One of the major advantages of e-learning technologies is the expanded opportunities that they offer for when and where learning takes place. Until recently, little attention has been given to the implications that variation in the learner's context creates for e-learning design. The context of learning with technologies is often considered quite narrowly, sometimes at the level of specific learning transactions, with limited acknowledgement of whether learners will be engaging with them on-campus, off-campus, across national boundaries or in some other contexts. While there are limitations to teachers' control of contextual variation, their knowledge of the student cohorts to whom a particular unit of study will be offered provides some clear implications for choices to be made in relation to e-learning design. This paper illustrates these choices through the use of examples from e-learning showcase sites at two institutions. The examples are analysed within a selected theoretical framework to provide preliminary guidelines for accommodating contextual variation in e-learning.

Keywords: e-learning design; context; transactional distance

E-teachers at work: Exploring a process for reviewing e-teaching for ongoing professional learning

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The effective teacher is a reflective teacher who seeks to learn from a range of sources (literature, formal theory, evidence) in order to continually improve student learning. This project seeks to capture the impact on practice inherent in the collegial development of a theoretically informed framework which enables lecturers to monitor and analyse what they do to create an effective online teacher presence and thereby facilitate a productive online learning environment for their students. Initially, the project involves a pilot group of tertiary e-teachers interacting with the seven principles for good practice in undergraduate education (Chickering and Gamson, 1987) to develop a framework to monitor and analyse online

interactions for evidence of their teacher presence. Secondly, lecturers will be invited to submit an electronic portfolio which contains samples of online interaction which are evidence of their teacher presence online. Thirdly, working with an experienced online lecturer as a mentor, lecturers can develop a process which helps them analyse and review this data to identify both strengths and areas for further professional learning. Finally, through a reflective process lecturers will identify factors which contribute to effective online teacher presence. This is a work-in-progress report on this research project which received the 2006 ASCILITE research grant. This concise paper outlines the research proposal, rationale and methodology, and gives an update on progress with the project.

E-learning policy issues: Global trends, themes and tensions

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This paper provides an overview of experiences in the development of e-learning policy for the tertiary sector across a number of countries. It contrasts how different countries have responded to e-learning and proposes a discernible pattern to policy development. Consistent trends, themes and tensions run through the policy implementation process and these raise a number of questions about the way policies might define e-learning; address and acknowledge gaps in e-learning policy; align and differentiate levels of policy, and account for the national and global education context. The paper concludes with a brief consideration of issues and implications for local policy-makers as governments endeavour to embed and connect e-learning policy with other strategic social, economic and educational goals.

Key words: e-learning, policy, accessibility, emerging issues

Commonalities in an uncommon profession: Bomb disposal

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The bomb disposal community seeks to attract, train, and retain individuals who are physically, mentally, and emotionally capable of performing diverse and complex tasks. However, while bomb disposal technicians and organisations tend to believe that bomb disposal requires a certain “type” of individual, little research has been conducted to identify the cognitive characteristics that make a “good” bomb disposal technician. The purpose of this study therefore was to investigate the extent to which individual learner preferences, as measured by learning styles and multiple intelligences, impacts on the effectiveness of bomb disposal training. The investigation used a non-experimental, descriptive methodology, and focused on a geographically dispersed group of 100 current and former bomb disposal technicians. The Canfield Learning Styles Inventory (LSI) and Multiple Intelligences Developmental Assessment Scales (MIDAS) instruments were used to assess learning style preferences and intelligence strengths. Overall, ten demographic variables, eight intelligence strengths, and 17 learning style preferences were examined, covering 250 different dimensions, 16 of which (6.4 %) showed a statistically significant difference between intelligence strengths and learning style preferences. The data supports the contention that learning style preferences and intelligence strengths can be used as predictors for academic and vocational success. As such, the results have specific implications for bomb technician education and training in terms of technician selection and the potential to learn and retain the knowledge and skills being taught.

Keywords: multiple intelligences, learning styles, bomb disposal

Learning challenges faced by novice programming students studying high level and low feedback concepts

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This paper describes an investigation into the nature of the academic problems that face novice programming students. These learners are required to demonstrate competencies in high-level abstract principles of programming and logic, such as program design and OOP

principles, which are conceptually difficult. During the programming task learners receive relatively high levels of feedback on low level issues, such as syntax rules, but tend to receive low levels of feedback on conceptually more difficult issues. This problem tends to be exacerbated by the trend of learners to study independently, outside the classroom or in online modes, which further reduces the options available for quality feedback on high-level issues. This paper analyses the results of a survey given to students enrolled in an introductory programming unit across three campuses at Monash University in 2007. The survey focused on student perceptions of the relative difficulty in understanding and implementing both low level-programming concepts, such as syntax and variables, and high-level concepts, such as OOP principles and efficient program design. An analysis of the approximately 150 responses has indicated that a significant percentage of students experienced difficulties in high-level concepts. Also while many students may indicate an understanding of the principles of many high level concepts more students reported experiencing difficulty in implementing such concepts. This indicates that many students may achieve a level of understanding allowing near transfer of domain knowledge but fail to reach a level of understanding that enables far transfer.

Keywords: programming curriculum, novice programmers, feedback

Documenting learning environments and experiences

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At their best, ICTs can support knowledge construction, learning-by-doing, by conversing and by reflecting (Jonassen, 1999) but managing all this in a student-centred environment is a complex task that might be made more manageable by teachers sharing and re-using effective learning designs. Furthermore, if these designs were available in machine-readable format, educators would be able to select a learning design to suit their context “off the shelf” and plug-and-play it.

A number of attempts are currently being made to comprehensively document learning designs that would allow educators to share successful, stimulating and engaging learning environments and experiences. IMS-LD, LAMS and the AUTC Learning Design Project are three developments where a comprehensive system is being produced that utilises a consistent data standard and vocabulary to describe the teaching and learning environment and the different theoretical approaches employed (Oliver & Littlejohn, 2006) and two of the three are machine-readable (INS-LD and LAMS).

This paper provides a review of each of these methods of documenting learning designs and details the results of a study that demonstrated that a system that educators can use to comprehensively describe successful, stimulating and engaging learning designs so that they can be shared and re-used is still beyond the reach of the average pre-service teacher.

However, all have features that illustrate that the dream of an easy-to-use, machine-readable and comprehensive learning design documentation system may not be too far away.

Keywords: learning design, IMS-LD, LAMS, generic templates, AUTC, online learning, pre-service teacher training.

Help options in computer-based listening activities: Learning scaffolds or barriers?

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Second language (L2) learners experiencing breakdowns in the comprehension of instructional aural materials when working with computers are enabled to overcome such difficulties by interacting with different forms of enhanced input (i.e. enriched, salient, and modified) provided through help options. Despite of the perceived advantages of using help options, Computer Assisted Language Learning (CALL) researchers caution their use, arguing that if not used properly, they can hinder learning instead of enhancing it (i.e. Hubbard, 2000; Pujolà, 2002). This paper describes the initial stages of an on-going study aimed to construct a principled framework for the understanding, development & evaluation of help options in computer-based listening materials by drawing information from previous studies and by inquiring into the L2 learners' perceptions on the effectiveness of help option use.

Keywords: Help options, input enhancements, computer-based listening.

From repositories supported by communities to communities supported by repositories: Issues and lessons learned

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The Carrick Institute for Teaching and Learning in Higher Education is developing the Carrick Exchange to provide a forum for sharing resources and expertise about learning and teaching. This paper reflects on relevant experience in North America with related initiatives, which highlight (a number of) issues to be considered and (a few) lessons which can be incorporated in the design and development of the Carrick Exchange.

Most of the experience cited here comes from the MERLOT network, including both the MERLOT discipline community Editorial Boards and related communities such as the Cooperative Learning Object Exchange in Canada, the disciplinary Teaching Commons sites within the California State University, and the new MERLOT Innovation Projects such as ELIXR creating reusable resources for staff development.

This paper also analyses the resulting reflections in the context of an independently-developed taxonomy for distributed collaborations in a parallel domain: large-scale scientific collaboratories. This analysis suggests that a full range of possibilities needs to be explored across dimensions such as aggregation versus co-creation and the range of valuable contributions of resources, information and knowledge. Another conclusion is that a number of user needs can be met without the full infrastructure of a distributed community of practice.

Academic perceptions of the use of Lectopia: A University of Melbourne example

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Since the introduction of the *Lectopia (i-Lecture)* technology to higher education, there has been debate about its relevance and effectiveness as a teaching and learning tool (Fardon, 2003). Anecdotally, students expect to access Lectopia recordings for their revision and for going through points that were made which they missed in lectures. From the academics' point of view, resistance has resulted from the perception that the Lectopia option will reduce attendance in lectures and also the notion that not all lecturing styles can be suitably recorded by an admittedly limited technology. Fardon (2003) also argues cogently that Lectopia is not necessarily conducive to some styles of lecturing. The classifications of different lecturing styles (Brown and Bakhtar, 1988; Behr, 1988; Saroyan and Snell, 1997) as highlighted by Fardon (2003) present a useful tool in determining if particular styles of lecture may be more or less conducive to Lectopia. However, lecturing styles alone do not determine a willingness or resistance to adoption of the technology. Some other reasons may include perceptions of the reliability of the technology, the technology as a pedagogical tool, the engagement levels with students and suitability for the curriculum. This qualitative project examined 11 academics' perception of Lectopia at The University of Melbourne. The results affirmed some of the benefits and concerns around the use of Lectopia, and highlighted some academic practices in using the technology. Initial results point to some recommendations on incorporating Lectopia technology into the teaching toolkit as well as indicate some future areas of research.

Keywords: Lectopia, lecture recordings, pedagogy and technology, qualitative research

A developer's challenges on an e-portfolio journey

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This paper describes an e-portfolio project at the Hong Kong Polytechnic University, designed to provide university students with an e-learning tool to showcase their cumulative, multi-modal evidence of linguistic accomplishments over time. It charts the initial phase of a portfolio journey from paper to electronic format, bringing to the fore some of the challenges a developer confronts when introducing and implementing an e-portfolio for English language learning. Such challenges range from practical issues (e.g. selection of an appropriate open-source platform) to higher-order concerns (e.g. sustainability; equity; benchmarkability). Despite the challenges, the paper concludes that the e-portfolio represents a powerful learning

mechanism for addressing, among others, learner diversity rendered possible by information and communications technology (ICT).

Keywords: e-portfolio, developers' challenges, language learning tool; technology

Formative research on the instructional design process of virtual reality based learning environments

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To date, the educational benefits offered by the virtual reality (VR) technology are generally well accepted. Indeed, many efforts are underway to explore ways, both theoretically and practically, to produce effective virtual reality learning. Chen, Toh and Wan (2004), for instance, have proposed an instructional design model that prescribes instructional methods for guiding the design of VR based learning environments. Although this model serves as a feasible and useful template to guide the design of VR based learning environments, particularly learning environments that adopt the constructivist paradigm of instruction, there are still rooms to enhance its robustness. This paper describes how formative research method can be used to improve this instructional design model. Formative research, which is qualitative in nature, is a method that has been employed to develop as well as to improve design theories (or models). The paper also reports some preliminary findings of the study.

Keywords: formative research, virtual reality, learning, instructional design model

The validation of the online learning environment survey

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The increased use of computers in education, the creation of virtual learning environments based on web services, and the increased investments by educational institutions (both fiscal, physical and human) in the development of networked environments are impacting on all aspects of education. Educationalists, at all levels, are challenged to develop appropriate strategies to deal with new information and communication technology rich ways of teaching and learning. This paper will focus on the procedures used in the validation of an online learning environment perceptual measure the *Online Learning Environment Survey* (OLLES). It is envisaged the instrument, in its' final form, will inform educationalists of the efficiency and effectiveness of tactics and strategies they are employing in the online learning environments they create.

Keywords: Computers in Education, Online Learning, Learning Environment, Perceptual Measures, Evaluation

On campus and distance student attitudes towards paperless assessment and feedback

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It is generally accepted that the use of paperless submission and return of university assignments has potential advantages for reducing delays in each direction, especially for students studying part-time, online or at a distance. There are also potential advantages in terms of the quality of feedback and also potential cost savings through reduced printing either by the student or by the institution. A number of studies have explored the use of technologies to assist with the process of submission, marking or return of student assignments, but to date there is little information available about student attitudes to its use. This paper reports on a survey of students who participated in a large-scale trial of paperless submission, marking and return of assignments. The results suggest that students in general are strongly in favour of paperless approaches. Advantages identified included reductions in time delays, ability to retrieve feedback while away from home, improved legibility of feedback, reduced printing, and more convenient storage of past assignments. Disadvantages identified included the cost of printing returned assignments and problems with uploading over slow Internet connections. There was no significant difference between preference for

paperless marking of students studying on campus and at a distance, with the majority of students in all study modes responding positively. Students were divided in their preference for receiving feedback via email (ie. using a push model), versus downloading their feedback themselves (ie. using a pull model), indicating that both alternatives should be made available.
Keywords: paperless marking, online assessment, electronic grading

Meeting the 21st century challenge: The situational learning initiative at the University of Adelaide

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The University of Adelaide is currently undertaking a Situational Learning Initiative in order to make learning more engaging, relevant, interactive and collaborative, and to meet the learning styles of its increasing numbers of digitally literate learners. This paper outlines the rationale for this initiative and its goals and strategies. It reports on progress to date and future directions from a learning and teaching support perspective.

Keywords: situational learning, online role-play simulations, scenario-based learning, 21st century learners

Playing a critical role: Experiential learning resources and analytical media studies and in higher education

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This article compares two Information and Communication Technologies (ICTs) used in the Faculty of Arts, Deakin University Australia, and investigates the relationships between technology, pedagogy and key issues in the teaching and practice of public relations, in a media studies context. The online role-play 'Save Wallaby Forest' and the e-simulation 'Pressure Point! Getting Framed (GF)', in their different ways, afford learning environments with capabilities that present public relations and media students with opportunities to discover a critical consciousness, break out of naturalised world-views, and explore alternative approaches to organisational communication. Furthermore, they present students with complex ethical issues to investigate based around the idea that media industries are powerful discursive producers and reproducers of social norms, values and beliefs which in turn shape notions of identity and influence the formation of public opinion in society (Fairclough 1999; Habermas 1995). This article explores the intersections and differences between these distinct ICTs in their relationships to a constructivist learning approach and ethical questions about how public relations both produces and reproduces world views through practice. This interacting nexus – between technology, pedagogy and theme – is significant because "what happens in the learning process" relates to the learning outcome and therefore has the potential to develop holistic reflexivity in studies of public relations (Laurillard 2003, p.42).

Exploring the role of weblogs in supporting learning communities: An integrative approach

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This study explores into the role of weblogs in supporting preservice teachers during their teaching practice and the key factors determining their engagement with weblogs. Underlying our study is an integrative approach that puts weblogs alongside with other popular media in use. An online community was intentionally built with weblogs to facilitate reflection and social interaction among dispersed preservice teachers. In parallel, multiple channels of communication were employed for peer interaction. Weblogs were perceived as valuable in relieving isolation, documenting their experience, and expressing their personal feelings. Instant Messenger and phone were rated as the most frequently used media. This study sustains our conviction that the integrative approach is vital to have a comprehensive picture of interaction among a community. Our study deepens the insights into the distinct benefit of weblogs as educational media and informs the future development of an online community with weblogs.

Keyword: weblogs, learning community, blogging, preservice teachers

Peer review: A process of EnRoLE(ing) as a reuser

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Within higher education settings the peer review of research as well as face-to-face teaching has been an established practice for a number of years. Yet there has been little attention placed on the peer review of online learning designs, in spite of the widespread adoption of ICTs in universities over the last few decades. To date, the most notable strategies aimed at redressing this gap are review mechanisms embedded within learning repositories (such as MERLOT, CLOE, LAMS), and nationally funded projects directed at establishing methods for validating scholarship in university teaching (Taylor & Richardson, 2001; see also Carrick Institute: Priority Projects 2006).

This paper reports on the initial stages of the development of a peer review framework for Project EnRoLE: a Carrick funded initiative aimed at encouraging a community of like-minded teachers interested in developing and sharing role-based learning environments. It commences with a brief snapshot of the debate surrounding peer review and teaching scholarship, as well as the scope and aims of the project. Then, it outlines proposed elements of the review framework, highlighting its potential for encouraging other academics to EnRoLE in the (re)use of role play learning designs.

Keywords: peer review, role play, role-based learning environment, reuse, Project EnRoLE

Individuals' perceptions of online environments: What adult learners are telling us

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This paper reports upon the results of ongoing research into student responses to their online learning habitat at a Western Australian university. The university in question has been at the forefront of innovation for flexible, online delivery of its Training and Development Program since the late 1990s. A number of reviews and evaluations of the program have taken place since then, with changes being made in direct line with academic research. This has pointed to ways of improving the quality of delivery and therefore student learning. This investigation focuses upon students' reactions to their online learning environment and utilises student questionnaire data which concentrates upon factors relating to communication apprehension and competence, the experience of perceived loneliness, locus of control, collaboration by students regarding the learning experience, institutional support and the students' sense of self efficacy. The results indicated that students' personal perceptions of the importance of peer interaction and group work were surprisingly lower than anticipated. It appeared that the majority of students preferred to work alone and were less likely to initiate contact with fellow students as they believed their learning styles were not collaborative. Communication apprehension and competence were highly influential on their overall expectations of educational success in the unit studied. The students' sense of control over the learning materials and environment led to an increase in their belief regarding a timely and successful completion of the unit of study and their perceived ability to interact effectively with others.

M-learning: Finding a place for mobile technologies within tertiary educational settings

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Today's students have grown up with enormous access to digital technology in the last decades of the 20th century. As educators we are left to grapple with what *form and shape* learning will look like in tertiary settings in the next few decades? The use of M-Learning tools themselves does not guarantee their potential being realised. The key to success is the ability of educators to design and develop pedagogically sound opportunities and environments that enhances learning. This presentation will provide an overview of what is currently happening regarding M-Learning in tertiary institutions and it will look at the conclusions of these initiatives. It will highlight the challenges and issues confronting tertiary educators when planning and catering for the needs, preferences, attitudes and habits of young Generation C mobile technology users and look at the potential applications or uses of M-Learning in the tertiary context. It will present a brief description of M-Learning initiatives currently being trialed at Queensland University of Technology. The paper will conclude with a brief examination of educational policy developments regarding M-Learning around the world and a summary of the changes facing tertiary educational settings.

Keywords: m-learning, learning design, tertiary education, m-learning policy

Using wikis as a learning tool in higher education

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Wikis have originally emerged and are most commonly known as social software, but there is also a growing trend to use wikis as a learning and assessment tool in Higher Education. The latter is the focus of the present paper. The effects of task type and instructions on students' decisions about wiki structure and navigation are considered by examining group wikis created by students of two postgraduate courses as part of their assessed course work. More general issues with wiki-based learning are also considered.

Quantifying the reuse of learning objects

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This paper reports the findings of one case study from a larger project, which aims to quantify the claimed efficiencies of reusing learning objects to develop e-learning resources. The case study describes how an online inquiry project *Diabetes: A waste of energy* was developed by searching for, evaluating, modifying and then integrating as many pre-existing learning objects as possible into a learning design. Development times for the reuse approach were recorded and compared to estimates for the *de novo* development of an equivalent project. Outcomes suggest that considerable savings can be made using the reuse approach; we estimate that it would take up to three times more time to develop the *Diabetes* project by creating new objects. In this case study, gaining permission from owners to reuse objects was not a barrier to reuse. However, in some circumstances, being unable to source pre-existing objects to meet specific requirements, or having to modify objects for reuse, could be problematic.

Keywords: learning objects, reuse, development, e-learning resources

E-learning activity in New Zealand industry training organisations: Perceived benefits and barriers

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Recent research in the New Zealand tertiary education sector, indicated more information was required to identify the observable trends and drivers of change that were likely to have significant impact on the future of "e-learning" in Industry Training Organisations (ITOs). A three-phase research project was undertaken to ascertain the current status of the use of e-learning technologies by New Zealand ITOs. The data reported here, from the second phase, was derived from a multi-part survey of the perceived benefits and barriers to e-learning activity in New Zealand ITOs. Key findings include a pan-sector awareness of the benefits of e-learning for increasing flexibility in training, while at the same time seeing costs and lack of technical infrastructure as real barriers to implementation.

Keywords: Industry Training, e-learning, Benefits, Barriers, Online survey

Using blogging for higher order learning in large-cohort university teaching: A case study

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The small but developing literature on weblogging underscores its potential as an effective learning resource for use in higher education. This paper contributes to these discussions through an initial case study of the authors' experience with the on-going development of an educational blogging resource for use in a large-cohort undergraduate liberal arts subject. Detailing the theoretical aims, design, implementation and incipient evaluation of the project, the paper supports the argument for the educational use-value of blogging but also highlights potential limitations and problem areas.

Keywords: weblogs, learner centred, personalised learning, social software

Online self and peer assessment in large, multi-campus, multi-cohort contexts

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The increasing use of team assignments within higher education is well documented. The driving forces behind this include desires to facilitate reflective and collaborative learning, to develop generic teamwork skills for graduate employment and to reduce the grading workloads of faculty staff. Students however consistently report dissatisfaction when the assessment of team assignments produces a common grade for all team members. Self-and-peer-assessment (SAPA) is presented as a fair, valid and reliable method of producing information about ongoing team processes. This information can provide ongoing feedback to team members and rich formative data to instructors attempting to assess the team process and students' teamwork skills. This data can also enable individualised summative assessment in dysfunctional teams or situations of uneven team member contributions. Whilst manual SAPA protocols can work effectively for smaller classes, computer-assisted SAPA offers a solution to the problems of large classes. This paper reports on the early stages of an online SAPA tool, originally developed for small classes of architecture students, adapted for use by very large business communication classes comprising up to 1000 students in a semester. This large unit is delivered on four Australian campuses as well as off-campus and in off-shore mode, by up to fourteen instructors at any one time. The paper documents how three researchers from very different backgrounds worked to create their own research team, implement a pilot study, and adapt the online tool, whilst adhering to comparability of assessment constraints and maintaining integrity of research design.

Keywords: team work, group work, self and peer assessment, SAPA, assessment tools

The need for choice and control: Preparing the digital generation to be teachers

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In this paper we describe an online classroom-based simulation, *ClassSim*. The software was developed to enable pre-service teachers to interact with a virtual classroom environment as they assume the role of the teacher. The project built on the research of Herrington, Oliver and Reeves (2003) by investigating how the design elements of authentic learning environments they identified could be operationalised in simulation software to engage pre-service teachers in understanding the complex decisions needed to plan and implement reading and writing experiences for young children.

With the support of a large grant from the Australian Research Council entitled: *Investigating a classroom simulation designed to support pre-service teacher decision making in planning and implementing literacy teaching* (DP0344011) we have engaged in iterative designs and accompanying trials of the software with more than 500 pre-service teachers studying within the Faculty of Education at the University of Wollongong, Australia. During these trials we noticed some trends in the ways in which pre-service teachers approached the software and report on the implications of these trends for instructional designers.

Keywords: online learning, simulation design, teaching

The roles we play in ICT based learning design: Do academics have it all?

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Technology has had a significant impact on the pedagogical practice of academics in the tertiary education sector. For most academics, this has meant a struggle to adapt to potentially different approaches to learning design. At worst, technology has resulted in nothing more than the use of traditional methods of learning design in an online environment; delivering

content in a seemingly linear way that offers little opportunity to enhance learning and teaching. For others, online facilitation of learning presents opportunities to transform learning into an engaging and authentic experience for the student, utilising sometimes unique approaches available only in the online environment.

This paper presents findings from a review of courses offered online across a range of disciplines, and particularly focuses on varying approaches to course design and implementation. In particular, the review of these courses and their implementation sought to better understand the roles being played by academics in the design and development of learning in an online environment, through a lens developed by Goodyear, Salmon, Spector, Steeples and Tickner (2001). The findings of the review highlight the importance of a range of competencies for effective design and delivery of online learning. The authors argue that academics may not be the most appropriate individuals to fulfil some of the roles required for the effective design and implementation of online learning.

Keywords: roles in ICT; course design; online learning

Teacher-student interactions in online nursing education

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The United States is in the midst of a severe nursing shortage that is expected to increase in intensity due to the aging nursing population and the increasingly complex healthcare environment. Complicating this situation is the fact that a majority of Registered Nurses find they must acquire additional education if they want to advance their careers or obtain leadership positions, and online learning provides the perfect opportunity for nurses to continue working while pursuing their educational goals. To date, research in nursing education has primarily focused on specific distance delivery formats and technology integration with outcomes measured primarily by grades the students received and their satisfaction with the course and instructor. Nurse educators are challenged to meet the complex needs of the current nursing student and humanise their online courses by intentionally designing relevant curriculum in a supportive learning environment. The purpose of this study was to investigate current nursing students' perceptions of teacher-student interactions in their online nursing courses. Relationships between the students' perceptions and demographic factors of age, professional and online learning experience, and type of program were also explored. Data were collected from a convenience sample of nursing students representing both urban and rural geographic areas of the southwest. Describing students' perceptions provided insight into who the current student is, their needs and information about where teachers need to direct instructional design efforts to develop and maintain attractive and supportive online learning environments.

Keywords: Nursing Education, Teacher-Student Interaction, Instructional Design, Online Learning

Challenge FRAP: An e-learning tool used to scaffold authentic problem-solving processes

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Challenge FRAP (Form for the Analysis of Problems), is client-based public-domain authoring software that facilitates the dynamic use of scaffolding, progressive feedback to learners, and student reflection at important decision-making points. This paper reports the student use and evaluation of this e-learning tool in the context of a plant pathology course over three years. Students in a third year undergraduate course were given authentic commercially significant plant disease problems derived from industry and matched with industry clients to work through their analysis and diagnosis. The use of Challenge FRAP enabled students to work in a flexible, self-directed way with strong scaffolding support and guidance to assist them through a scholarly scientific reasoning process. The e-learning tool also enabled the teacher to gain insights into student decision-making and cognitive thinking processes and to provide feedback and guidance at crucial learning points. This paper details student perceptions of this e-learning scaffolding tool during and after their experience of

using it, as well as their responses to the authentic learning context and how they believed the process influenced their learning.

Keywords: diagnosis, authentic problems, clinical reasoning, PBL, scaffolding, self-directed learning, Challenge FRAP, plant pathology

A program design tool to help novices learn programming

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The learning of software development is difficult for many students. Often students start writing programming code as soon as they receive a problem statement without paying sufficient attention to program design. One of the most common ways to design the logic of a program is to use pseudocode, and yet many students do not like to do this. Reasons for this include: it is another language to learn; they do not think that they are actually programming; they cannot test their designs as the designs are not executable; there is not a rigid syntax and so students are unsure whether their pseudocode meets an instructor's expectations. This paper concerns the development of a simple tool that helps students create pseudocode. The tool has been used and evaluated in an introductory programming unit of study. The results suggest that the tool was easy for students to learn and that it helped support their learning.

Keywords: Programming, design, pseudocode, tools

Vodcasting: A case study in adaptability to meet learners' needs and preferences

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With the rapid development of wireless networks and mobile technologies, the widespread use of mobile learning has raised the need for 'anywhere, anytime and any device' access to information and has influenced the design of learning objects. The newly emerging IMS AccessForAll and Dublin Core adaptability and accessibility standards and the proposed profiles of needs and preferences (PNP), present significant challenges to learning designers. This paper responds to these challenges for an accessible relationship between the learner and the resource and suggests a learning object adaptation framework which allows for flexibility and personalisation to learners' needs and preferences. The concept of a transformation, augmentation and substitution framework (TAS) is described by discussing a specific case study, which investigates the adaptations required for existing learning objects delivered as vodcasts (videos downloaded to an MP3 player). The case study is examined in the context of a larger research project which aims to contribute to the requirements specification for the development of an adaptable learning object authoring tool. This paper explains the rationale behind the case study, describes the research methodology and outlines the main findings of the evaluation of the learning vodcast.

Keywords: adaptability, vodcasting, mobile learning

Variation in lecturers' experiences of teaching undergraduate on-campus courses using the web

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This paper presents preliminary outcomes of a phenomenographic research on lecturers' experiences of teaching undergraduate on-campus courses using the web. Eighteen lecturers from different disciplines were interviewed from two research-intensive Australian Universities. Interviews were analysed with the aim of describing lecturers' experiences as they emerge from the transcripts. Three different experiences were identified: 'the web for providing academic and administrative information related to the course', in which lecturers understand the web to provide information or contents; 'the web for communicating with other people involved in the course', in which lecturers conceive it as a space for engaging in online discussions; and 'the web as a space to create, build and share knowledge', in which lecturers see it as a valuable tool which allows sharing and knowledge building. These dimensions represent an increasingly sophisticated way of understanding teaching with the web. Findings are coherent with previous research (Gonzalez, 2006; McConnell & Zhao,

2006; Roberts, 2003) which has identified ways of conceiving the web for teaching ranging from 'informative' to 'knowledge building – sharing' conceptions.

Keywords: phenomenography, teaching in HE, experiences of teaching using the web, e-learning

Students' interpretations of learning tasks: Implications for educational design

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This paper is concerned with the issues that arise when one sees teaching as a process of design, and students as co-constructors of their learning environments. The dominant models of design, we argue, tend to either configure the learner as a compliant consumer of educational designs and a well-behaved user of educational technologies, or they tend to romanticise learners as media savvy experts on managing their own learning. In our view, 'teaching-as-design' needs to be supported with intellectual resources that avoid these extremes. To get a better sense of how design should be informed by a knowledge of student perspectives, we present the outcomes of some recent research into the ways in which students on 'blended learning' courses interpret the requirements of learning through discussion and learning through inquiry.

Keywords: educational design; online learning; learning through discussion

Decoding visual elements in digitised foreign newscasts

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Despite a growing body of work in media literacy, theorists have given scant attention to the ways foreign language learners may develop media decoding skills. In the context of technology-rich learning environments, for example, how do learners come to understand the media, and how does the use of media influences their foreign language development? The aim of this case study is to examine how foreign language learners decode visual elements as they develop media literacy. Ten students of Japanese watched digitised newscasts and 'thought aloud' as they responded to short-answer comprehension tasks. Results indicate that visual elements have both assistive and deleterious affects in understanding a foreign language. Productive further research may best focus on developing a selection criteria for newscasts, using more subtle methodological techniques and creating better technology mediated tasks.

Keywords: foreign language learning, media literacy, cognitive processes, verbal reports

Wiki: A new paradigm for online training and development of faculty

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The training and development function in organisations is undergoing a paradigm shift with the advent of new online technologies like the wiki and educational institutions are no exception. Wiki may provide a means for creating a faculty learning community at educational institutions, thus involving all faculty on a single common platform where each faculty is the producer as well as the user of knowledge. This paper proposes a model for the deployment of wiki for online training and development of faculty in educational institutions. The model is implemented at an online university and preliminary findings indicate that wiki activity by all faculty members is low suggesting the need of further experimentation in the use of wiki as a collaborative T&D tool for online faculty.

Keywords: wiki, faculty, training and development, online collaboration, knowledge creation

E-scholarship: A model to lead strategic change

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Sustained investment in e-learning in different national contexts has led to a common conclusion; that integration of technology supported teaching and learning strategies into mainstream practice has not reached full potential because levels of engagement by academics vary. Some instances of e-learning demonstrate a level of excellence that proves the potential exists. Yet dissemination of these innovations and the institutional systems required to facilitate wider engagement remain patchy. In other cases, the use of e-learning systems by a critical mass of tertiary teachers focuses primarily on administrative functions. This paper describes the application of three established models as the basis to define the concept of e-scholarship. Articulation of this concept through a systematic and institutionally supported program is proposed as a means to address the challenges identified by a group of leading e-learning practitioners. Nationally funded initiatives are finding emergent social networking tools and strategies to be common ground for both teaching and e-research. This could prove to be a key factor to motivate wider engagement at both individual and organisational levels. The New Zealand tertiary sector provides the context for this development. Design based research is the underlying methodology.

Keywords: e-scholarship, dissemination of innovations, design based research, viable systems, distributive leadership, capacity development, social networking

Choosing ICT? A segmentation analysis of students' preferences for hybrid study mode

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Students' acceptance and use of ICT-based learning needs to be understood in terms of their preferences for alternatives such as face-to-face (FtF) or print-based learning. This paper reports on an investigation of students' preferences for hybrid study modes. Cluster analysis was used to identify segments of students that had distinctive preferences for combinations of FtF, print and web-based study modes. Five segments were identified. These segments were distinguishable on some demographic and situational characteristics. The size and nature of the segments have implications for the hybrid modes offered by universities and the extent to which students' may embrace the ICT-based innovations designed by educators.

Keywords: preferences, study modes, segmentation, hybrid modes

Scaffolding support in an ecology course using a sociocultural learning design

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An ecology course at our university was redesigned as it was felt the learners needed more support to help them gain a deeper knowledge of ecology concepts, terminology and professional practice. A learning design based on Vygotsky's sociocultural theories was used to structure the learning environment. This learning design scaffolds the learning in a more comprehensive manner as it proposes that learning is mediated by others and describes the type of support is required. This paper presents the theoretical basis of the learning design, and how this is used to design the ecology project to help increase learning outcomes. Evaluation of the design will be carried out later this year.

Keywords: sociocultural, learning design, scaffold, Vygotsky, project-based

Developing online discussion forums as student centred peer e-learning environments

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Computer conferencing, most commonly in the guise of discussion forums, is increasingly available and utilised in the delivery of university level courses. While such advances in the delivery of higher education have permitted greater flexibility for participants with the opportunity of studying almost anywhere at anytime, such modes of delivery can place significant time demands on academics. Traditional and peer-based approaches to learning in the e-learning environment often create an onus upon the instructor to be extensively involved

in dialogue on course content through such mediums as discussion forums. This paper introduces a conception of discussion forums as student centred peer e-learning environments. The proffered conception positions the student as expert/facilitator at the centre of the learning event and the instructor, one step removed from the process, as overseer of the dialogue. The model is an innovative approach to discussion forums that draws the student into the online learning process by encouraging them to take a more active and central role in their learning.

Keywords: discussion forums, facilitation, peer learning, e-learning

Staff exercising ‘choice’; students exercising ‘choice’: Wholly online learning at an Australian University

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The paper examines the implementation of institutional policy relating to mandating wholly online study at the undergraduate level in an Australian higher education institution. The realities of the ‘choice’ provided to teaching staff in designing such units, and students in studying in this mode, are considered. Staff members’ design experiences are reported, and data collected through the surveying of students’ experiences in learning wholly online are analysed. The value students attributed to various aspects of the wholly online learning experience is outlined. Observations are made more generally about the uniqueness of wholly online teaching and learning environments in mandated contexts, and where policy and practice developments may evolve in the future.

Keywords: case study; educational design; wholly online; lifelong learning

Pre-service teachers' perceptions of an online mathematical problem solving course: A constructivist approach

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This study was conducted to investigate the effectiveness of teaching a mathematical problem solving course via the Web using a social constructivist approach. This study looked at participants’ perceptions and satisfactions with the online learning environment. A total of 37 pre-service teacher trainees at the Batu Lintang Teacher Institute, Sarawak, Malaysia were the participants of this study. In this online course, the participants were required to complete the course online without face-to-face classes and they were also required to solve authentic mathematical problems in small group of 4-5 participants based on the Polya’s Problem Solving Model via online asynchronous discussion. The online asynchronous discussion enabled the participants to discuss and share knowledge and solutions. Quantitative and qualitative methods such as questionnaires and interviews were used to evaluate the effects of the online learning. Findings in this study showed that majority of the participants were satisfied with their learning experiences in the course. The participants also perceived that they need to have positive attitudes, self discipline, self-independence, and self confidence to succeed in the course. Some of the difficulties faced by the participants in the course were technical problems, inadequate computer training for some of the required software and feeling of isolation. Thus, the online mathematical problem solving course using the social constructivist approach was appropriate and ought to be given serious attention as an alternative to traditional classes. Nonetheless, pedagogical considerations should be taken into account in designing and implementing online courses to minimise problems that participants might encounter while participating in such courses.

Keywords: online course, social constructivist, mathematical problem solving, satisfactions

“Here are my best online contributions and why”: Students’ perceptions of good online participation

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This paper reports students’ recounts of their best contributions to the online learning activities in a master’s course, and their accompanying reasons. Students’ self-claimed best contributions fall into three categories, (1) building and sharing new knowledge/ideas, (2)

questioning peers, and (3) sharing resources. Bulk of the self-selected best contributions is in the first category (72%). The preliminary findings seem to suggest that both instructors and students hold similar standpoints on good performances in an online learning environment, i.e. to build new knowledge, to articulate and share them through interactions with course readings, reflections on personal experiences/beliefs online experiences, and interactions with peers. The findings support the view that in general students can accurately make self-assessments about their abilities and achievements, and self-assessment could be used as an alternative way of assessing online learning.

Keywords: collaborative learning, collaborative knowledge construction, assessment of online learning, reflective practice, design of online course

Approaches taken by Australian universities to documenting institutional e-learning strategies

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The way in which a university communicates a strategy that it is attempting to implement to its staff can have an important bearing on the effectiveness of the strategy. However, there are currently no generally accepted conventions governing the scope, structure, content and language of strategy documents. E-learning is an area of activity in which most universities are currently striving achieve major change and therefore the documents being used to communicate institutional strategies in relation to e-learning merit investigation. A study was undertaken of the ways in which Australian universities are documenting their strategies in relation to e-learning and the types of activities that are being identified in strategy documents. The study found that two distinct approaches to documenting institutional e-learning strategies are being adopted. Some universities are developing discrete strategies whereas other universities are embedding their strategies in more general documents. The most common themes that were identified in discrete e-learning strategies included: learning management system(s), networking and infrastructure, planning, policy and strategy development, evaluation, support for projects related to e-learning, development of courses, teaching and support, learning spaces, and future developments. The themes that more than one university covered in general documents included: staff development, programs, use, improved access, effectiveness, and teaching/learning spaces. Comparison of the documents provided by institutions showed that when e-learning strategies have been embedded in more general documents the range of aspects of e-learning that are covered tends to be less wide-ranging than is the case when discrete strategies have been produced.

Keywords: strategy, planning

The impact of structured argumentation and enactive role play on students' argumentative writing skills

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This paper reports the impact of using a structured argumentation board and enactive role play in *Second Life* on students' argumentative writing skills in the context of the A-level subject General Paper. Students were taught the structural aspects of argumentation based on Toulmin's (1958) argumentation framework. The structured argumentation board, Voices of Reason, supported their argumentation discourse while the *Second Life* platform supported students' contextualised role-playing activities on the topic of globalisation. Students participated in these two separate modes of technology-facilitated learning in a cyclic, interwoven fashion, alternating back and forth between two cycles of argument and enaction. Data in the form of argumentative essays were collected at the beginning and the end of a four week intervention period. We compare the pre and post intervention argumentation essays written by the students based on Toulmin's argumentation framework, contrast the findings with that of the control group's argumentative essays, and present the statistical results in this paper.

Keywords: argumentation, enactive role play, critical thinking

Evaluating the effectiveness of digital storytelling for student reflection

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This paper reports on the use of digital storytelling as a means of encouraging student engagement and reflection; consideration is also given to developing an appropriate mechanism to measure student reflection using this medium. Digital storytelling, the combination of still images with an audio track, was piloted in different learning contexts at the University of Gloucestershire, including: a students' transition into a higher education program; student presentations; and capturing reflections on personal development. Evaluations show that staff and students have found this approach to be a positive experience for encouraging student creativity; however, the very personal reflective nature of the stories created has raised issues about how student reflection and progression is adequately captured using this approach. The paper will report on the use of different models to assess this progression and the issues raised.

Keywords: digital storytelling, reflection, student engagement

The teleological reason why ICTs limit choice for university learners and learning

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The application of information and communication technologies (ICTs) to support and enhance learning and teaching (e-learning) provides the potential to significantly increase the flexibility and choice for university learners and learning. The evidence, however, seems to indicate that these advantages are not evident in the majority of e-learning practice. This paper argues that the teleological design process which underpins almost all e-learning within higher education significantly limits the flexibility and choice ICTs can provide. The contribution of this paper is to illustrate how organisational implementation of e-learning has become imprisoned by a dominant and unquestioned epistemological foundation that is limiting understanding. It seeks to improve the understanding that informs e-learning implementation, in order to increase the level of flexibility and choice provided by the institutional implementation of e-learning for learners and learning.

Keywords: e-learning, learning management system, teleological, ateleological

When a wiki is the way: Exploring the use of a wiki in a constructively aligned learning design

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The second generation of Web-based tools, the so-called Web 2.0 applications such as podcasts, blogs and wikis, have captured the imagination of many educators, who recognise their potential for creating more collaborative and truly interactive online learning environments. However, whenever new technologies become available, there is a risk that they will be employed on the basis of novelty rather than for sound pedagogical reasons. To ensure that the latest crop of online tools are actually contributing in meaningful ways to the creation of effective and authentic learning environments, educators need to be mindful of the foundations of effective learning design and sound pedagogical principles. This paper explores the use of a wiki in a final year, undergraduate, social work course. Drawing on the concepts of constructive alignment and models for effective learning design, the wiki was integrated into a purposefully designed learning sequence in a manner which allowed students to engage in online collaboration directed at the achievement of a set of intended learning outcomes. In this way, the wiki becomes a fully integrated and coherent part of the learning experience, rather than simply a technological add-on.

Keywords: wiki, constructive alignment, learning design, social work education

Adding value to online role plays: Virtual situated learning environments

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Role play as a means of involving learners in experiential learning opportunities has been a characteristic of student centered learning environments for many years. Developments in the digital environment have enabled the design of more sophisticated role play environments in which learners deal with the complexity and ambiguity of real life issues and the same time develop their knowledge of the advantages and limitations of on-line communication. Virtual

Situated Learning Environments (VSLEs) add a further 'real world' quality to role plays. Using several examples of VSLEs created to underpin courses in management and negotiations, this paper seeks to explore their effectiveness in providing a more real world environment in which participants engage in role-play activities in common 'safe' environments and develop their knowledge and skills beyond the 'known' domain of their existing practice.

Keywords: role play; virtual situated learning environments; student centered; action based

Improving access to and use of digital resources in a self-directed learning context

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This paper presents the background to and progress of a project investigating the use of courseware and other digital resources by undergraduate medical students in a self-directed learning environment (shared open-access computing space) within a problem-based curriculum. The investigation draws on three parallel streams of data collection; automated usage monitoring, survey and focus group. Over 60,000 individual computer sessions and more than 500 surveys are currently being analysed. Preliminary analysis reveals that only a small percentage of the available courseware resources are regularly used, and that the level of usage appears to be highly dependent the level of promotion and support provided by teaching staff. Analysis of Internet usage data reveals that medical students rely heavily on Google and Wikipedia to locate and access self-directed learning resources and that they are relatively unsophisticated in their use of search tools. The results of the investigation are informing the design and development of an innovative software support tool that aims to improve students' awareness of and access to a wide range of digital resources.

Keywords: usage monitoring, self-directed learning, social bookmarking

Pre-service teachers' perceptions of LAMS as a teaching tool

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This paper reports on one component of a recent study which examined pre-service teachers' use of the Learning Activity Management System (LAMS) to facilitate their professional learning. Over a period of two semesters, seventeen pre-service teachers took part in an in-depth study of their professional development as a result of authoring a learning design and implementing it during their practicum. This paper reports on the pre-service teachers' perceptions of LAMS' useability, flexibility and potential for use in K-12 classrooms.

Keywords: teacher education, learning designs, learning design authoring, LAMS.

The ties that bind: Social presence, relations and productive collaboration in online learning environments

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This paper contributes to the growing body of knowledge which identifies benefits for online learning in the understanding of mediated social processes. It reports on an exploratory study into the nature, role and function of online social presence and a potential link between social presence and learner support in text-based online learning environments. Employing a qualitative collective case study design, the study sought to produce understandings of mediated social processes which were grounded in the experiences of learners in text-based online learning environments. Informed by social network analysis, the paper presents key findings of that study including (a) a definition of social presence as described by online learners (b) the role social presence in the development of relations and ties between online learners and (c) the progressive development of relational states which leads to productive collaboration.

Keywords: social presence, social network analysis, online learning, constructivist research

The e-Winter school: Helping students to better learning

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E-learning is relatively new to the United Arab Emirates, arriving as it did, in around 2002 for most college institutions. Nowadays, most tertiary institutions have allocated Information Communication Technology resources to provide alternatives to the previously used teacher-centered, "chalk and talk" approach to learning and teaching. This is particularly true within the tertiary sector in the UAE. In line with this, at Dubai Women's College we are developing the e-Winter School program, using a blended-learning model that caters to that community of students who needs extra support: the ones that don't quite 'fit' into the blueprint. This paper details some of the pedagogical underpinnings of the program, discusses how it is constructed and explores the relative merits of the way in which the community is taught. It also deals with some of the methods of instruction involved in such an undertaking and details actual results achieved by the students. The contents of this paper may be of interest to those faculty members, designers and developers who need to examine some examples of emerging practice that attempt to combine on-line learning with face-to-face, classroom tuition. The paper represents a work in progress and will explore how, when we combine something which is called the "LOAF" approach, with on-line learning, we have a model that is, judging by the lack of evidence to the contrary, quite unique to this part of the world.

Keywords: English language development; UAE; blended learning; learning support; student self-management

The net generation are not big users of Web 2.0 technologies: Preliminary findings

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A great deal has been written over the past few years about the characteristics of a new generation of students and the implications for teaching and learning. This generation, which has variously been referred to as the 'Net Generation', 'Digital Natives' and 'Generation Y' are claimed to be very different to their predecessors in their familiarity with technologies and the regularity with which they use them. Additionally, some commentators have claimed that their immersion in technology during their developmental years has changed the way that they learn and perhaps even the physiology of their brains. This paper reports on some preliminary results from a large cross-institutional study of the implications for University teaching of the characteristics of this generation of students. This paper focuses in particular on the results of a survey of the frequency with which 2588 first year students at the University of Melbourne, the University of Wollongong and Charles Sturt University, use 41 different applications of new technologies in their study and personal lives. The results indicate that there is greater diversity in frequency of use of technology than many commentators have suggested. Importantly, the use of collaborative and self-publishing 'Web 2.0' technologies that have often been associated with this generation is quite low. The results of this large survey suggest that to accept the claims of some of the commentators on the changes needed in universities to cater for this generation of students without undertaking further research is likely to be a substantial mistake.

Keywords: net generation, digital natives, y generation, web 2.0, higher education

Blogs demystified: How autism practitioners responded to scaffolded online learning

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This paper reports on a postgraduate case study investigating the learning benefits and issues associated with the adoption of blogs in a unit where they were not normally available within the University's version of the learning management system (WebCT). Of interest were various scaffolds designed to assist novice bloggers to reflect on their experiences of teaching children with autism using an approach called TEACCH. Interview data suggested that the ICT requirements enhanced the bloggers capacity to develop insights into their autism teaching. Structured blogging ("reflect-describe-analyse") was particularly useful. Practitioners were equivocal as to whether blogs should be initially linked to a familiar site such as WebCT, but agreed they needed to be given guidelines about how much and how often to blog. The practitioners interpreted "scaffolding" broadly to include their colleagues' blogs, and felt the closed membership structure facilitated the exchange of useful, albeit sensitive, information.

Keywords: novice bloggers; autism; TEACCH

Reuse of a role play for new university teachers

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In a paper presented at the 2006 ascilite Conference it was stated that thirty six online role plays were identified in Australian universities, of which 80% were reuse of a learning design (Wills & McDougall, 2006). Migrating a proven learning design is not always a simple process (Devonshire, 2006) but as this paper, addressing the conference theme of online role play, demonstrates it can be achieved effectively. From a pedagogical perspective, one of the main challenges is associated with the task of realigning the activity to adequately reflect the new context, delivery mode, target audience, learning process and anticipated outcomes (Devonshire, 2006). This paper addresses the reuse issues by looking at one role play that has been reused to achieve new outcomes.

Keywords: role based learning, academic staff development, re-usable learning designs

Graphic organisers as scaffolding for students' revision in the pre-writing stage

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Writing is a complex process. Scardamalia and Bereiter (1987) categorise poor and expert writers according to the type of writing they do. Poor writers are likely to use the knowledge telling strategy where students think and write whatever comes to their mind. Their writing reflects their train of thought rather than an understanding of the train of thought of the reader. Expert writers however, use the knowledge transforming strategy. They show an awareness of an overall plan or goal which they develop within the problem constraints given to meet their readers' needs. Graphic organisers have often been used to help students plan their writing but not to revise their writing in the pre-writing stage. Based on the premise that students can revise better if they can see better what they are revising, this paper provides the theoretical underpinnings to show that graphic organisers could be useful revising tools in the pre-writing stage and guidelines on the effective use of graphic organisers as revision tools in multi-draft pre-writing.

Keywords: pre-writing, graphic organisers, revision, scaffold

Closing the gap: Pre-service teachers' perceptions of an ICT based, student centred learning curriculum

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As technology continues to influence many aspects of our social and work lives, it is important that school experiences equip students the skills and knowledge that will enable them to develop into effective independent, creative, and lifelong learners to cope with the

influx of changes. Given that teachers play a key role in the effective use of technology in education, there is a need to ensure that teacher education programs prepare teachers for the effective integration of ICT in the classrooms. We believe that there is a need to adopt a student-centered learning framework to design our ICT based Student-Centred Learning (SCL) curriculum for all pre-service teachers. In this paper, we presents parts of the findings from a curriculum review which evaluated 483 pre-service teachers' overall satisfaction level towards an ICT based SCL course. We also provide some recommendations to the ICT curriculum based on the results found.

Keywords: ICT, student-centred learning, pre-service teachers

Learning design discussions: A conversation tool

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We begin with the premise that integrating active learning strategies into previously static modes of presenting knowledge can be complex and difficult. To reduce the complexity of the task we introduce the Learning Design Discussion Model (LDDM) for use at the beginning of collaboration by Learning Designers and Educators considering Role-Based approaches in tertiary subjects. The model helps align the core elements of a) content knowledge, b) learning objectives and c) learning design from the beginning. The model has emerged from efforts to achieve mutual agreement on use of active learning processes to support knowledge acquisition. Early trials indicate the LDDM helps identify inhibiting concerns and encourages use of interactive learning with an end result of clarification of intent, reduced unease about implementation problems and enhanced mutual understanding.

Keywords: constructive alignment, role-play, dialogue, learning design, model

GetReal: Building and managing essential academic learning from the academic periphery

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Operating from the margins of the formal curriculum and with relatively limited resources, student orientation faces unique teaching and learning challenges in representing the ideas and values of the academic world in a form that is relevant and engaging for prospective students in the non-academic world outside. Online learning adds a further layer of complexity in the technical medium through which the ideas and values must flow. *GetReal*, a web-based orientation program for independent use by prospective online/distance students, tackles these challenges with a strategy that moves away from information-based orientation to focus more on the kind of border-crossing practices that enable students to operate at a genuinely independent level among the overlapping contexts of study, technology and personal life. Practices of reality-checking, confidence-building, choosing and self-motivating are enabled through a relatively simple technical concept: the online interactive checklist expanded and elaborated to the point of forming the framework of a whole orientation website and the whole orientation experience. From first moment of contact, the student user stands within a framework that not only assumes active participation in the orientation process but makes it difficult to avoid. The conceptual framework of the *GetReal* site is outlined and its practical implementation described in relation to content architecture and use of technology. The conceptual vision embodied in the *GetReal* site provides a framework for discussion on the construction and delivery of student orientation in online and distance learning environments.

Keywords: orientation, postgraduate, distance, online, student support, health sciences

Online reflection journals: Learning through assessment

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The present study was conducted to investigate the extent to which students believe that journal writing contributes to improving their learning. The research was conducted at a post-secondary institution which organises its curriculum around principles of problem-based learning, and in which students have to reflect on their learning daily. In the particular curriculum, reflection journals form a part of the daily assessment. To that end, a questionnaire was developed containing statements derived from the literature, about the effects of journal writing on students' learning. It was then pilot-tested on a group of second-year students (n = 327). Analyses of the data collected showed that students were able to identify the four latent constructs underlying the 15-item questionnaire, as indicated by the fit of the hypothesised model. Construct reliability values of the four scales gave evidence of good reliability in terms of internal consistency. Correlation coefficients computed for the questionnaire scales were positively correlated and statistically significant. Students, who believed that journal writing enables them to think and write reflectively, agreed that frequent journal writing improves their learning. These students are also more likely to use their journals as a tool to manage the impressions of their facilitators, and to feedback about the contributions of their peers towards team work. These findings suggest that the use of online reflection journals provides many opportunities for students to reflect on their learning. Facilitators can also monitor students' progress through their reflections, and to provide specific, detailed feedback to aid students in their learning.

Keywords: Students' beliefs, reflection journals, learning, problem-based learning, daily assessment

Teaching computer science using *Second Life* as a learning environment

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Immersive education using the popular *Second Life* virtual environment is becoming significantly common. Many institutions and education organisations have already set up a virtual campus and are already conducting virtual lessons in *Second Life*. However, most of the courses currently being delivered are still limited to non-technical subjects or related to Linden scripting. This paper shares the processes and lessons learned from a pilot project exploring the use of *Second Life* as a learning environment for computer science subjects. This paper describes the experiences of preparing and delivering *Second Life* materials in the classroom. It provides a student and lecturer perspective of the advantages and disadvantages of conducting lessons through virtual worlds.

Keywords: virtual environments, immersive education, *Second Life*

Directions for m-learning research to enhance active learning

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This paper aims to inform readers of suggested directions for researching how mobile technology can enhance active student learning. These directions are informed by an online survey of our students in early 2007 and a contemporary literature search. We present the findings of our search of global best-practice in m-learning, gaps in the current literature are identified and five directions are suggested for 2007 m-learning research and development. We start discussing how to investigate these suggested directions. Our five suggested action research directions are all significant issues in m-learning and all need to be better investigated. If we are interested in enhancing student learning, a priority is to design m-learning and teaching strategies that involve active experiential learning. These strategies need to effectively support our learners' development of attitudes, understandings and skills in identified graduate attributes, curriculum objectives and stated learning outcomes. The development of wide support for an online body of knowledge of m-learning and teaching principles, strategies and effective, practical case-studies across all disciplines – an m-portal – is needed and can support and inform emerging national and international approaches to using mobile technologies to enhance learning. Guided by our findings and suggested research suggestions the authors hope to discuss, extend and develop collaborative partnerships for future action research, development and sponsorship at our *ascilite2007* conference workshop.

Keywords: mobile technology, active experiential learning, innovation in learning, ubiquitous learning, interactive classroom

Practitioner's task design considerations and choices for blended mode large language classes

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In recent years there have been works on developing generic and reusable frameworks, or design patterns and pattern language to facilitate learning designs. No doubt such works have contributed tremendously to the reusing and sharing of useful learning designs and improve their transferability to other similar contexts. However, even though such high or medium-level descriptions of learning designs provide useful guidelines and models for practitioners to source and reapply into their unique contexts, decisions of which designs to employ, for what kinds of learner, and in which educational contexts remain complex design decisions to make for practitioners everyday. The appearance of learning technologists in many higher education institutions with the aim to assist the teaching staff in learning design may ease some of the contextualisation and localisation issues, especially for a fully online course, but in blended-learning environments, the face-to-face classroom contexts are inaccessible to anyone but the teaching staff themselves. Thus there is a need to explore and document the common considerations made by such practitioners teaching in a blended mode and the design constraints for them. The paper intends to document the experiential knowledge of design by the practitioner at such ground level.

Keywords: learning design, design contextualisation, design experiential knowledge, teacher dependency

The attitudes of teacher educators to the use of problem based learning: The video triggers approach

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The approach of problem-based learning (PBL) possesses numerous differences when compared with the conventional ways of learning. However, few of the studies seem to tackle the underlying assumptions of PBL and relate it to the local context when it applies to different groups of learners in a particular discipline, such as education professionals in Hong Kong. This paper will, therefore, analyse the teacher educators' attitudes to the five newly developed video triggers on PBL, which were developed by education professionals at the Hong Kong Institute of Education to serve as exemplars for the teaching staff who are not familiar with the problem-based approach. The study intends to find out the teacher educators' perceptions of the use of media-based educational triggers in this teacher education institute, and what their attitudes are to this particular educational product's potential technological development in fostering student-centred learning in general and problem-based learning in particular, with the ultimate goal of enhancing and improving the quality of teacher training. The results show that pre-requisite training can exert a significant influence on the adoption of PBL by the Chinese teachers and students.

Keywords: Teacher Training, Video Triggers, Problem-based Learning

The cognitive and social processes of university students' online learning

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Online learning courses in higher education have increased steadily in popularity in recent years, with many higher education students and educators wondering about their direct value in terms of social and cognitive gains. This study reports on a careful examination of educational processes in an exclusively online asynchronous discussion of a university course in three consecutive years. The researcher used NVivo software as a tool for the qualitative analysis and as a way to establish performance profiles. The study first establishes a framework to identify social and cognitive aspects of online learning based on three models of interaction and then refines the framework to better understand these processes of interaction. The themes that emerged as social processes were categorised as affective, cohesive or

interactive. The cognitive processes were categorised into five types of interaction: sharing/comparing information, experiencing cognitive conflict, negotiating meaning, testing/modifying and applying knowledge. This paper focuses on the type of social and cognitive processes that learners experience in a semester long asynchronous discussion environment. The qualitative and quantitative analyses (performance profile) derived from the frequency of responses suggest that students tend to use more lower-level cognitive processes and fewer higher-level cognitive processes in spite of the fact that the course was designed to maximise the opportunities to establish higher-level learning in a socially interactive community of learners. However, the data revealed that when the higher-level cognitive processes were achieved, these were powerful and significant for a small but passionate number of learners.

Keywords: online learning, content analysis, social processes, cognitive processes

Communities at cross-purposes: Contradictions in the views of stakeholders of learning object repository systems

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The increase in the number of online, educational communities necessitates a good interplay between digital communities and repository tools. However, there are contradictions in the views of those setting up repositories and the users of these systems. This may potentially lead to limitations in the usefulness of repository systems. This study aims to address this problem through identification of conflicting views of stakeholders within a number of educational communities. Three repositories are analysed as activity systems in order to identify how communities use these tools. These activity systems are used to identify contradictions between the views of users and curators. The paper ends with a framework that can help address the key issues arising from these contradictions and guide implementation of repository systems during the initial development stage.

Keywords: learning object repository, sharing, reuse, digital resources

Designing for active learning online with learning design templates

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Online course templates based on specific learning designs were developed to support course enhancement at the University of New South Wales. Course designs are based on constructivist theory and activity theory with an emphasis on promoting active learning. Collaborative learning and problem-based learning models were used to design templates based on successful online and blended courses. A simplified template with a learning activity focus was used in staff training programs and as a basis for school templates. Templates were developed in Blackboard Vista, but could be applied in other learning management systems. This paper outlines development, implementation and evaluation of the templates and discusses the barriers and potentialities in dissemination of learning design templates.

Keywords: learning design, constructivism, activity theory, collaborative learning, problem-based learning

Digital design and student learning through videoconference collaboration

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This paper reports on a pilot study involving a long distance learning experiment between the University of Adelaide and Penn State University through a six-week videoconference program. The program involved staff and students from digital media courses within each University, including Dr Dean Bruton, Senior Lecturer in the School of Architecture, Landscape Architecture and Urban Design at The University of Adelaide, and Associate Professor Madis Pihlak, Director of The Stuckeman Center for Design Computing, School of Architecture and Landscape Architecture, Penn State University.

Using Information and Communications Technologies (ICT) for teaching digital design processes has many advantages and disadvantages. Instant communication between groups and individuals across the world, defies the barrier of distance. Interdisciplinary exploration and collaborative action allow the expansion of design curriculum possibilities and the sharing of information and experience, while technical skills and standards rise as students find new levels of potential in response to more diverse audiences. Disadvantages with such design experiments include time differences between two continents, technical constraints and the availability of technical assistance.

The project was largely successful, evident through positive feedback from staff and students, and the emergent relationship between the two schools. Through this pilot study, and the resulting research, new possibilities are now being explored, including cross-continental design collaboration with design schools in Canada, Malaysia and India. The University of Adelaide, has supported the project by supplying a AUS\$48 000 grant to purchase the test equipment, used in the pilot study, and establish a dedicated videoconference facility.

Keywords: videoconference collaboration, digital design, student learning

A blended approach in a graduate teaching assistants' preservice course to promote self confidence

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The employment of postgraduate students as graduate teaching assistants (GTAs) to help in the delivery of undergraduate teaching, particularly in laboratories and tutorials has been used for many years throughout higher education institutions, including North America, UK, Australia, and New Zealand and is currently being used in Singapore. However, despite GTAs' sound subject knowledge, research has shown that with their increasing numbers, it is important to provide an effective training course to adequately prepare them for the task of teaching ahead of them. This paper reports on a GTA Preparation Course undertaken by 166 participants in 2006, at Nanyang Technological University, Singapore. The course employed a blended learning approach using video-recorded 'mini-lectures', PBL videoed critical incidents, reflective learning, as well as self study materials through an online Blackboard platform. The blended learning environment facilitated a friendly cooperative space that allowed the flow of the learning process to proceed at its own pace. This environment encouraged self reflection and self evaluation, supported collaborative learning and problem solving skills, and facilitated tasks requiring analyses and evaluation of 'real life' teaching situations. It was considered important that participants experience the blended learning approach modeled in the course in order to encourage them to use a similar model in their own teaching. The course encouraged the use of technology to enhance and enrich student learning and to model active learning activities through video, group work, online materials and recorded presentations. Participants' ratings of the course suggest that this was an effective pedagogy for promoting innovative educational technology and self-confidence in GTA's teaching practice.

Keywords: graduate teaching assistants' preparation; blended approach; ICT; video/educational technology.

Social software and participatory learning: Pedagogical choices with technology affordances in Web 2.0

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The two-way web has arrived, accompanied by a raft of affordances that expand how we teach, communicate, learn and create knowledge. New trends are emerging in the way information is distributed and consumed. Emerging "Web 2.0" services such as blogs, wikis and social bookmarking applications, as well as social networking sites like *MySpace*, *Friendster* and *Facebook*, are seen as more social and personal, and based on "microcontent", i.e., digital content in small fragments that may be combined and recombined by individuals to produce new patterns, images and interpretations. This paper investigates the affordances of Web 2.0 and social software and the choices and constraints they offer to tertiary teachers and learners. A discussion of emerging pedagogical models is presented to demonstrate that

we now have access to an enabling suite of tools to support greater learner choice and self-direction.

Keywords: Web 2.0, Pedagogy 2.0, social software, ICT affordance, learner choice, learning control, self-regulated learning, informal learning

Explorations in metacognition: The design, development, and implementation of an online teamwork tracking environment

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Research shows that both metacognitive and cognitive strategies are needed for successful learning. In this study, an online tool was developed with a view to help students working in teams reflect on their learning strategies through a process of planning, monitoring and evaluation. An evaluation of the tool was administered at the end of the semester that showed the students valued the tool for tracking their teamwork, but weren't so convinced it help them plan, monitor and evaluate their learning. These results are discussed, and recommendations are made for improvement using a design-based research approach.

A conceptual model for game based intelligent tutoring systems

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In order to build intelligent tutoring agents within games-based learning environments, practitioners must understand the three conceptual models used within Intelligent Tutoring Systems (ITS): the expert or domain model, the student model, and the instructional model. This paper investigates the inter-relationship between these models and how they combine to provide the expected behaviour of intelligent tutoring agents by representing and managing domain knowledge, applying techniques for monitoring the progress of human learning, and the appropriate selection of instructional strategies for individualised tuition. From understanding the application of these concepts, this paper proposes bi-directional human and machine learning as necessary for effective game-based intelligent tutoring systems. A conceptual architecture for game-based learning ITS implementations using multi-agent and machine learning technologies is then outlined, and the design of Stunt Robot a system for learning Newtonian Physics concepts is presented as a case-study.

Keywords: intelligent tutoring systems, game-based learning, serious games

Facilitating student interaction in a group project: Experience with the use of Blackboard

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This paper aims to reflect on the experience of using Blackboard's "Group Pages" functionality to facilitate students' interaction in a group project assessment. The unit used in this project is an Information Technology Strategy course. It is a post-graduate level course. Preliminary findings indicate that there appears to be a strong association between the use of the tools and the group marks. However, we can't claim that the use of the tools was the only or even the major factor that has affected group marks. The paper concludes with some observations.

Keywords: group project, blackboard, assessment, information technology, collaborative tools

Online communities of practice: Are they principled and how do they work?

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In 2006 the Academic Development and Support (AD&S) Unit at a Melbourne university was faced with the dilemma of providing support to an academic member of staff relocating to Brunei. This paper looks at how AD&S worked with the academic to establish an online community of practice to meet her learning and teaching needs. All three members gained invaluable knowledge and experience from participating in this venture and Wenger's seven principles of design for establishing successful communities of practice naturally evolved throughout the project. Their shared interest in online technologies allowed them to safely explore new strategies for teaching online and gave them an opportunity to come up to speed with tools such as Skype, blogs, wikis, video clips, and mp3 sound bites. The skills gained from participating in this community, and the sharing of experiences, allowed each member to confidently look beyond the group to trial and share their new knowledge and experience in a variety of new educational contexts.

Keywords: online community of practice, communication technologies, knowledge building, skype, blogs, wikis, video clips, mp3

Evaluating ICT in education: A comparison of the affordances of the iPod, DS and Wii

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This paper uses an evaluation method for Information Communication Technology (ICT) in education adapted from Morgan (2007) to conduct a comparison between the Apple iPod, Nintendo DS and Nintendo Wii, in order to assess the potential cognitive impact on learners of the affordances of each ICT device. The ICT evaluation method uses the concept of 'mediation' to link cognitive impacts on learners of specific learning activities with the affordances of mediating artefacts employed during those activities. For each device a set of designed affordances are described along with a series of initial suggestions about how these affordances could be applied to educational contexts. A comparison of the different development options is then conducted to assess the relative educational potential of each device. Finally several avenues for further research are discussed.

Keywords: Affordances, Mediation, Artefacts, Cognitive Impact, Evaluation

PRAZE: Innovating teaching through online peer review

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The benefits of formative peer assessment of student work are well-recognised, but the onerous nature of administering peer review remains a disincentive to implementation, especially in large classes. We have developed an online system – PRAZE – that allows the distribution and anonymous exchange of work between students in an educational setting to be automated. In this paper, we describe the functionality of the software and report on an initial trial in which we administered peer review using PRAZE in three subjects taught at the University of Melbourne. Although the subjects involved different disciplines (Zoology and Multimedia & Communications respectively), different year levels (2nd versus 3rd year students), and varying numbers of reviewers, surveys indicated that the opportunity to participate and benefit from peer review was broadly appreciated by students. Students also found the software easy and convenient to use. We identify pedagogical and developmental issues with implementing online peer review, and outline anticipated future changes to the software.

Keywords: anonymous peer review, assessment, student feedback, online learning management systems

New models for learning flexibility: Negotiated choices for both academics and students

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'Flexible learning' represents a need associated with 'lifelong learning' and the equipping of graduates to actively engage in a 'knowledge society'. While the precise meaning of each of these terms is not easy to discern, notions of flexible learning have progressed an evolutionary path that concentrates on students as though they are the only stakeholder group in the higher education environment that would benefit from choice. Academic discourse also presumes that all cultural groups making up the increasingly diverse student population aspire to engage in student-centred learning as a precursor to involvement in a knowledge economy. In this environment academics have been encouraged to embrace on-line teaching and promote a more student-centred learning approach when the natural inclination and talent of many academics may make this style of pedagogy so challenging that learning outcomes are compromised. We question this 'one size fits all' mentality and suggest a model that empowers both the students and academics by allowing them the ability to choose the approach that suits their educational philosophy and preferred learning/teaching approach. The model represents an innovation in flexibility that recognises initial embedded learning foundation abilities and reaches both teachers and learners by utilising their own frames of reference.

Keywords: student-centred learning, academic-centred learning, learning styles, teaching styles, higher education

Engaging undergraduates with podcasting in a business subject

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This study is based on an investigation into the implications of the use of talkback radio-style podcasts in a final year business subject. The authors contend that face-to-face teaching can be supplemented by such podcasts and prove to be a valuable learning experience among these undergraduate students. Beginning with the objectives of the study, the paper continues with a description of the research methodology before addressing the findings derived from a questionnaire over a semester of podcasting efforts. It concludes with suggestions for other business educators interested in undertaking similar efforts with the intention of contributing towards best practice in the field of academic podcasting.

Keywords: educational podcasting, MP3, talkback radio, supplementary teaching.

Designing a CD based learning environment for a multimedia animation course: A Malaysian experience

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This paper focuses on the design and development of a CD-based learning environment which was based on the Nine Events of Instructions presented by Gagne (Gagne, Briggs, & Wagner, 1992). The learning module was then used as an instructional strategy to teach an animation course in the second year of the Film and Animation (FA) degree in the Faculty of Creative Multimedia (FCM). While this course has been traditionally given in a lecture-based environment, an attempt was made to move towards a more multimedia-mediated environment using the CD-ROM to provide a student-centred approach in learning the principles of animation. The aim of the study was to ascertain the attitudes and reactions of the students in this learning environment. Data were collected through a survey and questionnaire. A pre-test and post-test exercise was also administered to the students. Statistical analyses performed on the data showed that the students' attitudes and reactions were positive towards this student-centred environment and student learning was enhanced.

ICT for (I)nspiring (C)reative (T)hinking

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The capacity for creative thinking in the workplace is a generic skill that employers value highly in their employees. Although creativity is regarded as an important employability skill,

it is a quality in which tertiary graduates are often lacking. Thus, the development of creative thought should be promoted as an integral part of tertiary education; Information and Communication Technology (ICT) can assist in accomplishing this task. Research suggests that ICT has the potential to encourage and support creative thinking throughout the learning process. This paper investigates the links between the theories of encouraging creative thinking in an educational context, and the practice of incorporating ICT in the implementation of learning strategies. The paper reviews the constraints and challenges associated with the deployment of ICT as a tool for encouraging creative thinking, and concludes with suggestions for effective implementation.

Clicking on or off? Lecturers' rationale for using student response systems

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Student response systems, also known as clickers, have been used in lecture theatres with large groups of students to stimulate interest in lecture materials and to provide a means of interaction between lecturer and students or between students and their peers. Whilst the related literature offers practical guidance on using these systems, questions relating to their impact on learning outcomes and best pedagogic practice are in need of further investigation. Discussions with colleagues and a literature review led us to the hypothesis that clickers provide little more than a false dialogue or a cul-de-sac towards the analytical thinking skills required in tertiary education. In order to support or reject this hypothesis, qualitative data collected from interviews with staff members who had used or planned to use clickers was examined alongside quantitative data collected from 177 students on their use. The results from this data support findings from other studies insofar as lecturing staff have adopted this technology in an attempt to stimulate interaction and student motivation in their lectures. The results also suggest it may be possible for lecturers to develop approaches for using clickers that align with both their personalities and discipline-specific contexts.

Keywords: clickers, student response systems, interaction

Online role plays and the virtual placement: Aiding reflection in work integrated learning

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This paper presents the framework for an online role play which forms part of the student learning experience in a virtual placement. The virtual placement is complementary to a Work Integrated Learning (WIL) Professional Internship concurrently undertaken in a criminal justice agency. Whilst completing the Professional Internship, students conduct an Occupational Health & Safety (OH&S) risk assessment of the workplace, in consultation with industry supervisors and academic staff. The outcome of the risk assessment forms the foundation of the role play which involves the student advising, consulting and negotiating with various stakeholders to implement OH&S improvements to the workplace. Laurillard's (2002) "conversational framework" provides the theoretical underpinning for the role play. The online role play will be implemented and evaluated in first semester of 2008 at RMIT University, Melbourne, Australia.

Keywords: online role play; e-learning; occupational health and safety; work integrated learning

Using mobile technologies to support learning in large on-campus university classes

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The delivery of courses and units through large classes in on-campus settings is an economic necessity for many higher education institutions, particularly within their undergraduate programs. Lecture presentations to cohorts of over 200 students are common in most universities. Such settings can present challenges for both learners and teachers. It is now apparent that mobile and wireless technologies can provide opportunities for participation, engagement and active learning within these settings. These technologies enable teachers to

cater for a range of abilities, interests and learning styles. This paper describes activities in an Australian university setting where mobile technologies have been used successfully to support learning in large class on-campus settings.

Keywords: university, large-classes, mobile-learning, technology, higher education

Introducing mobile technologies: preparatory staff development issues

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This paper explores some of the staff development issues relating to the implementation of a mobile technology project involving academics and students in a Faculty of Education at a regional university. This project has been established to explore new pedagogies that may be associated with the use of mobile learning technologies in teaching and learning activities. The staff development process was approached through the provision of opportunity for staff to own and use mobile technology in their professional and personal contexts prior to their engagement with students. These provided a lead-up time for staff to think differently about how they could engage their students in the completion of assessment activities. We explore the process of how staff members became familiar with smartphones and ipods and examine some of the issues relating to this development and readiness for using them with students. The work required to adequately prepare staff to be comfortable with their implementation with students allowed us to identify issues that would enhance the use of new and or unfamiliar mobile technologies.

Keywords: mobile learning, action learning, staff development, pedagogy

Symposium

The Carrick Exchange, MERLOT and CD-LOR projects: Sharing our explorations of community, exchange and diversity

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Teaching and Learning Centre, Southern Cross University

Geraldine Lefoe

CEDIR, University of Wollongong

The symposium will commence with three brief presentations by key representatives of: MERLOT (Nth America); CD-LOR repository project (UK); and the *ascilite* research team for the Carrick Exchange project (Australia). The primary aim of the symposium will be to explore recommendations from research findings in each of the three repository projects. It will be an opportunity to exchange data and expertise on international best practice with respect to incentives, rewards and recognition for users of repositories and digital services, as well as focus on the practices and protocols for peer review and commentary of resources submitted. The symposium delegates will also explore strategies to promote acceptance and uptake of the Carrick Exchange and initiate the development of guidelines in light of these findings for the Carrick Exchange.

Similarities and differences in North American and New Zealand tertiary instructors' perceptions of effective e-learning methodologies

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In this cross-national study, tertiary instructors from North America and New Zealand were asked to share their perceptions regarding effective e-learning methodologies. Our intent was to determine what similarities and differences in perceptions existed and what implications, if any, such similarities and differences could have for the New Zealand government as it reviews and refines a national Digital Strategy that includes the tertiary sector. A comparison of the responses to four research questions indicated that while both similarities and differences in perceptions do exist, the similarities far outweigh the differences and there were

no strong conclusions to significantly modify New Zealand's current Digital Strategy development.
Keywords: e-learning, tertiary pedagogy, cross-national research, instructor perceptions

Moving a unit online: A quantitative evaluation of student responses

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In 2005, a unit was converted to 'wholly online' delivery mode, where all teaching occurred online. Student evaluation survey data for 2005 suggested that students rated many aspects of the wholly online unit delivery significantly lower than previously. For 2006, ten percent of the unit marks were dedicated to an assessed assignment activity based around an online discussion area. Based on student evaluation items common to the pre- and post-2006 period, overall student satisfaction with the unit returned to the same levels as prior to the introduction of wholly online delivery. These findings suggest that careful thought, but not necessarily major changes, may be required to avoid student disillusionment and maximise student learning outcomes when moving an existing unit to wholly online delivery. During 2005 and 2006, the same unit was included in a large survey to gauge students' perceptions of studying wholly online units. The sub-set of respondents relating to this unit was found to have a good demographic match to the total unit enrolment. The survey included the following question item, '39: How satisfied have you been with this unit being offered wholly online?' as an overall measure of student satisfaction with studying the unit in wholly online mode. Multivariate linear regression analysis was conducted with survey item 39 as the dependent variable. While the resultant regression model should not be interpreted literally as a formula for student satisfaction, it does suggest some areas for action to improve student satisfaction with studying this unit in wholly online mode.

Keywords: engineering education, online learning, online discussion, student evaluation.

The quality and trust of wiki content in a learning community

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User generated content is having an ever-increasing influence and presence on the Internet. Wiki communities, in particular Wikipedia, have gained wide spread attention and criticism. This research explores criticisms and strengths of wiki communities, and methods to reconcile the two. This research tests wiki software in an educational setting to determine indicators of article quality. The results give insight into the use of wiki systems in educational settings, suggest possible methods of improving the validity of content created within wiki communities, and provide groundwork for further research in the area.

Keywords: attention analysis, content rating, learning community, quality, trust, wiki communities

Using evidence and avoiding plagiarism eLearning module: Scaffolding academic integrity

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This paper describes the collaborative design, implementation and evaluation of a discipline-based e-Learning module (eLM). The eLM was piloted as a mandatory but ungraded assessment task in five subjects across all years of study in the Management and Marketing specialisations, four in the Bachelor of Commerce, and one in the Master of Commerce, at the University of Wollongong. The eLM was developed in the subject's e-Learning space within the learning management system, Blackboard Vista and included a streamed lecture which provides a range of instruction and examples of how to use evidence, a link to the University's Harvard Referencing Guidelines and an online quiz. The evaluations indicated that the design of the module and its embedded nature, in terms of both content and location, provided students with explicit instruction on using evidence and referencing that in general most students are required to acquire through a process of osmosis. Explicit instruction and assessment allowed students to be more strategic about their selection and use of evidence and apply these newly acquired skills to other subjects of study.

Keywords: academic integrity, eLearning, management and marketing, plagiarism

Community, exchange and diversity: The Carrick Exchange

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The Carrick Exchange is a significant new online service that will provide communication and collaboration services, and learning and teaching resources across the Australian and international higher education sectors. The Carrick Exchange is sponsored by the Carrick Institute for Learning and Teaching in Higher Education. It is for those who teach, manage and lead learning and teaching in Australian higher education. The Carrick Exchange aims to provide access to quality learning materials and resources; information about new technologies and ideas that impact on teaching practice and student learning; opportunities for academic and support staff to network with others, comment on and exchange ideas; and a means for academics to participate in discussions, debates and dialogue about teaching. This paper reports on the first component of the Stage 2 *ascilite* research into the Carrick Exchange. Using a design-based research approach, the *ascilite* project team investigated the human issues involved in development of the Carrick Exchange. Twenty-nine key practitioners were interviewed. The interviews generated a comprehensive discipline, cross-institutional, national and international perspective of user needs and contexts of use for a national online repository. The interview findings were analysed in relation to engagement, resource identification and contribution, and peer review. The findings presented in this paper will inform the design, management, utilisation and associated processes of the Carrick Exchange.

Keywords: Carrick Exchange, engaging communities, repositories, peer review

Staff and student perspectives on web based lecture technologies: Insights into the great divide

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Web-based lecture technologies (WBLT) have been introduced by some Australian Universities in recognition that many students need flexible learning choices during their studies. This paper reports on some of the findings of a research project, "the impact of WBLT on current and future practice in learning and teaching". The research was conducted across four Australian universities, with data obtained from surveys and in-depth interviews with both staff and students who had used WBLT.

While student perceptions about WBLT have been largely positive, staff opinions are varied. Many lecturers see the potential of WBLT as a study tool and recognise students' need for flexibility. However, staff are concerned that WBLT are exacerbating a trend toward declining lecture attendance, which they are linking to a drop in academic performance. While some lecturers indicate they have made changes to their lecturing in response to the technologies, there is little evidence of changes to the curriculum to effectively utilise these technologies.

Keywords: web-based lecture technologies, Lectopia, ilecture, student attendance trends

Learner performance and attitudes in traditional versus simulated laboratory experiences

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Evidence suggests that the physical, expository laboratory, as used in both high-school and college-level science courses, has lost its instructional value while emerging technologies such as simulations can serve as robust replacements. However, certain accreditation processes do not recognise the simulated laboratory as a legitimate alternative to expository high-school and college-level laboratories. This study therefore investigated whether simulated laboratories can achieve the goals of contemporary laboratory instruction as successfully as the expository laboratory paradigm. Using an experimental and quantitative methodology, two experiments were carried out, each of which comprised the completion of a laboratory activity by participants who were assigned to either a control (expository laboratory) or an experimental (simulated laboratory) group. The results revealed significant higher assessment means for the simulated groups. The simulated laboratories were also perceived to be more open-ended, easier to use, and easier to generate usable data, than expository laboratories. The time to complete simulated laboratory activities was significantly less than the time to complete expository laboratory activities. The results suggest that the simulated laboratory can serve as a legitimate alternative to the expository, “hands-on” laboratory and those current accreditation practices requiring online science courses to have “hands-on” laboratories need to be reevaluated.

Keywords: simulated laboratories, expository laboratories, achievement, accreditation

What is happening in my first year pre-service teachers’ online learning environment?

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Online learning environment is a complex and dynamic learning space for learners to experience social and cognitive processes of knowledge and meaning construction. It has brought about educators’ re-designing of instructional approaches for the emerging constructivist environment (Heinich, Molenda, Russell & Smaldino, 2002), translating classroom-based instructions to the Web, incorporating of asynchronous and synchronous communication as well as evaluating web-based instruction (Lynch, 2002). This study investigated 19 pre-service teachers’ learning in an online learning environment. These teachers’ online activities were analysed using their individual written reflection logs (end of the module) and a planned forum of discussion notes (out of the three planned forums). Out of the 17 emerging facilitation strategies used by these teachers in this planned forum, 3 highly rated strategies were: Initiating discussions (15.22%), prompting (14.13%) and summarising discussions (10.87%). These teachers also reported 20 facilitation strategies learnt (either by observing their peers’ action taken or acquiring on their own through readings as well as trials and errors) and of which 3 were highly rated: Asking questions (14.71%), summarising (12.75%) and demonstrating leadership (9.8%). It was also found that teacher-facilitators used more strategies than the five strategies introduced to them and they also learnt other facilitation strategies from observing their peers rather than those that they used to facilitate.

Keywords: learning environment, asynchronous, facilitation, strategies

Collaborative learning by modelling: Observations in an online setting

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A custom-designed combination of a chat tool and a wiki tool was used to engage postgraduate education students online in system dynamics modelling tasks. The purpose of the course was to familiarise students with core concepts of the complexity sciences, and to introduce them to modelling complex systems as a means to research processes of learning and organisational change. The rationale for the online course as well as the technology employed is described. Observations from two student teams using the *Stella* modelling software while cooperating in the online learning environment are reported, both with respect to their modelling activities as well as their team coordination behavior. We conclude with an identification of the main advantages of learning about a difficult subject area collaboratively and net-based.

Keywords: OLE, chat, wiki, system dynamics modelling, postgraduate students

Beyond a participation focus

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Sustaining participant engagement within collaborative online learning environments has proved problematic in a range of educational settings. It is not surprising then, that much of the literature around collaborative online learning has pointed to a pressing need to stimulate levels of participation and engagement. The underlying assumption seemingly being that increased participation will, in and of itself, lead to better learning outcomes within online environments. This paper argues that being overly concerned about participation and enjoyment levels may result in approaches that, at best, promote shallow forms of constructivism, rather than affording opportunity for deep knowledge building. The study reported in this paper draws on a body of research that has shown that levels of participation are inconsequential to the quality of knowledge building that occurs. Thus, when working with online groups there is a greater need to scaffold for the quality of interaction and output rather than the quantity of interaction.

Keywords: participation, quantity, quality

Piloting social networking and Web 2.0 software at Deakin University

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Deakin University piloted social networking software in order to complement and add a new dimension to its online learning and teaching efforts. In the first semester of 2007 eight teaching academics adopted three software applications. Six were used with students for learning while the other two were used by staff for professional development and research. This paper reports on the first attempt at providing institutional support for Web 2.0 and what was learned through the experience of these eight teaching academics which is essential to the ongoing development and decisions related to the future take up of these software applications.

Keywords: social software, Web 2.0, pilot case study

Avatar and Ollly: Discovering the impact of ICTs on youth social engagement

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This paper presents preliminary research work of the *Avatar* Project, a Victoria University and VicHealth project dealing with young people's use of technology within an online multi-user environment. The paper outlines the *Avatar* project, reports on experiences in establishing a 3D online world for youth participants, and presents the project's research protocol/methodology for its in depth three-year study. The paper also presents the *Ollly Tool*, a new browser-based instant messaging tool that enables researchers to establish a secure [closed] instant messaging network for collaborative classroom work-shopping in an online setting.

Keywords: computer-human interaction, virtual reality and related simulation, social change, ICTs, 3D online environments, Second Life, olly tool, instant messaging

Exploring Web 2.0 for virtual design studio teaching

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Following the development of e-learning platforms, the virtual design studio (VDS) has become a new method for implementing studio-based design education in online environments. With the rise of Web 2.0, the ways in which people engage with digital technologies has been transformed. The studio model of teaching and learning is a dynamic area of e-learning development. Although this is a broad-brush term for a model of constructivist learning across art and design fields, it is not as generic as it may seem. The unique skills and knowledge of different design fields necessitates diversity resulting in subtle differences in the form of studio teaching and environments. This paper presents the position

of a working doctoral research project that is concerned with the design of web 2.0 online environments for VDS teaching. The scope of the PhD investigation is to understand the needs of teachers within VDS teaching environments in the hope of enhancing the teachers' experience and encouraging the usage of such e-learning systems. Drawing on Broadfoot and Bennett's pedagogical guidelines, with an integration of Donald Schön's physical design studio, and Thomas Kvan's virtual design studio theory, this paper argues for the importance of observing the teacher's role in both the physical and virtual design studio. This paper then aims to identify the research position and related theories that are informing the project's evolution.

Keywords: virtual design studio, design teaching practice, e-learning

Designing quality e-learning environments in higher education

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With the ever-increasing integration of online learning (or e-learning) into university courses, there is strong need for practical guidelines and recommendations to facilitate the development and delivery of pedagogically effective e-learning environments. An investigation by Siragusa (2005) examined factors which make for effective instructional design principles and learning strategies for higher education students studying within these learning environments. Surveys were administered to students and lecturers in Western Australian universities which revealed numerous areas of students' e-learning experiences which they had perceived as being successful and those needing improvements. This paper presents a model containing 24 sets of recommendations that were developed from the study's survey findings. The 24 recommendations accommodate the varying pedagogical needs of learners as well as modes of course delivery. For each recommendation, a pedagogical dimension is presented to illustrate the pedagogical needs and instructional requirements. These 24 dimensions, which are grouped within nine main sections, highlight the decisions which need to be made during the instructional analysis, design, delivery and evaluation phases of e-learning environments in higher education in order to optimise their pedagogical quality.

Achieving incremental successes in courseware development through prototyping

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The challenges in the early stages of courseware development are of a different nature, and often subtler, compared to those at the later stages. Addressing these challenges requires sensitivity to the process dynamics, besides the technical know-how. This paper is based on an in-progress project to develop self-instructional material for online learning. The project is carried out jointly by Temasek Engineering School and the Learning Academy at Temasek Polytechnic, Singapore. In this project, prototyping is adopted as the developmental model to navigate the project through the early challenges, with the intention of securing incremental small-step successes. Within this developmental model, the paper then describes the intricacies of integrating instructional design principles and evaluation techniques to tackle the challenges of the evolving prototypes. This paper represents the reflections of the authors as practicing instructional designers, and it should interest readers who want to see a stronger connection between the theory and practice of courseware development. The general reader may also find the concept of prototyping helpful, given the constant demand to innovate in the learning contexts, and may well find some applicability for it in their own contexts.

Keywords: courseware development, instructional design, prototyping, self-instructional material

What do university students expect from teachers using an LMS?

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In October 2006, a survey was conducted at an Australian university that was aimed at gaining student feedback on future and current IT services. Two questions were specifically targeted at finding out about students' use of the university's central Learning Management

System (LMS). The LMS being used at that time was *Blackboard* (Bb) version 6.3. While one question asked whether or not students used the system (N=6,724), the second question invited them to comment on what they liked and disliked about the LMS (N=4,538). The latter question elicited rich qualitative data that was analysed using two methods. Initial themes were noted through a manual analysis and then data was run through a software program called *Leximancer*. This program analysed the conceptual structure of the data. While some themes related to student preferences around the LMS itself, a great deal of the data was linked to the ways the system was being used by university teachers. Student expectations around teacher use of the LMS form the focus of this paper and consequential challenges and future directions for staff development are considered.

Keywords: LMS, e-learning, e-teaching, learner expectations

Design features of an e-mentoring system for the health professions: Choosing to learn in partnership

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In the past decade there has been a phenomenal growth of online mentoring websites and opportunities within a wide variety of professions, yet few peer reviewed publications to date have addressed the linkage to ICT and how it supports such systems. The purpose of this article is to address this gap in our knowledge by: proposing that the Internet and social software applications can provide a viable medium for enabling mentoring within defined roles, and communication channels for practitioners to explore online mentoring. Past research has found that scaffolding functions of mentoring (psychosocial and vocational), can be provided by ICT applications mediated by a mentor. We extend past research by assessing the relative value of technology applications to support virtual mentoring by describing a mentoring system has been designed for health professionals employed by a health care organisation. The initial observations indicate that e-mentoring relationships require additional support and education in the beginning stages of development. By providing specific research frameworks that underpin successful e-mentoring schemes internationally, we propose future research directions for e-mentoring supported through ICT, with its associated opportunities and challenges.

Keywords: e-mentoring, mentor, mentee, reflection, professional development

Tools and techniques for scenario-based e-learning for New Zealand tertiary students: Prototype to adoption

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This paper describes the development and delivery of an e-learning project whose outputs were made available to all government-funded tertiary institutions in New Zealand. PBL-Interactive is an authoring and delivery tool for scenario-based learning and Challenge FRAP is workbook software which can both guide and capture process in student assignments. The existence of well-developed prototypes of these programs meant that important support material (examples, guides, tutorials etc.), along with awareness and training workshops before and after the project, could be undertaken within the short timeframe of 18 months. The project fulfilled all its objectives, but barriers remain to wide-scale uptake within the recipient institutions. These constraints to adoption, which are likely to be relevant to many e-learning initiatives, are discussed.

Keywords: problem-based scenarios, scenario-based learning, workbook software, adoption barriers, PBL-Interactive, Challenge FRAP, e-learning, implementation, New Zealand eCDF project

Using technology to foster reflection in higher education

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Technology-facilitated learning is quickly becoming mainstream in most higher education institutions. Simultaneously, although not necessarily related, tertiary administrators are calling for students exiting university to exhibit the capacity for reflection and higher order

thinking. Instructors, therefore, are faced with two challenges: implementing technology and increasing reflective learning. This paper argues that technology can be used to help instructors in this feat. Technology-facilitated learning offers many opportunities for students to engage in reflective tasks, if implemented properly. Ensuring conditions for promoting reflection, as outlined in the literature, are present, will yield successful changeovers for instructors beginning to use technology, instead of traditional face-to-face methods, to foster high levels of reflection and deep learning in their classrooms.

Keywords: reflection, technology, higher-order learning, higher education

Authentic assessment strategies in problem based learning

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Problem-based learning (PBL) uses real world problems and tasks as the initiative objective in constructing knowledge and enhancing learning experience. This paper looks into authentic assessment strategies in problem-based learning using an interactive multimedia project as a subject of investigation. Through the use of a range of authentic assessments like process assessment which contains of process assessment (consists of students' *self reflection, peer's evaluation and task completion reports*); content assessment (consists of *pretest and posttest*); together with portfolio assessment, this paper outlined strategies that have worked, as well as those that have not in a PBL setting. The collective data showed positive feedback towards learning tasks including problem solving skills, team collaboration and knowledge enhancement.

Keywords: problem-based learning (PBL), authentic assessments

Interaction patterns and knowledge construction using synchronous discussion forums and video to develop oral skills

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This study evaluates the effectiveness of using streaming video and synchronous discussion forums to provide feedback to a presenter in an oral skills tutorial. A pilot online tutorial was trialled with a group of 13 students enrolled for English Proficiency at the Nanyang Technological University. A survey was administered to collect information on the participants' perception of their learning. Discourse threads created on the discussion forum were also analysed to evaluate the effectiveness of the online activity. Students felt the forum supported their learning and enhanced their understanding. The findings also showed a high level of student involvement in the oral activity. The quality of knowledge in the form of the feedback constructed by students was a significant finding in this study. The feedback jointly constructed by students was found to be accurate and insightful without requiring much involvement from the moderator or tutor. Synchronous discussion forums and streaming video were found to be effective tools for teaching oral skills.

Keywords: synchronous discussions forums, streaming video, oral skills, knowledge construction, interaction pattern

ReLOAMS: Towards a community authored reusable learning objects management system

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As e-learning environments become more popular, many studies have been proposed to provide adaptive environments offering learners and educators customised courses for more effective learning and course construction. Some solutions are aimed at helping learners, while others are aimed at helping educators and course designers/developers. However, a serious lack of conceptual clarity of definitions and uses of learning objects, could have resulted in design and usability problems in current e-learning systems. This paper describes on-going work in developing ReLOAMS, a Reusable Learning Objects Authoring and

Management System, prototype to address the seemingly lack of reusability of LOs in current e-learning systems. Through shared workspaces (or group workspaces) for learners who have similar learning interests to use, share and rate LOs, this paper describes the design rationale and philosophy of ReLOAMS, being implemented to promote an environment supporting community-authored and rating of learning objects. The paper then describes the systems architecture, and development of ReLOAMS concluding with recommendations and implications for the design of e-learning systems.

Keywords: learning objects, usability, reusability, e-learning.

Promoting staff learning about assessment through digital representations of practice: Evaluating a pilot project

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The Assessment Snapshots digital resource is a current project to support academic learning about assessment by diffusing knowledge and understanding of locally contextualised good practice in assessment at an Australian university. An initial collection of Snapshots was made available to academic staff on the University's web site in early 2006. This paper describes how the resource has been utilised by teachers and explains the uses that academic developers have made of the resource in supporting teachers to extend their learning about assessment. The paper reflects on the extent to which the pilot project has been successful in disseminating effective assessment practice and promoting reflection and discussion about assessment issues. It proposes future directions for more effectively integrating and contextualising resources for professional learning with teachers' everyday teaching practice.

Keywords: online professional development, representations of practice, case studies, assessment

Using blogs as design primitives in implementing collaborative e-learning systems

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We propose to use blogs as design primitives to enable interaction in e-learning systems. As a proof of concept, we implement a prototype of a concept mapping tool employing blogs attached to concepts to enable students to discuss these concepts in-place.

Keywords: blogs, design primitive, concept mapping, collaborative learning

Responding to learners' need for choice: Flexible learning modes for creating an e-learning community

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Students need to balance work, family, and their university learning. In an effort to manage these conflicting demands, students make pragmatic choices which can lead to almost empty lecture halls and tutorial rooms by mid-semester. In response, this action research project piloted an e-learning portal for criminology students in 2006. Four courses were delivered by two different flexible learning modes, across 2 different levels of students. Early results indicated no difference in learning outcomes for either less experienced learners (2nd year level) or more experienced learners (3rd year level). High levels of satisfaction with online teaching were found from both student groups in either flexible learning modes. High levels of satisfaction in student learning were evident from experienced learners with less robust levels of satisfaction with their learning from less experienced learners. As this project is driven by a cycle of evaluation and then action, adjustments were made in flexible delivery modes for less experienced learners in 2007. For 2008, this e-learning project intends to build a community of learners for the criminology student body. Methods and measures are discussed, as well as implications.

Keywords: flexible learning, e-learning, sense of community, building community, criminology

Student adoption of web conferencing software: A comparison of three student discipline groups

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This paper asks the question – how do differences in year of study and subject studied affect the likelihood of students adopting a new learning environment? Data from a study of students' intention to adopt a Web conferencing environment is examined by the subjects in which they were enrolled. The results show that students' perceptions of using the environment, as measured by a self-efficacy scale and motivation were related however there were few differences between the cohorts in other factors that influenced their intention to adopt the new environment.

Keywords: business education, learning environment, personality traits, illuminate live, web conferencing

Factors in the deployment of a learning management system at the University of the South Pacific

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This paper describes how a new Learning Management System (LMS) was introduced into the University of the South Pacific with the aim of improving teaching and learning. The development process from test and selection of the platform through to project planning, gathering of political support within the institution, technical factors, the design and roll out of training, the impact and consequences, the growth and future prospects of the platform are discussed, with a focus on the university's redesigned online law program. The paper concludes with the main lessons learned, emphasising the point that the process was characterised by a lack of a formal process or deployment model *per se*.

Keywords: LMS deployment, management, law online, Moodle

Motivation and computer game-based learning

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It is commonly assumed in the research literature that computer games are a useful educational tool because students find them motivating. This paper questions this assumption and describes a study that was undertaken to examine the motivational potential of using computer game-based learning with students in Higher Education. A series of twelve in-depth interviews were carried out to explore individuals' perceptions of, and motivations for, game-playing for leisure and study. These interviews were followed by a larger-scale survey, examining student motivations to play games and to learn with games; data from 200 students were collected and analysed.

The results of this study indicate that a large proportion of the students who took part in the study do not find games motivational at all, and that there is no evidence of a relationship between an individual's motivation to play games recreationally and his or her motivation to use games for learning. These findings indicate that employing games for their motivational benefits alone is not justification for their use. However, certain computer games may provide other pedagogical benefits and there is evidence from the study that while individuals may not find games intrinsically motivational, they may be motivated to use them for learning if they are perceived as the most effective way to learn.

Keywords: game-based learning, motivation

When words fail: a case for multimodality in e-learning

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Research conducted to study the impact of learning styles in e-learning environments examined three cohorts (undergraduate e-learners, graduate e-learners, and educators working in electronic educational environments in higher education) to identify the impact of learning

styles in e-learning design. Quantitative data was gathered from the research cohorts through the *Index of Learning Styles* (Felder & Soloman, 1991, 1994). In addition, qualitative responses were collected from the participants using open-ended questions via a survey questionnaire. Of the quantitative results, all three cohorts rated a moderately strong preference for visual communication over text (verbal or written communication). The results are consistent with other research findings (Felder & Spurlin, 2005), and they suggest that, at times, words do fail. These results support a case for multimodality in e-learning environments. This goes beyond situating vast chunks of text in e-learning environments and towards the inclusion of various forms of visual communication in e-learning designs. Further, it is argued, that at a time when various forms of historically text-reliant communications media are shifting towards visually inclusive constructs, that this adoption within academia is also socio-historically appropriate.

Keywords: learning styles, e-learning, visual and verbal learning, e-learning design, visual communication, multimodal and multiliterate learning environments

Closed book, invigilated exams vs open book, open web exams: An empirical analysis

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This paper reports on the latest findings of an on-going research project evaluating the effectiveness of 'open book, open web' (OBOW) examinations. An assessment instrument used in a growing number of higher education institutions around the world, the OBOW examination model under consideration in this project is distinguishable by its firm commitment to the notion of authentic assessment, and the harnessing of the information and communication technologies to bring the 'examination paper' to life. The results of previous research undertaken have indicated that the OBOW approach receives the strong endorsement of students on a number of fronts, not least the quality of the learning outcomes. Scepticism remains, however, on the part of some traditionalists within educational circles who argue for the retention of invigilated examinations as this is the only means of ensuring that a student's work is their own and theirs alone. This paper opposes this position, presenting the case for an examination instrument that is more in keeping with modern learning theory.

Keywords: Authentic assessment, constructivism, open book examinations.

Perpetual connectivity: Lecture recordings and portable media players

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Using portable media players to enhance and support teaching and learning activities in higher education is becoming an increasingly common practice. With a growing understanding of the pedagogical possibilities of podcasting, the availability of low-cost MP3 players and the arrival of convenient delivery environments such as Apple's *iTunes U*, many universities are considering how to appropriately harness this technology to support their teaching priorities and the learning needs of their students.

One of the most popular current uses of portable media players for educational purposes centres around the practice of recording and disseminating lectures. Through enabling students to use portable media players to store and playback digital copies of lectures, the intention is to make the lecture format more accessible for students and support student mobility and flexibility in their learning activities. This paper looks at student use of portable media players for accessing lecture recordings and evaluates some of the associated practical and pedagogical implications.

Keywords: lecture recordings, portable media players, mobile learning, accessibility

Symposium Encouraging role based online learning environments

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This symposium reports on progress in the first year of a two year project called *Project EnROLE* (Encouraging Role Based Online Learning Environments) which is funded by the Carrick Institute for Learning & Teaching in Higher Education in Australia. The project aims to link a small but growing number of university teachers who are using online role play, building them into a community via three strategies: developing a repository of sharable/reusable role play learning designs with an associated peer review process; facilitating evaluation and publication of papers about their role plays (for example the role play stream at this conference); and establishing sustainable national and international role play partnerships.

The project also aims to double the number of online role play designers in two years by scaffolding beginners in a four stage process before designing their own role play: awareness raising; participating in another designer's role play; evaluating another designer's role play; and moderating another designer's role play.

The strategy for growing the community takes a multi-pronged approach, firstly emphasising personal interaction by fostering university-based clusters of online role play designers, then building into state networks for both face to face and online professional development events. Together, the state networks in the second year of the project will form a national community of practice with international presence via the project's website and repository.

Keywords: role play, simulations, ICT based teaching, e-learning, peer review, learning designs

A knowledge management approach to developing communities of practice amongst university and college staff

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The Higher Education Learning Partnerships Centre for Excellence in Teaching and Learning (HELP CETL) supports staff involved in the delivery of higher education level Foundation degrees through a network of nineteen further education colleges. This is managed centrally through the University of Plymouth's partnership's faculty but raises the challenge of making best use of the vast amount of knowledge and expertise about teaching and related issues which is held by a range of people who are displaced by geographic location and are disconnected from other practitioners in other institutions.

A mechanism by which this expertise might be shared was required and to achieve this, a knowledge management system using a Community of Practice (CoP) framework was investigated and then employed as the key HELP CETL communication and information sharing tool. The Tomoye Ecco Knowledge Management System was used to create the *Knowledge Exchange Network* (KEN), which provides a set of features designed to enable community members to become involved and share ideas and experiences.

This paper reflects on experiences of selecting, implementing, evaluating and further developing KEN for a large scale deployment.

Keywords: knowledge management; communities of practice; HE in FE

How do students 'get learning'? Unexpectedly diverse pathways in an activity based online orientation site

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Students face a variety of hurdles when commencing further study involving online learning environments. There is no shortage of print-based orientation advice and static online tips; however, rarely do these supports mirror the activities and pedagogies of formal online

learning. Two collaborating faculties of health at the University of Sydney developed a modular orientation site known as *GetLearning* for beginning postgraduate students. Tracking data, moderator journal data and design team reflections were analysed to identify student use patterns. This paper presents insights about access patterns and interactions with the resource. Findings reinforce the need for timely, interaction-based orientation activities, and highlight student need for both individual support and ongoing access to orientation style resources throughout the semester.

Keywords: orientation, postgraduate, distance, online, student support, health sciences

Process study of verbal interactions in problem based learning

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The goal of this study was to increase our understanding of the learning-oriented verbal interactions taking place between students during the entire problem-based learning (PBL) process, and to identify the relationships between what students say with their learning outcomes. The verbal interactions of one PBL group of five students throughout an entire PBL process were recorded in this data-intensive case study consisting of more than 1000 utterances. Our results show that a large proportion of students' learning-oriented verbal interaction focused on stating or recalling facts with a much lower percentage involving constructive statements, arguments, evaluation, proposals and critical questions. Simple correlation analysis indicated that percentages of questions, verification questions and requests correlated negatively with student achievement while critical questions, arguments and evaluations positively. At the practical level, suggestions that are relevant to educational practice can be derived from our observations. Furthermore, this study gives insight to the different types of group interactions during the entire PBL process, including those during the self-directed study time, to help us better understand the learning processes involved in PBL.

Keywords: Problem-based learning, verbal interactions, group processes

Widening the net: Encouraging engagement with self directed e-learning resources

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Learner managed online resources have seen substantial growth in UK higher education in recent years. Online resources can maintain or improve the quality of the learning experience, and the availability of a range of support materials is helpful to a growing and increasingly diverse student population. However, research evidence also indicates a level of dissatisfaction with self directed online learning resources, with issues relating to engagement and participation often coming to the fore. This paper takes the view that this is partly due to the 'disconnect' between teacher managed and learner managed activities, and describes a small scale research project which aims to bridge this gap. This approach links together learner managed e-learning resources and tutor feedback, constructed in such a way so as to minimise the time demands on academic colleagues whilst still providing critical aspects of formative assessment. This design seems to show promise, and the approach is discussed in terms of advantages, disadvantages and opportunities for further development.

Keywords: learning support and scaffolds; supporting large classes; learning designs

Learning flexibility: The environment and a case study

Frank R. Young and Peter Gibbings

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This paper outlines the flexible student learning environment in the Faculty of Engineering and Surveying before concentrating on evaluating one online learning option. This Faculty provides a variety of high quality on-campus, distance education and on-line academic

programs and various learning strategies for the heterogeneous student cohort (national and international). By accessing appropriate flexible learning and different learning experiences, students are empowered to determine learning opportunities and methodologies to suit their personal needs.

The off-campus mode study may disadvantage students since they don't have the benefit of face-to-face instructions or to participate in formative assessments delivered informally in lectures. This may lead to feelings of remoteness and isolation leading to poorer learning, lower results in assessments, and may also contribute to drop-out rates, particularly in first year courses. To overcome this inequity, the usual training materials presented for a first year course in 2005 were supplemented with PowerPoint lectures, enhanced with synchronous audio, and a series of quizzes to be used as formative assessments. The lectures and quizzes were presented online via a course web site and were designed to become an integral part of the learning experience. An evaluation of the effectiveness of these strategy demonstrated improved students' learning, a positive contribution to the learning experience, increased enjoyment of the course, and a strong learning motivator. Students reported feeling less disenfranchised with the university and having a greater affinity with the lecturer.

Keywords: Breeze, quiz, online, education, flexible learning, pedagogy, spatial science

Poster presentations 1: Monday 3 December

Authors will be available to discuss their posters at morning tea (10.30-11.00 am) and afternoon tea (3.00-3.45 pm)

Karen Baskett, Gosia Mendrela and Meg Stuart

Redesigning a more learner centred prescribing curriculum for medical students

Mark Brown, Bill Anderson, Mary Simpson and Gordon Suddaby

Showcasing *Mahara*: A new open source eportfolio

Kevin Burden and Simon Atkinson

Jumping on the *YouTube* bandwagon? Using digital video clips to develop personalised learning strategies

Allan Carrington and Ian Green

Just in time teaching revisited: Using e-assessment and rapid e-learning to empower face to face teaching

Anthony Chan and Catherine McLoughlin

Choice, communication and learner autonomy: The development of social competence skills using podcasting technologies

John Clayton

Educational levels of Internet use

Iain Doherty, Adam Blake and Pauline Cooper

Developing ICT and e-learning capacity in a medical and health sciences faculty

Richard Elliott and John Clayton

E-learning for New Zealand industry training organisations: Analysis of benefits and barriers

Ken Eustace, Clinton Mason and Mitchell Swan

Scupper's Island: Using game design and role play to learn about professional ethics

Linda Fang Mei Ling

Conversations with independent young adult online language learners

Alan Farley, Dale Holt and Siew Mee Barton

Framing the role of technologies in the recognition and development of staff capacities to enhance learning in higher education

Ma Teodora E. Gutierrez and Aura C. Matias

Online learners' interactions and characteristics affecting satisfaction and academic performance: A Phillipines case study

Mandy Harper and Judy Brittain

Diversity in large classes: The challenge of providing self directed formative learning

Chris Jones

Using a digital repository for managing digital rights and copyright information

Tass Katsoulidis, Andrew Buntine and Lyn Atkinson

Supporting academic staff in new learning contexts

Alanah Kazlauskas and Ann Applebee

ICT supported scaffolding of generic skills acquisition by first year students: A collaborative approach

Benjamin Kehrwald

Supportive social networks: Community-based learner support in online learning

Sarah Lambert

Mapping the terrain of role based learning: Building on lessons learnt from collaborative learning research

Jocene Vallack and Ian Charleson

E-role play for inquiry into transnational education

Sandra Wills, Elizabeth Devonshire, Elysebeth Leigh, Elizabeth Rosser, John Shepherd and Andrew Vincent

Encouraging role based online learning environments

Poster presentations 2: Tuesday 4 December

Authors will be available to discuss their posters at morning tea (10.15-11.00 am) and afternoon tea (3.00-3.45 pm)

Jun Iwata and John Clayton

Using a perceptual measure to evaluate the use of video objects in English language learning

Khairiltitov M. Zainuddin

A constructivist perspective of knowledge management theory: A KM solution to online teachers professional development

Sarah Lambert

Reviewing the progress of a campus-wide e-portfolio rollout

Lee Yik Sheng and Loi Yaw Yuen

Partnership in design: Designing learning activity collaboratively

Stephen Marshall, Geoff Mitchell and Stephanie Beames

Benchmarking for quality improvement: The e-learning maturity model

Anne McDermott and Neil Witt

A multi functional regional digital repository for teaching higher education in further education colleges

Miles Menegon and James Cartledge

Oly! (OnLine Learning for You!): Browser based instant messaging for online learning

Wendy Meyers and Dianne Salter

E-teaching professional development: Designing a sustainable program for multi location teachers

Michael O'Donoghue, Jessica Hollis and Alan Hoskin

Lecture recording: Help or hinder in developing a stimulating learning environment?

Duncan O'Hara and Mark Brown

Switching them on and keeping them on: Online professional development for university teachers

Elaine Pearson and Chris Bailey

Evaluating the potential of the Nintendo *Wii* to support disabled students in education

Russ Pennell

Sharing teaching resources

Romana Pospisil, Rebekah Aspinall, Gillian Matthews and Carole Reid

Engaging students with ICT choices at Edith Cowan University

Robert K. Pucher, Harald Wahl and Friedrich Schmöllebeck

Integrating undergraduate project based learning in computer science with COAST: A research network

Richard Raban and Andrew Litchfield

Self and peer assessment in groupwork using *TeCTra*

Katherine Sanders, Julie Hill, Jan Meyer, Georgina Fyfe, Sue Fyfe, Mel Ziman and Nicole Koehler

Gender and engagement in automated online test feedback in first year human biology

Jennifer Tan, Kar-Tin Lee and Jennifer Duncan-Howell

Learning from research: Digitalising learning in tertiary settings

Santhakumari Thanasingam and Swee Kit Alan Soong

The spring cycle blended curriculum model for teaching paragraph writing

Linda Thompson

Podcasting: The ultimate learning experience and authentic assessment

Julie Willems

Does style matter? Considering the impact of learning styles in e-learning

Notes
