INTERACT
INTEGRATE
IMPACT

Program & Abstracts

20th Annual Conference of the
Australasian Society for Computers in Learning in
Tertiary Education (ASCILITE)

Adelaide, Australia, 7-10 December 2003

ASCILITE 2003

ASCILITE 2003 Organising Committee

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Committee	Geoffrey Crisp Di Thiele Allan Christie, NetSpot Pty. Ltd. Ingrid Scholten, Flinders University Sandra Barker, University of South Australia Peter Jacobs, University of South Australia Kevin Knox, Flinders University Judi Baron, University of Adelaide Ian Roberts, University of Adelaide
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Welcome

It is with much pleasure that the organising committee welcomes you as a delegate to ASCILITE 2003, the 20th International Conference of the Australasian Society for Computers in Learning in Tertiary Education and to the University of Adelaide, Adelaide, Australia.

For the next 4 days you will exchange ideas with your colleagues, discuss new research findings and evaluation outcomes, examine alternative approaches to student learning and staff teaching, and have an enjoyable time at various social events.

After much reflection, the organising committee chose the three words Interact, Integrate and Impact as the conference theme. It appeared to us that these words encapsulated much of the current interest and activity in online and computer based education and would provide a timely opportunity to demonstrate future directions for the tertiary sector. Interactivity is essential for meaningful student and staff engagement and active participation in the learning process. Passive learning strategies are not as effective in encouraging significant improvements in student participation, completion and enjoyment. Computer based learning is not a different type of learning; it is an integral part of the total learning experience. The integration of computers into the learning process provides new opportunities to enhance student and staff relationships. We should always be cognizant of the impact that our teaching models have on staff and students. In view of the current emphasis on demonstrating quality, it seemed appropriate to articulate the various ways in which we measure and reflect on the impact of our activities.

The keynote speakers will provide delegates with new insights and also challenge our current practices. We will be encouraged to think about where we are today and where we would like to be tomorrow. Conferences provide opportunities for us to hear what our colleagues have been doing, to benchmark, to network, to reflect and to introduce innovative, often controversial, ideas for general discussion.

A total of 118 papers were reviewed by the traditional double blind refereeing process in order to continue the high quality associated with ASCILITE presentations. The final program consists of 60 full papers, 38 concise papers, 11 posters and 11 workshops.

Value is added to any conference programme by the open and passionate discussions provided by the delegates. We invite you to add value to ASCILITE 2003 and enjoy the sights, sounds and tastes of Adelaide and the surrounding countryside!

Geoff Crisp and Di Thiele

Program in brief

Sunday 7 December 2003

9:30–12:30pm	Workshops	
12:30–1:30pm	Lunch	
1:30–4:30pm	Workshops	
5:30–7:30pm	Welcome Reception	Union House

Monday 8 December 2003

8.00–8.45am	Campus Representatives Meeting	Union House, Level 4
8:50–9:30am	Official Welcome	Union Hall
9:30–10:30am	Keynote address	Union Hall
10:30–11:00am	Morning tea, poster presentations	Union House, Level 4
11:00–12:25am	Full paper sessions	
12:30–1:30pm	Lunch	Union House, Level 4
1:30–2:25pm	Full paper sessions	
2:30–3:05pm	Concise paper sessions	
3:05–3:30pm	Afternoon tea, poster presentations	Union House, Level 4
3:30–4:05pm	Concise paper sessions	
4:10–5:05pm	Full paper sessions	
5:10–5:40pm	Sponsor presentation: Blackboard	Union Hall
5:45–6.45pm	ASCILITE Annual General Meeting	Union Hall

Tuesday 9 December 2003

8.00–9.10am	Community mentoring program coffee meeting	Union House, Level 4
9.10–9.25am	Brief report on ASCILITE AGM	Union Hall
9:30–10:30am	Keynote address	Union Hall
10:30–11:00am	Morning tea, poster presentations	Union House, Level 4
11:00–12.25pm	Full paper sessions	
12:30–1:30pm	Lunch	Union House, Level 4
1:30–2:25pm	Keynote	Union Hall
2:30 -3:05pm	Concise paper sessions	
3:05–3:30pm	Afternoon tea, poster presentations	Union House, Level 4
3:30–4:05pm	Sponsor presentation: Apple	Union Hall
4:10–5:05pm	Concise paper sessions	
5:10–5:25pm	Rod Sims: Special Report	Union Hall
7.00 to late	ASCILITE Dinner	Hyatt Adelaide

Wednesday 10 December 2003

9:00–9:55am	Full paper sessions	
10:00–10:30am	Sponsor presentation: The Learning Edge	Union Hall
10:30–11:00am	Morning Tea, poster presentations	Union House, Level 4
11:00–12:25am	Full paper sessions	
12:30–1:30pm	Lunch	Union House, Level 4
1:30–2:30pm	Keynote address	Union Hall
2:30–3:30pm	ASCILITE Awards, ASCILITE 2004 Launch, Closing Address	Union Hall

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Full Conference Program

Sunday 7 December 2003

***9:30–12:30** am, Workshop sessions*

***WS01**: LTDU Seminar Room 1*	***WS04**: Computer Suite Mawson Labs*	***WS05**: Computer Suite Mawson Labs*	***WS12**: Huxley Computer Suite Physics Building*
Keys to effective online teaching and learning I: design and development. Rod Sims and Deb Jones	Concept mapping with *Inspiration*™: theory and practice. Som Naidu and Patrick Blanchard	Optimising instructional designer–subject matter expert communication in the design and development of online and multimedia projects. Mike Keppell	Implementing learning design: the Learning Activity Management System (LAMS). James Dalziel

***12:30–1:30** pm, Lunch*

***1:30–4:30** pm, Workshop sessions*

***WS06**: LTDU Seminar Room 1*	***WS08**: Maths Drop-In Centre Schulz Bldg*	***WS10**: LTDU Seminar Room 2*	***WS13**: Huxley Computer Suite Physics Building*
Keys to effective online teaching and learning I: collaboration and interaction. Rod Sims and Deb Jones	Evaluating the effectiveness of ICT innovations in universities. Rob Phillips	Learning contracts for eLearning. Bronwyn Hegarty	The COLIS project: overview and recent developments. James Dalziel

***5:30–7:30** pm, Welcome Reception*

Di Thiele, ASCILITE President
Lewis O'Brien, Kaurna Elder
Drinks and Canapes

Monday 8 December 2003

***8:00–8:45** am, Campus Representatives Meeting*

Union House, Level 4

***8:50–9:30** am, Opening of Conference*

Union Hall, Chair: Geoff Crisp and Di Thiele, ASCILITE President

Official Welcome: **Prof. James McWha**, Vice-Chancellor, University of Adelaide

Opening Address: **Michael Harbison**, Lord Mayor, City of Adelaide

***9:30–10:30** am, Keynote address*

Union Hall, Chair: Geoff Crisp

Professor Eli Cohen, Informing Science Institute, USA and Wyzsza Szkola Przedsiebiorczosci i Zarzadzania im. Leona Kozminskiego, POLAND

"A modest proposal for the survival of our profession: applying the informing science framework to higher education."

***10:30–11:00** pm, Morning tea, Poster presentations, Level 4, Union House*

***11:00–11:25** am, Full paper session F1*

***F1A**: Union Hall*
Chair: Helen Carter

Iterative analysis and interpretation of audit trail data
Kennedy and Judd

***F1B**: Maths G08*
Chair: Catherine McLoughlin

Using cross-disciplinary action learning sets when designing online assessment
O'Reilly

***F1C**: Maths 112*
Chair: Ingrid Scholten

Security management education online
Hosie, Smith and Luca

***F1D**: Maths G02*
Chair: Craig Zimitat

Collaborative design projects: evaluating students' online discussions
Lambert

***11:30–11:55** am, Full paper session F2*

***F2A**: Union Hall*
Chair: Helen Carter

Initial communicating styles and their impact on further interactions in computer conferences
Geer

***F2B**: Maths G08*
Chair: Catherine McLoughlin

The impact of on-line multi-choice questions on undergraduate student nurses' learning
Honey and Marshall

***F2C**: Maths 112*
Chair: Ingrid Scholten

Educational effectiveness of 100% online I.T. Courses
Morris and Zuluaga

***F2D**: Maths G02*
Chair: Craig Zimitat

Turning space into place: a community of online learners seek mutual support in a familiar environment of their own making
Harris

***12:00–12:25** pm, Full paper session F3*

***F3A**: Union Hall*
Chair: Helen Carter

The Selection and use of learning objects for teaching: User perspectives
Gosper, Woo, Kerr, Rich, Gibbs and Hand

***F3B**: Maths G08*
Chair: Catherine McLoughlin

Humanising automated online learning through intelligent feedback
Felix

***F3C**: Maths 112*
Chair: Ingrid Scholten

The digital divide: an urban miss?
Burr and Smith

***F3D**: Maths G02*
Chair: Craig Zimitat

Widening the circle - managing discussion forums in a growing online program
Mazzolini and Maddison

***12:30–1:30** pm, Lunch, Level 4, Union House*

***1:30–1:55** pm, Full paper session F4*

***F4A**: Union Hall*
Chair: Ian Roberts

Overcoming "process- blindness" in the design of an online environment: balancing cognitive and psycho-social outcomes
McLoughlin and Luca

***F4B**: Maths G08*
Chair: Ian Olney

Development of a virtual reality overlay for velnet (virtual environment for learning networking)
De Horta, Kneale and Box

***F4C**: Maths 112*
Chair: Shirley Agostinho

Mainstreaming online delivery: staff experience and perceptions
Pannan and McGovern

***F4D**: Maths G02*
Chair: Michelle Honey

Supporting the development of e-learning accessibility practices: new and emergent roles for staff developers
Seale

***2:00–2:25** pm, Full paper session F5*

***F5A**: Union Hall*
Chair: Ian Roberts

A framework for using learning technologies in higher education to enhance the quality of students' learning outcomes
Cope

***F5B**: Maths G08*
Chair: Ian Olney

3D environments for spatial learning: the importance of learning task design
Dalgarno and Harper

***F5C**: Maths 112*
Chair: Shirley Agostinho

Factors impacting on the adoption and use of web-supported teaching by academic staff
Shannon and Doube

***F5D**: Maths G02*
Chair: Michelle Honey

Adopting an innovative multiple media approach to learning for equity groups: electronicaly-mediated learning for off-campus students
Aldred and Reid

***2:30–2:45** pm, Concise paper session C1*

***C1A**: Union Hall*
Chair: Ian Roberts

The virtual laboratory: an online program to integrate authentic activities into the biology curriculum
Brack, Elliott, Fisher and Stapleton

***C1B**: Maths G08*
Chair: Ian Olney

Implementing learning design: the Learning Activity Management System (LAMS)
Dalziel

***C1C**: Maths 112*
Chair: Shirley Agostinho

Integrating an interactive online program on report writing into a chemical engineering laboratory course: what has been the impact?
Drury, O'Carroll and Langrish

***C1D**: Maths G02*
Chair: Michelle Honey

Virtual lectures versus face-to-face lectures: a four-year study exploring the impact on students' results
Signor

***2:50–3:05** pm, Concise paper session C2*

***C2A**: Union Hall*
Chair: Ian Roberts

Regular motion
Swan

***C2B**: Maths G08*
Chair: Ian Olney

Learning design at the University of Wollongong
Lambert

***C2C**: Maths 112*
Chair: Shirley Agostinho

Developing an interactive writing tool for business law students
O'Reilly, Samarawickrema and Maiolo

***C2D**: Maths 112*
Chair: Michelle Honey

Cultivating the hybrid: a case study of a three year evolution of elearning for blended delivery
Kelly

***3:05–3:30** pm, Afternoon tea, Poster presentations, Level 4, Union House*

***3:30–3:45** pm, Concise paper session C3*

***C3A**: Union Hall*
Chair: Judi Baron

Character-acting online: using role-play to develop staff training resources
Weaver and Kish

***C3B**: Maths G08*
Chair: Mike Keppell

Supporting sustainable e-learning: a UK national forum
Wiles and Littlejohn

***C3C**: Maths 112*
Chair: L. Scot Aldred

Building online communities: the lecturer's role in facilitating interaction among non-computer oriented, mature-age adult learners
Schiller

***C3D**: Maths G02*
Chair: Susan J. Shannon

A culturally aware course design
Munro-Smith

***4:50–4:05** pm, Concise paper session C4*

***C4A**: Union Hall*
Chair: Judi Baron

Navigation: metaphorical and real
Tripp

***C4B**: Maths G08*
Chair: Mike Keppell

Implementation of a quality assurance system for online units at the University of Tasmania
Jackson and D'Alessandro

***C4C**: Maths 112*
Chair: L. Scot Aldred

Integrating learning objects with learning designs
Agostinho, Bennett, Lockyer and Harper

***C4D**: Maths G02*
Chair: Susan J. Shannon

E-learning - 'trick or treat'? Using technology for teaching and learning in a tertiary setting
Campton

***4:10–4:35** pm, Full paper session F6*

***F6A**: Union Hall*
Chair: Judi Baron

Cyber-'surfiver': the dynamics of a game played in a web-based adult learning environment
van Ryneveld, Cronjè and Eloff

***F6B**: Maths G08*
Chair: Mike Keppell

Using keypad-based group process support systems to facilitate student reflection
Banks

***F6C**: Maths 112*
Chair: L. Scot Aldred

Using the enhanced problem based learning grid to guide the documentation of the Win-Win Spiral model
Oriogun, Khatri, Choudhry and Borkhataria

***F6D**: Maths G02*
Chair: Susan J. Shannon

Students' interaction with online learning activities: the role of study strategies and goals and computer attitudes
Carrick-Simpson and Armatas

***4:40–5:05** pm, Full paper session F7*

***F7A**: Union Hall* *Chair: Judi Baron*	***F7B**: Maths G08* *Chair: Mike Keppell*	***F7C**: Maths 112* *Chair: L. Scot Aldred*
On-line pharmacology course for postgraduate nurses: impact on quality of learning Lim and Honey	Impact on teaching of the flexible wireless classroom Gassin and Naidu	Generating professional knowledge based on e-learning research and development Golja

***5:10–5:40** pm, Sponsor Presentation: Blackboard, Union Hall*

***5:45–6:45** pm, ASCILITE Annual General Meeting, Union Hall*

Tuesday 9 December 2003

***8:00–9:10** pm, Community Mentoring Program coffee meeting, Level 4, Union House*

***9:10–9:25** pm, Brief report on ASCILITE AGM from President, Union Hall*

***9:30–10:30** am, Keynote address*

Union Hall, Chair: Di Thiele

Professor J. Hurley Myers, Departments of Physiology and Medicine, Southern Illinois University School of Medicine, USA

"Educating students in institutions of higher education in the 21st century."

***10:30–11:00** am, Morning tea, Poster presentations, Level 4, Union House*

***11:00–11:25** am, Full paper session F8*

***F8A**: Union Hall*
Chair: Stephen Marshall

Online learning designs in the training sector
Oliver and Blanksby

***F8B**: Maths G08*
Chair: Kevin Knox

Quality standards in online teaching and learning: a tool for authors and developers
Wood and George

***F8C**: Maths 112*
Chair: Peter Jacobs

From page turning to deep learning: a case history of four years of continual development of an ICT course
Phelps and Ellis

***F8D**: Maths G02*
Chair: Geoff Swan

Evolution of a staff development program in promoting quality online teaching
Weaver

***11:30–11:55** am, Full paper session F9*

***F9A**: Union Hall*
Chair: Stephen Marshall

HOTcopy® benchmarking design of simulated professional practice for authentic learner engagement
Segrave

***F9B**: Maths G08*
Chair: Kevin Knox

Overcoming the presentation mosaic effect of multi-use sharable content objects
Ip, Radford and Canale

***F9C**: Maths 112*
Chair: Peter Jacobs

Exploring online learning community development: the relative importance of influencing factors
Brook and Oliver

***F9D**: Maths G02*
Chair: Geoff Swan

Shifting focus on integration: use of ICT to support community learning in a re-structured one-year teacher education course
Baxter, Olney, Brown and Ferry

***12:00–12:25** pm, Full paper session F10*

***F10A**: Union Hall*
Chair: Stephen Marshall

Issues associated with the equivalence of traditional and online assessment
Phillips and Lowe

***F10B**: Maths G08*
Chair: Kevin Knox

Factors influencing the discovery and reusability of digital resources for teaching and learning
Brownfield and Oliver

***F10C**: Maths 112*
Chair: Peter Jacobs

Investigating the impact of computer conferencing: content analysis as a manageable research tool
Stacey and Gerbic

***F10D**: Maths G02*
Chair: Geoff Swan

A switch to online takes time: academics' experiences of ICT innovation
Burdett

***12:30–1:30** pm, Lunch, Level 4, Union House*

***1:30–2:25** pm, Keynote address*

Union Hall, Chair: Allan Christie

Dr John Weckert, School of Information Studies and Centre for Applied Philosophy and Public Ethics, Charles Sturt University, Australia

"Online learning: some neglected ethical issues."

***2:30–2:45** pm, Concise paper session C5*

***C5A**: Union Hall*
Chair: Ron Oliver

Are instructional designers worth the money? Encouraging flexibility in design
Knowles, Kunz, and Tarnowska

***C5B**: Maths G08*
Chair: Leslie Burr

Can reflective and executive control skills be fostered online?
McLoughlin and Luca

***C5C**: Maths 112*
Chair: Linda Pannan

Integrating real and virtual learning spaces
Littlejohn

***C5D**: Maths G02*
Chair: Cathy Gunn

Key factors for a fully online e-learning mode: a Delphi study
Chin and Kon

***2:50–3:05** pm, Concise paper session C6*

***C6A**: Union Hall*
Chair: Ron Oliver

Evaluating streaming media applications for higher education
Parfenovics and Fletcher

***C6B**: Maths G08*
Chair: Leslie Burr

The use of e-portfolios to enhance student learning: a faculty-level strategy and experience
Allan, Zylinski, Temple, Hislop and Gray

***C6C**: Maths 112*
Chair: Linda Pannan

Utilisation and acceptance of mixed mode teaching and learning
Henderson and Bone

***C6D**: Maths G02*
Chair: Cathy Gunn

Predicting the future use of web-teaching tools by academic staff
Shannon and Doube

***3:05–3:30** pm, Afternoon tea, Poster presentations, Level 4, Union House*

***3:30–4:05** pm, Sponsor Presentation: Apple, Union Hall*

***4:10–4:25** pm, Concise paper session C7*

***C7A**: Union Hall* *Chair: Marty Fletcher*	***C7B**: Maths G08* *Chair: Richard Elliot*	***C7C**: Maths 112* *Chair: Roy Tasker*	***C7D**: Maths G02* *Chair: Anne A'Herran*
"Was she smiling as she typed that?": an exploratory study into online tutor competencies and the factors that affect those competencies Reid	NESB student attitudes to an ict-supported team project Elgort, Marshall and Pauleen	'Learning by remote control': exploring the use of an audience response system as a vehicle for content delivery Williams	Using user design focus groups for adding quality in Esiykhulumayo (the language that we speak) Johannes, Wissing and Knoetze

***4:30–4:45** pm, Concise paper session C8*

***C8A**: Union Hall* *Chair: Marty Fletcher*	***C8B**: Maths G08* *Chair: Richard Elliot*	***C8C**: Maths 112* *Chair: Roy Tasker*	***C8D**: Maths G02* *Chair: Anne A'Herran*
Development of a process for the usability testing of online courses Wilks and Strand	Using a case-based reasoning approach in on-line learning: in learning about rural practice Oliver, Munn and Pedder	Generic usage monitoring of programming students Thomas, Kennedy, Draper, Mancy, Crease, Evans and Gray	The need for interactive narrative in educational management simulations Jacobs and Bone

***4:50–5:05** pm, Concise paper session C9*

***C9A**: Union Hall*	***C9B**: Maths G08*	***C9C**: Maths 112*	***C9D**: Maths G02*
Chair: Marty Fletcher	*Chair: Richard Elliot*	*Chair: Roy Tasker*	*Chair: Anne A'Herran*
Making explicit our theories of teaching and learning: designs that motivate our work as instructional designers Keppell	An online subject delivered with help from an "absent ceo" Meek and Agostinho	Reuse in practice: learning objects and software development Paris	Analysis & design of a web-based marking system Tahir and Tanalol

***5:10–5:25** pm, Special Report*

Union Hall

Rod Sims, Teaching & Learning Support Unit, Deakin University, Australia

"Trends, fads and futures: computers in learning in tertiary education, 1983-2002."

***7:00–Late**, Conference Dinner*

Hyatt Regency Adelaide, North Terrace

Theme: "Grape Expectations"

Wednesday 10 December 2003

***9:00–9:25** am, Full paper session F11*

***F11A**: Union Hall* *Chair: Gail Wilson*	***F11B**: Maths G08* *Chair: Marty Fletcher*	***F11C*** *Withdrawn*	***F11D**: Maths G02* *Chair: Adrian George*
Educational technologies that integrate problem based learning principles: do these resources enhance student learning? Elliott, Efron, Wright and Martinelli	A learning management model for mixed mode delivery using multiple channels (Internet, intranet, CD-ROM, satellite TV) Zuluaga and Morris		Analysis of student engagement with online chemistry modules using tracking data Tasker, Miller, Kemmett and Bedgood

***9:30–9:55** am, Full paper session F12*

***F12A**: Union Hall* *Chair: Gail Wilson*	***F12B**: Maths G08* *Chair: Marty Fletcher*	***F12C**: Maths 112* *Chair: Bob Corderoy*	***F12D**: Maths G02* *Chair: Adrian George*
An interactive multimedia approach to preparing children and their families for hospitalisation Mitchell, Keppell and Johnston	Bridging international boundaries - integrating and mentoring teaching roles in an online environment Reushle, McDonald and Lowe	Extent and nature of portalling in Australian university websites A'Herran	Creating and sustaining quality e-learning environments of enduring value for teachers and learners Holt and Segrave

***10:00–10:30** am, Sponsor Presentation: The Learning Edge, Union Hall*

***10:30–11:00** am, Morning tea, Poster presentations, Level 4, Union House*

***11:00–11:25** am, Full paper session F13*

***F13A**: Union Hall*
Chair: Rob Phillips

Adapting higher education learning materials for further education - some examples of re-purposing JISC services within the UK
Sharp, Pitts, Smith and Place

***F13B**: Maths G08*
Chair: Oriel Kelly

Teaching interpersonal communication skills with digital video
Marshall and Cullen

***F13C**: Maths 112*
Chair: Maree Gosper

Mapping academic programs with ProgramMap
Roberts, Shannon and Radford

***F13D**: Maths G02*
Chair: Linda van Ryneveld

Online professional development through action research: a New Zealand experience
Kachelhoffer and Mackey

***11:30–11:55** am, Full paper session F14*

***F14A**: Union Hall*
Chair: Rob Phillips

Online education: understanding market acceptance in the higher education sector of Singapore
Chung and Ellis

***F14B**: Maths G08*
Chair: Oriel Kelly

A generic tool to set up metacognitive journals and their serendipitous use
Kunz, Dewstow and Moodie

***F14C**: Maths 112*
Chair: Maree Gosper

Introducing group work and communication skills for external students: an analysis of the use of asynchronous online tools
Barker

***F14D**: Maths G02*
Chair: Linda van Ryneveld

Online interaction impacts on learning: teaching the teachers to teach online
Wilson and Stacey

***12:00–12:25** pm, Full paper session F15*

***F15A**: Union Hall*
Chair: Rob Phillips

The technical development and benefits of a metadata aggregation and insertion tool
Pitts and Sharp

***F15B**: Maths G08*
Chair: Oriel Kelly

Interdisciplinary trials of synchronous, voice-based communication systems
Day, Wood, Scutter and Astachnowicz

***F15C**: Maths 112*
Chair: Maree Gosper

Online introduction to information literacy: ticking that box or embedding that attribute??
Collins and Hill

***F15D**: Maths G02*
Chair: Linda van Ryneveld

Embedding expertise for online tutor development
Fletcher

***12:30–1:30** pm, Lunch, Level 4, Union House*

***1:30–2:30** pm, Keynote address*

Union Hall, Chair: Sandra Barker

Dr Elyssebeth Leigh, Faculty of Education, University of Technology, Sydney, Australia

"It all depends."

***2:30–3:30** am, Closing of Conference*

Union Hall

ASCILITE Awards

NextEd/ASCILITE Research Grant 2004

ASCILITE 2004 Launch

Closing Address

Abstracts:
Keynote sessions
Special Report
Poster Presentations

Keynote address K1
Monday 8 December 2003, 9:30am

Union Hall, Chair: Geoff Crisp

Professor Eli Cohen
Informing Science Institute, USA and Wyzsza Szkola Przedsiebiorczosci i Zarzadzania im. Leona Kozminskiego, POLAND

A modest proposal for the survival of our profession: applying the informing science framework to higher education
(Proc. p.3)

This keynote applies the Informing Science framework to a problem in higher education: how to keep courses up-to-date in the rapidly changing research environment. The keynote starts with an amusing, yet poignant, recollection of computers, and particularly computer-assisted instruction (CAI) systems that are no longer with us, leading to a discussion of lessons we should learn from their misfortune. These lessons include the need to disintegrate the roles of content specialist, instructional specialist, and technology specialist. Also, the content of CAI must be disintegrated from the authorware and hardware technologies. Lastly, the keynote points out the need for making content of CAI non-proprietary, while acknowledging the impediments to this occurring.

The keynote continues, with the audience hoping that there is a point to the keynote, by pointing out the limitations in prior CAI systems' longevity also relates to university's practice of assigning to professors and lecturers the split roles as researchers and teachers, as is common in higher education. Under the current paradigm, research and teaching commonly are completely disparate activities, often competing for the limited time and energy of the faculty member.

The keynote then briefly describes the Informing Science Framework. This framework considers the task of informing in terms of three distinct environments and sub-tasks. It is a meta-model in that it considers Information Development at three levels of abstraction.

The keynote continues by applying the Informing Science Framework to create a Higher Education Framework that overcome the problems (pointed out above) with the current paradigm of research and teaching. In essence, the paper suggests disintegrating the roles of the professor/teacher in higher education into the roles of researcher, instructional designer, course designer, and course implementer.

The paper concludes by describing both the advantages of and impediments to implementing the solution proposed by the framework, both for Higher Education and for CAI in general.

Keynote address K2

Tuesday 9 December 2003, 9:30am

Union Hall, Chair: Di Thiele

Professor J. Hurley Myers
Departments of Physiology and Medicine, Southern Illinois University School of Medicine, USA

Educating students in institutions of higher education in the 21st century

(Proc. p.11)

It is becoming increasing clear that the task of teaching students in the 21st Century will present a very different challenge to university and professional school faculties when compared to challenges encountered in the 20th Century. For one thing, faculty are beginning to realize that the time allotted to obtain an academic degree is no longer enough time to teach the ever-increasing amount of complex content that is being published yearly. At the same time, it is likely that society will expect students to have acquired a working knowledge of much of this new content during their tenure at an institution of higher education. Most educators agree that there will be no easy solution to this dilemma. Perhaps one approach that can help meet this new challenge is to expect students to perform more self-directed learning activities and require institutional administrators to provide the necessary computer technology and the associated infrastructure to support such activities.

Southern Illinois University School of Medicine (SIUSOM) has struggled with these issues during the past decade. As its solution, SIUSOM has implemented a problem-based curriculum that not only requires students to be self-directed learners, but also provides a variety of multimedia programs used to facilitate and assess the content knowledge and critical thinking skills of self-directed learning activities. These programs, which represent the full spectrum of teaching, learning, and assessment software, include 1) multimedia content/tutorial learning modules, designed to give students an opportunity to learn many principles and concepts of medicine outside of the traditional classroom environment and at their own pace, 2) Web-based, critical thinking software, created to allow students the opportunity to practice the patient encounter virtually, 3) performance-based assessment software constructed so that students can document the information they obtain from an encounter with a live, standardized patient, and finally, 4) Web-delivered content quiz banks, provided so that students can self-test their level of understanding of required content prior to a formal assessment of that content.

The purpose of this presentation is to discuss some of the educational challenges and technical issues that are involved in designing a curriculum and integrating interactive software in such a way that students can learn and teachers are able to evaluate basic and clinical content knowledge without expanding the traditional period required to obtain a degree from an institution of higher education. Examples of key features and functions of some of these software programs will be demonstrated.

Keynote address K3

Tuesday 9 December 2003, 1:30pm

Union Hall, Chair: Allan Christie

Dr John Weckert
School of Information Studies and Centre for Applied Philosophy and Public Ethics,
Charles Sturt University, AUSTRALIA

Online learning: some neglected ethical issues

(Proc. p.13)

In the first part of this talk I will outline my approach to computer ethics, both in research and in teaching. This will include discussion of method and content. Computer ethics, I will argue, should be more than merely the raising of ethical issues related to computing, but should involve careful analysis of those issues and rigorous argument. In the second part I will apply this approach to ethics and online learning, something that has not been done much within the computer ethics community. Issues of privacy, autonomy and equity will receive particular attention, the argument being that the ethical issues are more serious than is generally recognised.

Keynote address K4

Wednesday 10 December 2003, 1:30pm

Union Hall, Chair: Sandra Barker

Dr Elyssebeth Leigh
Faculty of Education, University of Technology, Sydney, AUSTRALIA

It all depends

(Proc. p.5)

To understand, and be able, to design a simulation or game involves a great deal of skill, extensive knowledge and a deep empathy with the content and context you want to replicate - and can also be done in about ten minutes with a minimum set of tools! But it does not stop there. Next comes the paradox of complexity embedded in the simplicity of play, the tenacity required to make it work And finally there is the fearlessness essential to letting go of your power as designer, and perceptions of yourself as educator, that comes with putting it into action.

Special Report
Tuesday 9 December 2003, 5:10pm

Union Hall

Rod Sims
Teaching & Learning Support Unit, Deakin University, AUSTRALIA

Trends, fads and futures: computers in learning in tertiary education, 1983-2002
(Proc. p.704)

The purpose of this research project, sponsored by ASCILITE, is to review the ASCILITE proceedings and provide an analysis of "trends, fads and futures" to reflect on past initiatives, propose potential directions and assist the society identify strategic directions. An earlier paper (Sims, Franklin & Lindsay, 2002) documented the initial findings from the research in terms of paper demographics and the essential characteristics of the range of papers presented. This follow-up presentation provides an update on the research project and the preliminary analysis of the paper outcomes, which were not included in the first analysis. Overall, this project is designed to provide the basis from which further research can be justified in terms of better understanding "computers in learning in tertiary education".

Poster Presentations

Union House, Level 4

Reusable ICT-based learning designs
Agostinho *(Proc. p.745)*

Internet delivery of decision support tools for teaching nationally
Daily, Scott and Reid *(Proc. p.747)*

Update on the design, development and evaluation of a virtual chemistry laboratory
Dalgarno, Bishop and Bedgood Jr. *(Proc. p.749)*

EDNA online
Ivanova *(Proc. p.751)*

Developing guidelines for managing learning resources
Joy, O'Neill and Howie *(Proc. p.752)*

Perspective pop-ups and character design
Meek and Lockyer *(Proc. p.753)*

Staff support for teaching with lms/vle
Pennell *(Proc. p.754)*

A resource designed to increase student awareness of safety issues in laboratory and fieldwork settings
Shukla and Jacomb *(Proc. p.755)*

All aboard the online express: issues and implications for pasefica e-learners
Skudder, Angeth and Clayton *(Proc. p.757)*

Using internet technology to enhance the learning experiences in data communication course
Tanalol and Tahir *(Proc. p.759)*

Abstracts:
Full paper sessions

Full paper session F1
Monday 8 December 2003, 11:00am

F1A, Union Hall, Chair: Helen Carter

Iterative analysis and interpretation of audit trail data
Kennedy and Judd *(Proc. p.273)*

In this paper we argue that the use of audit trail data for research and evaluation purposes has attracted scepticism due to real and perceived difficulties associated with the data's interpretation. We suggest that educational technology researchers and evaluators need to better understand how audit trail data can be effectively processed and analysed, and identify three stages of audit trail analysis. We present an investigation of a computer-based learning resource as a vehicle for exploring strategies that can assist researchers and evaluators in the analysis and interpretation of audit trail data. The analytical approach we describe is iterative in nature, moving to greater levels of specificity as it proceeds. By combining this approach with primarily descriptive techniques we were able to establish distinct patterns of access to the learning resource. We then performed a series of cluster analyses which, guided by a clear understanding of two critical components of the learning environment, led to the identification of four distinct 'types' or 'categories' of users. Our results demonstrate that it is possible to document meaningful usage patterns at a number of levels of analysis using electronic records from technology based learning environments. The implications of these results for future work are discussed.

F1B, Maths G08, Chair: Catherine McLoughlin

Using cross-disciplinary action learning sets when designing online assessment
O'Reilly *(Proc. p.375)*

The drive to find appropriate ways to integrate online technologies into assessment has come about within Australian higher education as a consequence of widely held aspirations to remain competitive in the global marketplace. An action research initiative at Southern Cross University reported in this paper suggests both extrinsic and intrinsic reasons why academics considering online assessment may or may not follow through with immediate implementation. More specifically, a cross-disciplinary action learning set in the case study presented has shown benefits in approaching educational design as a cyclical, collegial, creative and reflexive process for planning, implementing and evaluating online assessment.

F1C, Maths 112, Chair: Ingrid Scholten

Security management education online

Hosie, Smith and Luca *(Proc. p.244)*

This paper describes the philosophy and pedagogy informing the design and development of Security Science online units. The Physical Security unit is used to illustrate the development of the online learning strategies and interactive activities. Learning materials developed for this course have unique attributes as they were specifically designed to provide simulations and interactivity in the learning process. Field scenarios have been developed for the activities to make the learning experiences as realistic as possible. Simulations and graphics provide these experiences, together with security site images for actual security barriers, systems and technologies. Features of units in the course include graphics, simulations, and video clips to present learning aspects of security that are not normally available to students.

F1D, Maths G02, Chair: Craig Zimitat

Collaborative design projects: evaluating students' online discussions

Lambert *(Proc. p.293)*

This paper reports on the author's work to evaluate student online discussion, a learning tool used in a face-to-face graphic design subject centred around a collaborative design project. A modified teaching and learning model with new online resources was trialled with approx 45 undergraduate design students in session 1 of 2003. The 4 students in each project team were allocated a specific role based on contemporary design studio practice. An online discussion space was set up for each project team.

A number of evaluation techniques were used including a content analysis of online discussion postings on which this paper focuses. Results show that, within the context of a collaborative task supported by clear team roles, the discussion space effectively scaffolded engagement, team development, communication, feedback and problem solving.

While useful trends have been noted, the evaluation model used was not sufficient to explain variations to trends. The evaluation methodology needs to be modified for blended teaching model to include analysis of both face-to-face and online activity.

Full paper session F2
Monday 8 December 2003, 11:30am

F2A, Union Hall, Chair: Helen Carter

Initial communicating styles and their impact on further interactions in computer conferences

Geer *(Proc. p.194)*

Educators are constantly seeking ways of utilising Internet technologies to enhance the learning of their students. Computer conferences provide a medium in which students have opportunity to discuss and engage with topics while constructing meaning through interaction with their peers. This paper examines the discourse arising from discussion of four topics, in an on-campus, first year, teacher education course, for evidence of cognition and metacognition. A number of factors are identified as having impeded cognition development. Different communicating styles are also noted between the two groups and its subsequent impact on group interactions. Initial postings to the computer conference appear to model successive communication within the group. The messaging behaviour of the students is analysed in the hope of providing further insight into the significance of the first postings to a conference.

F2B, Maths G08, Chair: Catherine McLoughlin

The impact of on-line multi-choice questions on undergraduate student nurses' learning

Honey and Marshall *(Proc. p.236)*

This study investigates second year undergraduate student nurses' use of on-line Multi Choice Questions (MCQ) to support learning. Drawing on a sample of 42 second year undergraduate nursing students enrolled in a Bachelor of Nursing Degree, a descriptive survey was undertaken to provide a clearer picture of what students regard as helpful with on-line MCQ. The students' perceptions of this mode of learning were also explored using a qualitative approach. The survey revealed that all 42 students found the on-line MCQ helpful for their learning, though how the students approached learning varied. While the results indicated that the on-line MCQ supported the course design, learning and revision there is still room for improvement and consideration is given to the use of feedback.

F2C, Maths 112, Chair: Ingrid Scholten

Educational effectiveness of 100% online I.T. Courses

Morris and Zuluaga *(Proc. p.353)*

This project started with the observation that our 100% online I.T. courses were producing a higher percentage of distinction students than the equivalent on-campus courses. In search of an explanation, we first attempted to eliminate factors such as incoming student qualifications, staff-student interaction time, and assessment standards. We also considered our online course development and delivery processes. As a result, we hypothesised that our online course delivery processes are the main factor to explain the higher learning outcomes for our online students.

We designed an evaluation study to address the broad realisation above and answer specific questions. Our methodology combined pre and post confidence logs submitted by students, qualitative information gathering based on emails between students and their tutors, a survey of students, a focus group of staff who deliver online courses, interviews of staff who deliver the equivalent courses on campus, and a nominal group comprised of randomly selected students who successfully completed either an online or equivalent on-campus course.

Our findings confirm that the most important determinant of online student learning outcomes is frequent student / staff interaction. Further, we identify the most important types of interaction. For instance, frequent problem / solution email between students and staff can benefit learning more than weekly one (staff) to many (students) tutorial classes.

Finally, we list the characteristics of online staff / student interactions that contribute to successful online student learning outcomes.

F2D, Maths G02, Chair: Craig Zimitat

Turning space into place: a community of online learners seek mutual support in a familiar environment of their own making

Harris *(Proc. p.215)*

This paper explores the development of a learning community by a group of students studying in a MOO environment. The MOO's inherent spatial qualities of place and sense of social presence provide similar qualities to a physical campus, as such replicating the opportunities for incidental social contact between students. Building on the work of previous research, this project examines the importance of the environment in mediating the development of students' social interactions in the MOO and finds evidence of the development of a student community or what this paper terms the Social Learning Support Networks between students.

Full paper session F3
Monday 8 December 2003, 12:00pm

F3A, Union Hall, Chair: Helen Carter

The Selection and use of learning objects for teaching: User perspectives
Gosper, Woo, Kerr, Rich, Gibbs and Hand *(Proc. p.0)*

If learning objects are to become reusable entities, then it is imperative that the debate extends beyond the development of technical infrastructure and standards required to support reusability to include consideration of the applicability of learning objects to the teaching and learning contexts for which they are being developed. This paper reports on research that investigated learning objects from the perspective of the user. It provides a snapshot of the conditions and practical issues surrounding the choice and use of learning objects. Views of practitioners from the school, VET and university education sectors were sought. The findings indicate that the majority of participants were predisposed to the concept of sharing learning resources. The dominant factor, across all sectors, in determining the choice of possible learning objects was their educational relevance, encompassing consideration of teaching aims, learning outcomes and student needs. In addition, the availability of efficient search and retrieval mechanisms, ease of use and the ability to customise objects were amongst the factors rated as being important considerations. The resolution of IP, copyright and user rights issues, and the question of who has responsibility for maintaining and supporting objects were major concerns for both teachers wishing to use existing objects and for creators of new learning objects.

F3B, Maths G08, Chair: Catherine McLoughlin

Humanising automated online learning through intelligent feedback
Felix *(Proc. p.178)*

Recently there has been considerable emphasis on constructivist approaches in online learning. This is not surprising since the new technologies, offering sophisticated synchronous and asynchronous communication environments, lend themselves to process-oriented activities in authentic, real-life settings. However, what has also come to light is that engaging students in this sort of learning requires a large commitment of time on the part of the tutor. This paper argues that including automated activities in the students' whole learning experience may help redistribute scarce tutor time and address the important issue of achieving linguistic accuracy in language learning. The focus of the paper is on how these activities might be made more personalised in nature than the traditional drill-and-practice paradigm, suggesting the use of intelligent feedback structures, including graphics and games.

F3C, Maths 112, Chair: Ingrid Scholten

The digital divide: an urban miss?

Burr and Smith *(Proc. p.95)*

Online delivery has the possibility to provide an enriched learning experience for students. Online delivery also allows universities to become more flexible in their practices and to offer higher levels of service to students. However, with the benefits of online delivery come some challenging policy issues. Should internet access be mandatory for students or does this disadvantage the already disadvantaged? How can the online teaching and learning environment be progressed when staff are uncertain that their students can access their resources?

Charles Sturt University has developed an extensive online environment and although as a regional university with 50% of its students represented in DEST equity categories, user participation rates have challenged some of the long held assumptions regarding access, equity and user characteristics.

This paper explores the development of the online environment at Charles Sturt University, the subsequent student takeup rate and characteristics of the 'active user'. The paper also discusses reasons for the 'atypical' trends that have been discovered and suggests a way forward for those considering online development and access issues.

F3D, Maths G02, Chair: Craig Zimitat

Widening the circle - managing discussion forums in a growing online program

Mazzolini and Maddison *(Proc. p.322)*

Swinburne Astronomy Online (SAO) is an online graduate program with students and instructors located in over 30 countries around the globe. The use of asynchronous, assessable discussion forums is a central feature of SAO. These 'online asynchronous tutorials' were introduced partly with the intention of breaking down the isolation of distance education, but mainly to encourage active learning in an online education format.

SAO has now completed nine semesters, student numbers have increased steadily and instructors have come and gone. Innovative teaching programs can fall into the trap of being manageable when small, only to have quality control become an issue as enrolments grow. Initial enthusiasm of both students and instructors can die down as the novelty wears off. However in the case of SAO, as the program has grown, the format used for discussion forums has proven to be scaleable and remains a central, highly popular feature of SAO. Coordinating and training geographically dispersed instructors requires careful thought and planning, however student and instructor enthusiasm remains high.

Full paper session F4
Monday 8 December 2003, 1:30pm

F4A, Union Hall, Chair: Ian Roberts

Overcoming "process- blindness" in the design of an online environment: balancing cognitive and psycho-social outcomes

McLoughlin and Luca *(Proc. p.332)*

Learning environment research can contribute to our understanding of how psychosocial processes need to be balanced with cognitive outcomes in the design of units of study. The research on Web-based learning supports the assumption that the nature of social interaction affects student outcomes and student perceptions of the quality of the learning experience. The purposeful this study is to examine student perceptions of psychosocial processes in a blended learning environment using a learning environment survey tool. Students assessed the environments as favourable, but found that the quality of dialogue and peer support offered did not meet their needs. Implications for online design are considered.

F4B, Maths G08, Chair: Ian Olney

Development of a virtual reality overlay for Velnet (virtual environment for learning networking)

De Horta, Kneale and Box *(Proc. p.160)*

The problems of providing a real, physical specialist laboratory to teach computer networking such as, the lack of funding and physical space and the risks and threats to the network environment and infrastructure, can be solved by the use of a virtual learning environment. Velnet is such a virtual learning environment that we have developed and used successfully. Velnet consists of one or more host machines and operating systems, commercial virtual machine software, virtual machines and their operating systems, a virtual network connecting the virtual machines, and remote desktop display software. In order to be able to present more computer-networking concepts and to improve on our original version of Velnet we have been developing a virtual reality overlay. This virtual reality overlay allows students to build virtual networking topologies in a virtual lab. This paper describes Velnet our virtual environment for learning networking and the virtual reality overlay currently under development.

F4C, Maths 112, Chair: Shirley Agostinho

Mainstreaming online delivery: staff experience and perceptions

Pannan and McGovern *(Proc. p.396)*

If the benefits of online learning and flexibility of access are to be extended to all courses and students, then online development and delivery must become a sustainable mainstream activity for the majority of academic staff. This paper describes a teacher-centred approach to online course development where teaching staff own the process and the output. The intention of this strategy is not only to engage a wide range of staff in producing online material, but also to provide online resources that are appropriate for their students, their courses and their discipline.

A sample of university teachers involved to varying degrees in online development were surveyed to acquire feedback on the strategy, to provide a baseline for future assessment, and to help re-shape the strategy for the future. The response indicated that the strategy is appropriate. Major issues emphasised in the feedback are the view that for on-campus students, online delivery is best used to supplement face-to-face delivery, and the overwhelming view that more resources are needed to do the job well.

F4D, Maths G02, Chair: Michelle Honey

Supporting the development of e-learning accessibility practices: new and emergent roles for staff developers

Seale *(Proc. p.458)*

In the United Kingdom, The 2001 Special Educational Needs and Disability Act (SENDA) made it an offence for educational institutions to discriminate against a disabled person by treating him or her less favourably than others for a reason relating to their disability. The Act covers all aspects of student services, but the particular aspects that are relevant to the work of learning technologists include e-learning, distance learning, examinations, libraries and computer facilities. This paper will explore learning technologists response to this legislation and their attempts to develop a clearly defined "e-learning accessibility practice. These attempts have involved adapting or re-framing generic accessibility tools and guidelines for more specific practices and involving disabled students or their advocates in the design of electronic material. The implications of these issues for the role of staff developers in supporting and encouraging the development of new "accessibility" practices will be discussed.

Full paper session F5
Monday 8 December 2003, 2:00pm

F5A, Union Hall, Chair: Ian Roberts

A framework for using learning technologies in higher education to enhance the quality of students' learning outcomes

Cope *(Proc. p.134)*

This paper proposes that projects to integrate learning technologies into higher education learning environments should be justified prior to integration. An important basis for justification should be whether integration is likely to improve the quality of students' learning outcomes. The paper draws on the findings of the student learning research to suggest that improvement is only likely if learning technologies are used as part of learning environments likely to be perceived as encouraging deep learning approaches. A framework is presented to assist with justification. The framework requires subject teachers to match the capabilities of a list of learning technologies with a list of learning environment factors found to be perceived by students using deep learning approaches. The use of the framework is illustrated.

F5B, Maths G08, Chair: Ian Olney

3D environments for spatial learning: the importance of learning task design

Dalgarno and Harper *(Proc. p.142)*

This paper describes two empirical studies which investigated the importance for spatial learning of view control and object manipulation within 3D environments. A 3D virtual chemistry laboratory was used as the research instrument. Subjects, who were undergraduate University students (34 in the first study and 80 in the second study), undertook tasks in the virtual laboratory and were tested on their spatial knowledge through written tests. The results of the study indicate that view control and object manipulation enhance spatial learning but only if the tasks that the learner undertakes require this learning. These results have implications for educational designers making a choice between video or animation and interactive 3D technologies. The results are discussed within the framework of Piaget's theories on active learning and Gibson's ecological theory of perception and action.

F5C, Maths 112, Chair: Shirley Agostinho

Factors impacting on the adoption and use of web-supported teaching by academic staff
Shannon and Doube *(Proc. p.476)*

In 2002-03 the University of Adelaide funded a study into factors impacting on the adoption and use of web-supported teaching in this research intensive University. The University was committed to continuing face-to-face teaching, aided by web-supported teaching. The study included the beliefs and values about web-supported teaching and learning among three groups of University of Adelaide teaching staff:

- those who had never used web-supported teaching
- those who had adopted the University centrally supported Learning Management System (MyUni)
- those who had adopted other web-based learning systems or platforms

The reflections of these groups on what would be required to develop their use of MyUni and, for users of other systems, to migrate their courses to MyUni, were encompassed. For those who had used web-supported teaching their observations in relation to the impact of web-supported teaching on their students and on their own teaching were canvassed. Interviews and a survey were conducted. The findings were that more staff valued computers in higher education than were using them, and more staff valued web-based learning in higher education than were adopting it. The principal reasons given were time and workload and staff conceptions of University teaching.

F5D, Maths G02, Chair: Michelle Honey

Adopting an innovative multiple media approach to learning for equity groups: electronicaly-mediated learning for off-campus students
Aldred and Reid *(Proc. p.27)*

Students that come from disadvantaged backgrounds have more that their fair share of obstacles to overcome when seeking a university education. This paper describes an innovative approach, adopted by the course designers, that uses a mix of educational media and technology to deliver a high impact and quality learning experience to disadvantaged students seeking to enter university via non-traditional means.

Media and learning style research has shown that learners come to education with a wide range of learning preferences based on their cognitive styles, as well as significant levels of prior knowledge and experience. This paper details how the course designers have designed and developed a number of media products with a view to supporting as many individual learning differences as possible by providing overlaps in the respective media and technologies. The paper describes the course design and details reasons for those design decisions.

The paper also presents and interprets the course evaluation data collected from the first two offerings and makes some recommendations for course designers working in this area, based on an analysis of this data.

Full paper session F6
Monday 8 December 2003, 4:10pm

F6A, Union Hall, Chair: Judi Baron

Cyber-'surfiver': the dynamics of a game played in a web-based adult learning environment

van Ryneveld, Cronjè and Eloff *(Proc. p.525)*

It regularly happens that learners find themselves in a highly competitive environment when they are playing games as part of a learning program. This research project examined the dynamics in a web-based module that was presented to adults in the form of a game. The module was based on the television reality show, Survivor, in which the competition element between the various tribes, as well as the individuals within a tribe, was strong. However, in Cyber-Surfiver, as this module was called, the collaboration efforts and peer support between the learners were exceptional. Furthermore, the depth of the learning experience exceeded most learners' expectations. This paper aims to explore some of the complexities involved in teaching adult learners by means of a game in an online environment.

F6B, Maths G08, Chair: Mike Keppell

Using keypad-based group process support systems to facilitate student reflection

Banks *(Proc. p.37)*

This paper outlines a number of examples of ways in which a keypad-based group process support system has been used to provide students with opportunities for reflective feedback. The examples given are; presentation review by peers, discursive course evaluation, diagnostic peer review in collaborative groups and sharing meaning in a strongly interpretive course. The emphasis in the examples is upon the use of these systems as qualitative tools that can be integrated into a range of face-to-face learning situations to promote and support student reflection upon aspects of the learning process.

F6C, Maths 112, Chair: L. Scot Aldred

Using the enhanced problem based learning grid to guide the documentation of the Win-Win Spiral model

Oriogun, Khatri, Choudhry and Borkhataria *(Proc. p.386)*

For this study, we used a subsection of the enhanced Problem-Based Learning Grid (ePBL Grid) as a framework for reflection during the adaptation of the Win-Win Spiral model for the development and documentation of software engineering projects at the London Metropolitan University. We claim that the ePBL Grid is a useful tool to guide the documentation required when adopting the Win-Win Spiral model. We also argue that students can benefit from using the ePBL Grid to aid the documentation of the Win-Win Spiral model when working in small teams online, on campus or off campus within higher education institutions.

F6D, Maths G02, Chair: Susan J. Shannon

Students' interaction with online learning activities: the role of study strategies and goals and computer attitudes

Carrick-Simpson and Armatas *(Proc. p.104)*

In this paper we report on a study examining the impact of individual factors students bring to online learning on the nature and extent of their engagement. Whether computer attitudes, study goals and subject interest effect students' interaction with online coursework and how this influences learning outcomes is discussed. The results of the study suggest that designing online learning activities with opportunities for interactivity is not sufficient to engage students' interest. In our study many students chose not to attempt the online coursework even though the material was assessable. Those who did failed to take advantage of the opportunities for interactivity available to them in the program. However, the post-test scores on the knowledge test showed that these students did learn more about the subject as a result of completing the workshop. By understanding factors that influence engagement with online learning it is hoped to better understand how to structure and deliver these types of activities to maximize their impact on student learning. Determining how to encourage students to attempt online coursework in the first place and then to interact with the material more constructively is the next step needed to successfully integrate online learning activities into the curriculum.

Full paper session F7
Monday 8 December 2003, 4:40pm

F7A, Union Hall, Chair: Judi Baron

On-line pharmacology course for postgraduate nurses: impact on quality of learning
Lim and Honey *(Proc. p.304)*

A pharmacology course for postgraduate nurses has been run successfully using traditional approaches. To improve access to this course, a decision was made to develop and trial the course on-line as well as maintain the on-campus mode. There were in-house concerns that the quality of the course on-line may compromise learning. A simplified systems approach applied to nursing education provided a framework to compare the on-campus and on-line modes. Both modes of delivery were found to have similar pass rates and high student satisfaction. Key findings for assessing the quality of the on-line course such as student interaction, integration of knowledge with practice and the impact on learning are discussed in relation to the course design. The recommendation is made that a parallel mode of delivery with student self-selecting the mode they enrol in be considered for other flexible learning developments.

F7B, Maths G08, Chair: Mike Keppell

Impact on teaching of the flexible wireless classroom
Gassin and Naidu *(Proc. p.187)*

The Faculty of Arts at the University of Melbourne has implemented three flexible wireless classrooms for teaching and learning in the Humanities. These classrooms are designed to support innovative teaching practices and enhance natural human interactions. This paper reports the results of a survey of the impact on teaching in these classrooms. Results indicate that the opportunities provided by these flexible wireless classrooms substantially influenced particular teaching practices. These included strategies for teaching, engagement of students with the subject matter, socialization and interaction in class and providing feedback to learners. Attributes of the classrooms that had the greatest impact on teaching were the ability to configure space, move about in the classroom and use a variety of technologies.

F7C, Maths 112, Chair: L. Scot Aldred

Generating professional knowledge based on e-learning research and development
Golja *(Proc. p.203)*

Academics have designed and developed role-play simulations to provide learning opportunities for students in different disciplines for many years now. The AUTC Information and Communication Technologies and Their Role in Flexible Learning project has collated exemplars of the designs on a website (in development). Drawing on this resource, this paper sets out to synthesise the previous developments as it begins the work of theorising learning designs. In this way further understandings might be generated whilst also guiding developments in fields of study beyond the individual designs that have been reported to date.

Full paper session F8
Tuesday 9 December 2003, 11:00am

F8A, Union Hall, Chair: Stephen Marshall

Online learning designs in the training sector
Oliver and Blanksby *(Proc. p.364)*

This paper describes current activities within the vocational education training (VET) sector in Australia where traditional views of teaching and learning for training are being challenged. The paper showcases innovative and leading edge applications of technology in the National Flexible Toolbox Project and draws on the history of this project to demonstrate current thinking within the Australian VET sector in relation to student learning. The paper examines the learning designs and resources that have been developed across the past five years in the National Flexible Toolbox Project and uses the outcomes to argue and demonstrate its findings.

F8B, Maths G08, Chair: Kevin Knox

Quality standards in online teaching and learning: a tool for authors and developers
Wood and George *(Proc. p.552)*

Higher education institutions have been quick to embrace the power of online technology as a means for improving and enhancing learning within a flexible environment. This growth in online delivery of teaching and learning has been accompanied by increasing interest in strategies for monitoring the quality of online courses within a framework of quality assurance. Formative and summative evaluation processes, whereby academics assess the quality of their materials against agreed standards, have emerged as strategies for addressing such quality concerns. These strategies assume, however, that the academic has access to an agreed set of standards of good practice and has the skill and experience to develop materials that match those standards. This paper outlines an approach which seeks to address quality issues in online teaching and learning by identifying the standards by which online courses are judged, and by providing support for academics to develop their own scholarship of teaching learning in order to make these judgements. The approach involves the development of a review tool comprising a paper-based checklist of agreed good practice, and a supporting website focusing on four areas - instructional design, interface design, use of media and technical aspects. The review tool provides itemised criteria and related standards derived directly from teaching and learning theory, the principles of usability, and guidelines for accessible Web design.

F8C, Maths 112, Chair: Peter Jacobs

From page turning to deep learning: a case history of four years of continual development of an ICT course
Phelps and Ellis *(Proc. p.407)*

As online delivery becomes more widely adopted in higher education, a proliferation of courses have developed that represent transitions of print-based resources into Web-based delivery formats. In many cases, traditional linear and directive pedagogy is reproduced in the online medium. Such approaches to teaching and learning, and to curriculum inevitably lead to linear and directive online course structures. This paper describes an action research undertaking conducted over a four year period which transformed an online computer course aimed at pre-service teacher education students from a linear, directive format into a non-linear and self-directive format. Constructivism, as well as experiential and reflective learning informed the process.

F8D, Maths G02, Chair: Geoff Swan

Evolution of a staff development program in promoting quality online teaching
Weaver *(Proc. p.532)*

This paper describes a case study analysis of the evolution of an academic professional development program, related to the use of WebCT in teaching programs. It also discusses the changing nature of the staff developer role. The training program begins with face-to-face workshops, covering pedagogical issues as well as technical and practical aspects of the software. The workshop series has matured in its format and content in response to staff requirements and demands, as well as software upgrades. This paper describes the ongoing evolution of the workshop program, and discusses the changes the staff developer role has undergone, in relation to operational initiatives and contributions to organisational policy development.

Full paper session F9
Tuesday 9 December 2003, 11:30am

F9A, Union Hall, Chair: Stephen Marshall

HOTcopy® benchmarking design of simulated professional practice for authentic learner engagement

Segrave *(Proc. p.465)*

HOTcopy® offers a virtual practicum in print-media journalism, inviting immersion in a series of interactive, real-time simulations of workplace scenarios. Consistent with situated professional practice, work assignments are set and emerge while interventions from scenario characters add new challenges and deadline pressures. Taking on the roles of reporter or sub-editor, learners analyse information, make judgments, reflect on actions, receive feedback on decisions and try to finalise 'copy' on time.

Aiming to establish a genuine 'learning relationship' with students, HOTcopy invites engagement and situated knowledge-building rather than abstract content transfer. Learners use high order cognitive skills to solve the scenario-based problems while writing news stories in context. Legal, ethical and relationship issues also challenge each individual's knowledge, values and feelings. But as HOTcopy 'lightly' supports the learner's apprenticeship in news writing, is this mediated experience, engaging, as the moderating factors filter the 'messiness' of real-life? Do learners experience authentic engagement as they encounter designed ambiguity and complexity?

This paper benchmarks quality education design features in HOTcopy against principles and attributes of authentic engagement reported in Oliver (2001), Hedberg (2002), and Reeves, Herrington, & Oliver, (2002).

F9B, Maths G08, Chair: Kevin Knox

Overcoming the presentation mosaic effect of multi-use sharable content objects

Ip, Radford and Canale *(Proc. p.256)*

International standards for eLearning have been under development for more than a decade (Sonwaklar. 2002) but it is only since the advent of large scale deployment of web-based learning and the subsequent adoption of Learning Management Systems (LMS) across education, private enterprise and government that such standards have attracted broad interest. Part of the promise of these standards is that they will reduce the cost of eLearning by enabling the re-use and sharing of content between standards compliant LMS (CETIS, 2002). To facilitate such sharing the separation of content from its presentation is necessary. When content and its presentation are not separable an artefact known as "The Mosaic Effect" occurs when building a course by sequencing Shareable Content Objects (SCOs) from a variety of sources together with those created as part of a new course. SCOs originating from different courses have their own individual "look and feel". As a result, the learner is faced with a series of different presentation styles and interfaces, leading to a learning experience that is interrupted by continual changes in the format of learning content. This paper details a mechanism for SCORM Style-Sheet Support (SCORM-SSS) that has successfully been used to overcome this problem by enabling SCOs to assume the look and feel characteristics of the course or session within which they are located. SCORM-SSS has minimal impact on the courseware development process and enables content presentation and interface design control that can either be specified at a centralised organisational level or devolved to business units or individuals within organisations.

F9C, Maths 112, Chair: Peter Jacobs

Exploring online learning community development: the relative importance of influencing factors

Brook and Oliver *(Proc. p.63)*

This paper describes an investigation into the development of learners' sense of community using a model describing community development through presage, process and product stages. The study sought to explore the relative importance of design factors and to describe the relative influence of factors between the presage and process stages in the model. The study was facilitated through an investigation into the practices of a professional working in the field who was committed to the principles of collaborative learning and the development of a learning community. The findings reveal a strong influence of presage factors many of which had the prospect to limit community development among learners. The results suggest the need for teachers to be attentive to the presage factors in the delivery of online courses and programs and to implement courses of action to overcome limitations which are evident in the presage stage.

F9D, Maths G02, Chair: Geoff Swan

Shifting focus on integration: use of ICT to support community learning in a re-structured one-year teacher education course

Baxter, Olney, Brown and Ferry *(Proc. p.54)*

The integration of information and communication technologies (ICT) has been one key focus for Education Faculties in the last few years, yet it is not the only factor that requires integration. This paper traces the impact of a significant course re-structure on ICT integration in an annual end-on degree - the Graduate Diploma in Education (GDE), at the University of Wollongong.

This intensive course requires students to undertake up to 12 weeks of full-time practice teaching as well as 21 weeks of campus-based instruction that geographically and functionally divides the program into alternate intensive blocks of campus and school-based learning. One problem is that pre-service and school-based teachers often perceive these blocks as unrelated entities, yet their integration is critical to a shared model of instruction. Our challenge in this course is to link the school and university environments in the minds of all stakeholders.

ICT has been used as one strategy to achieve this goal via a web site that links the pre-service teachers when they are widely scattered for long periods of practicum, and helps them generate understandings of their future roles as teachers. We report this 'work in progress' on the use of this web site with a cohort of 220 pre-service teachers. One benefit of the web site development is its ability to serve as a planning tool for course refinement. The additional load on teaching staff in key positions of web site responsibility may resolve with experience and broader team membership. Now the integration focus has shifted off ICT, we may be well on the way to achieving that goal.

Full paper session F10
Tuesday 9 December 2003, 12:00pm

F10A, Union Hall, Chair: Stephen Marshall

Issues associated with the equivalence of traditional and online assessment
Phillips and Lowe *(Proc. p.419)*

With the increasing use of online technologies, Murdoch University has developed a flexible unit model that aims to retire the use of different versions of unit materials for external and internal students, and instead provide an equivalent learning experience through a single set of materials for all students, to be accessed according to their circumstances.

Issues of equivalence of assessment raised by this initiative are examined in the context of current theory, past and emerging practice and the role that university policy and attitudes to supervised assessment play in adoption of alternative assessment methods made available through the use of online technology.

F10B, Maths G08, Chair: Kevin Knox

Factors influencing the discovery and reusability of digital resources for teaching and learning
Brownfield and Oliver *(Proc. p.74)*

This paper describes findings and outcomes from the Toolbox Digital Repository project (http://toolbox.flexiblelearning.net.au/index.htm) undertaken in 2002 that was concerned with the design and development of a digital library to support the discovery, access and reuse of the vast number of digital resources developed for online learning settings as part of the National Flexible Toolbox Project. The importance for processes and strategies supporting resource discovery in development stages has emerged from the work as an area needing attention. Digital resources use metadata to facilitate their discovery and recovery. Our project has identified the provision of metadata as an important component of resource development that at this stage appears universally weak and in need of some guidance and support. This paper describes the areas where this process was found to be weak and has suggested some strategies that can be applied at the local level to overcome the problems that were identified.

F10C, Maths 112, Chair: Peter Jacobs

Investigating the impact of computer conferencing: content analysis as a manageable research tool
Stacey and Gerbic *(Proc. p.495)*

Content analysis of computer conferences provides a rich source of data for researching and understanding online learning. However the complexities of using content analysis in a relatively new research field have resulted in researchers avoiding its use as a qualitative or quantitative method and using more familiar methods such as survey and interview instead. Ethical issues are also raised that, though ensuring students' rights, particularly to privacy and with no fear of coercion, are making it difficult for researchers to access and analyse archives of conference data as a research source. This paper suggests a pragmatic but systematic approach to solving these research issues by using several research strategies that are described in the context of the authors' research and practice.

F10D, Maths G02, Chair: Geoff Swan

A switch to online takes time: academics' experiences of ICT innovation
Burdett *(Proc. p.84)*

Universities introduce information and communications technology to support flexible teaching and learning and bring about improved performance for the organization, staff and students. Despite anticipated benefits, indications to date suggest that ICT is not embraced enthusiastically nor completely by all academics, resulting in limited uptake. The successful integration of ICT with higher education requires more than mandating its use and hoping academics will respond positively.

This paper explores the experiences of academic 'early adopters' and 'late adopters' using ICT in course design and delivery. Highlighted are sources of discontent, and strategies to address these issues are discussed. While advantages are acknowledged, this paper focuses on the perceived barriers to and problematic aspects of ICT use in higher education that have the potential to deter users and stifle innovation. It is essential that these barriers are identified, understood and action taken to overcome them. Findings indicate that universities will need to address academics' concerns through improved technology performance, workload allowances and appropriate professional development, if widespread and ongoing innovation is to be achieved.

Full paper session F11
Wednesday 10 December 2003, 9:00am

F11A, Union Hall, Chair: Gail Wilson

Educational technologies that integrate problem based learning principles: do these resources enhance student learning?
Elliott, Efron, Wright and Martinelli *(Proc. p.170)*

With the uptake of Problem Based Learning (PBL) as a popular curricular reform comes the challenge of creating and integrating educational technologies that dovetail with the philosophies underpinning PBL. The authors have created a computer program "Child Growth & Development in the first 12 months of life" to support the teaching and learning of this topic to medical students studying paediatrics. A PBL framework has been integrated into the educational design of the program. It was intended that by replicating the learning sequence of PBL and by providing strategies to overcome the individualised nature of computer programs in general, we could provide students with a tool that reinforced the PBL processes they were undertaking elsewhere in the curricula. Furthermore, by structuring content in a real life family context and encouraging students to be aware of the actual learning process, we aimed to stimulate student's motivation to learn more about child growth and development.

F11B, Maths G08, Chair: Marty Fletcher

A learning management model for mixed mode delivery using multiple channels (Internet, intranet, CD-ROM, satellite TV)
Zuluaga and Morris *(Proc. p.562)*

The African Virtual University (AVU) Computer Science Project is a World Bank initiative where four Universities in Sub-Saharan Africa deliver Computer Science degree and diploma programs from RMIT University, Australia via the internet and other channels.

For this multi-campus, mixed-mode E-learning experience we designed a multi-channel learning management model (MCLM) to accommodate expected technical difficulties and intermittent service interruptions. E-learning materials are delivered to students via multiple channels - internet, intranet, satellite TV, CD-ROM, even paper. Ideally, each channel supplies the same content in the format most suited to that mode of delivery. Each local site selects its preferred channel(s) day by day, depending on local conditions, cost / benefit analysis, reliability, staff / student preferences, etc.

The functionality provided by each channel dictates its preference, so multi-channel delivery provides an up / down-gradable service, e.g. if all other channels fail, the channel that provides handout of hardcopy notes can maintain a service. The model's hallmark is inbuilt redundancy.

We have operated this MCLM model for the first semester. We explain the model's architecture, report the operational results, and reflect on the model's success in meeting design parameters - cost-effective? scalable? maintainable? robust? sustainable? portable?

F11C

Withdrawn

F11D, Maths G02, Chair: Adrian George

Analysis of student engagement with online chemistry modules using tracking data
Tasker, Miller, Kemmett and Bedgood *(Proc. p.505)*

The study in this paper describes how we used a combination of interaction tracking data and stimulated-recall interviews to evaluate student engagement with two online chemistry modules. An engagement index (IE) was developed and tested for accuracy and validity. The students that appeared to engage well were more likely to be mature-age and/or studying in external study mode, extroverts, and verbal learners. Students with prior experience of the graphical depictions of the molecular level were more likely to learn from the animations and interactive exercises.

Full paper session F12
Wednesday 10 December 2003, 9:30am

F12A, Union Hall, Chair: Gail Wilson

An interactive multimedia approach to preparing children and their families for hospitalisation

Mitchell, Keppell and Johnston *(Proc. p.343)*

This paper describes the rationale, theoretical underpinnings and the process of developing an interactive multimedia preparation program for eight - ten year old children undergoing elective surgery. It is well recognised in the medical literature that hospitalisation is a stressful experience for children and their families. A number of preparation programs (books, hospital tours, education programs) have been designed, implemented and evaluated. Hospital based preparation programs, although successful in addressing the issue, are not well attended in Australia due to the need for the child and family to visit the hospital before hospitalisation. A multimedia preparation program utilised in the home setting before hospitalisation has a number of advantages including the potential to benefit a greater number of children. The other advantages of a multimedia approach include the ability to address the needs of both the child and family before hospitalisation and allow revisiting of information. An added advantage of the approach is the use of a workbook to accompany the child to the hospital setting and reinforce coping strategies learned in the CD-ROM.

F12B, Maths G08, Chair: Marty Fletcher

Bridging international boundaries - integrating and mentoring teaching roles in an online environment

Reushle, McDonald and Lowe *(Proc. p.442)*

In many educational institutions worldwide, online student numbers have grown steadily and changing student expectations have emerged. One impact has been that staff workloads have increased and diversified. Researchers and online teaching practitioners at USQ have acknowledged that high quality online teaching is time and labour intensive. A critical principle of USQ online pedagogy is that the "human" touch must be created and maintained throughout the learning experience and students should feel they are members of a facilitated, interactive learning community. To maintain a high quality level of interaction as student numbers have increased, there has been a need to draw on additional educators to teach the online courses. The Department of Further Education and Training within the Faculty of Education at USQ has had to look beyond the finite pool of on-campus staff and integrate tutors from both national and international arenas with on-site educators. This paper reflects on the experiences in the Department in terms of employing external online tutors, the organisational and administrative structures that have been put in place, and the mentoring, modelling and evaluative processes that have been engaged to ensure a strong working partnership between the organisation, course leader, and the online tutors. The paper refers to documentation that has been developed including a "Tutor Manual" and provides some recommendations when considering the implementation of similar systems and processes.

F12C, Maths 112, Chair: Bob Corderoy

Extent and nature of portalling in Australian university websites

A'Herran *(Proc. p.17)*

An August 2003 survey of Australian universities websites demonstrates that almost one third have converted their institutional website to portal. The trend towards portals is an incremental shift occurring in most Australian universities. It reflects the shift in HE philosophy fuelled by the post-Dawkins trend towards a VET sector model of demand led education replacing the traditional HE supply model. Like that shift, it has met with some resistance. This paper identifies the major challenges to portalling

It attempts to deconstruct the shift from static website to a portal, throwing light on patterns in structural and navigational approaches to portalling in Australian university websites.

The paper touches on management issues underlying and surrounding the shift to portal, amongst other challenges commonly faced by universities developing institutional portals.

The study described in this paper is a work in progress, data having been gathered from observation at the unauthenticated level. The author plans to follow up with a formal approach to all Australian universities towards a fuller investigation of portal implementation, using the five measures identified in this paper.

Initial data is available online at http://www.jcu.edu.au/office/tld/td/bbsub/projects/PORTALPROJECT/AAH_PORTALS_MATRIX_6.pdf

F12D, Maths G02, Chair: Adrian George

Creating and sustaining quality e-learning environments of enduring value for teachers and learners

Holt and Segrave *(Proc. p.226)*

Australian universities continue staking a claim on the future of e-learning, acquiring Learning Management Systems (LMS) as rapidly as universities overseas. Much is published on processes and criteria for selecting the best LMS for an organisation's needs and attempts to establish training and support mechanisms for deploying these systems. Beyond initial efforts to commission these technologies, particularly in the hands of teachers and students, what should happen to ensure these commitments yield real educational value in the long term? The search for and realisation of systemic and substantial new value requires a more profound reconceptualisation of what it means to design and work within contemporary learning environments, incorporating e-learning, in support of excellence in educational outcomes. This demands the foregrounding of the role of the academic teacher in the system in relation to other parties who can make important educational contributions in support of student learning. Central to new strategies is a transformation of the role of academic teacher, but on terms understood by them and supportive of their educational values. Six areas of value creation for teachers and learners are considered in relation to this transformation.

Full paper session F13
Wednesday 10 December 2003, 11:00am

F13A, Union Hall, Chair: Rob Phillips

Adapting higher education learning materials for further education - some examples of re-purposing JISC services within the UK
Sharp, Pitts, Smith and Place *(Proc. p.486)*

The extension of the JISC remit to include Further Education (FE) as well as Higher Education (HE) in 1999 signaled a change for those services provided prior to this date. This paper describes some of the recent developments that altered the way in which learning materials are created and provided. It will look at some of the issues that this impact made on existing services and will give examples of some of the projects that have been funded to try to take into account this new sector of the community by investigating pedagogically sound ways of extending and/or re-purposing current materials. The paper will focus on three projects that have built on established successes in HE. This paper concludes by identifying some of the issues associated with this exercise and the factors that have aided the success of these projects.

F13B, Maths G08, Chair: Oriel Kelly

Teaching interpersonal communication skills with digital video
Marshall and Cullen *(Proc. p.314)*

In this case study the authors discuss the creation of a digital video resource delivered via the WWW and CD-ROM for the teaching of interpersonal communication skills to distance students involved in a Masters of Library and Information Studies (MLIS) programme. The learning objectives of the resource, a walkthrough and an examination of the production of the digital video material are provided.

F13C, Maths 112, Chair: Maree Gosper

Mapping academic programs with ProgramMap
Roberts, Shannon and Radford *(Proc. p.449)*

ProgramMap is a web tool that allows curriculum leaders to describe the relationships amongst components of academic programs and between those programs and one or more curriculum frameworks. Information including examples of student work are collected at course-level and aggregated to year-level and program-level as required. Curriculum leaders are led to work within self-declared and externally imposed academic objectives. The design and delivery of integrated programs are thereby fostered and evaluation against strategic objectives enhanced. Compliance with internal and external requirements can be monitored and current and prospective students can discover valuable information about the programs they are undertaking or considering. This paper describes the design and production and implementation of ProgramMap in the School of Architecture, Landscape Architecture and Urban Design at the University of Adelaide.

F13D, Maths G02, Chair: Linda van Ryneveld

Online professional development through action research: a New Zealand experience
Kachelhoffer and Mackey *(Proc. p.263)*

This paper examines the impact and effectiveness of an online professional development course to support teachers as beginning researchers. The course is taught wholly online, and teachers develop understanding of research methodology, negotiate their topics, and design their research projects via online interactions with their supervisors. Teachers then implement, observe and evaluate a substantial investigation on an aspect of information and communication technologies (ICT) in education using action research methodology. The paper will examine teachers' perceptions of this professional learning experience where all guidelines, instruction, mentoring and support occur within the online environment.

New Zealand's National ICT Strategy supports a range of professional development approaches where the focus is clearly on supporting teachers to plan, implement, observe and evaluate the use of ICTs to enhance learning experiences. Action research provides an appropriate framework to effectively guide this process, and aligns with the findings of a recent Ministry of Education sponsored research report assessing the progress of the ICT Strategy nationally. The paper will explain how the Diploma in ICT in Education (DipICTEd) offered at the Christchurch College of Education links with the National Strategy and how teachers participate in action research in their classrooms through online professional development.

Full paper session F14
Wednesday 10 December 2003, 11:30am

F14A, Union Hall, Chair: Rob Phillips

Online education: understanding market acceptance in the higher education sector of Singapore
Chung and Ellis *(Proc. p.115)*

The advent of the Internet/World Wide Web and its application to the field of education has provided new opportunities for teaching and learning. To cater for the large number of potential new students worldwide, many universities and for-profit education providers have introduced online programs. In Singapore, Web-based online education has not attracted as many students as had been expected. To attempt to explain this situation this study identifies and describes market acceptance factors. Empirical results from in-depth pilot interviews and extensive questionnaires showed that there was a multiple factorial influence on the market acceptance of online education in Singapore at the undergraduate and post-graduate level. This factorial influence can be partitioned into five factors: trust, courseware design competency, individual competency, institutional competency and finally a pull factor.

F14B, Maths G08, Chair: Oriel Kelly

A generic tool to set up metacognitive journals and their serendipitous use
Kunz, Dewstow and Moodie *(Proc. p.283)*

Reflective journals for individual learners are a powerful pedagogical approach to foster metacognition. However, the set up of individual journals in an online learning environment can be a very time consuming task. This contribution will take the creation of reflective online journals as an example to highlight the need for generic educational tools. The creation of such a generic tool to generate reflective online journals will be discussed. Preliminary evaluation of the use of this tool has shown an unexpected and surprisingly creative use of how teachers have applied it to their online learning environments.

F14C, Maths 112, Chair: Maree Gosper

Introducing group work and communication skills for external students: an analysis of the use of asynchronous online tools
Barker *(Proc. p.47)*

This paper examines the impact of the introduction of group learning and communication tasks for external students in an undergraduate and postgraduate course. The use of a series of asynchronous discussion boards for these students has impacted not only on their ability to work in a team but also on their ability to attain other graduate qualities such as problem solving, lifelong learning and body of knowledge.

F14D, Maths G02, Chair: Linda van Ryneveld

Online interaction impacts on learning: teaching the teachers to teach online
Wilson and Stacey *(Proc. p.541)*

This paper explores the importance of interaction in the online teaching environment and the important role of staff development in developing teacher presence online. Professionally developing staff to use information and communication technologies is viewed from the standpoint of diffusion of innovation, moving from early adopters to mainstream majority, and targeting staff development at this latter group. Approaches to staff development using information and communication technologies are described, and recommendations for staff development for online teaching are made.

Full paper session F15
Wednesday 10 December 2003, 12:00pm

F15A, Union Hall, Chair: Rob Phillips

The technical development and benefits of a metadata aggregation and insertion tool
Pitts and Sharp *(Proc. p.432)*

This paper describes the technical development of a metadata aggregation, management and insertion tool known as M.A.I.M. (MAIM Aggregates and Inserts Metadata). The paper will examine the methodology and technologies used and the benefits of such a tool to a large online educational resource. The paper will also present a case study discussing the use of MAIM on the Biz/ed service - a unique service for students, teachers and lecturers of business, economics, accounting, leisure and recreation and travel and tourism. This paper will also discuss some of the navigational and resource integration tools that the MAIM software makes possible and how some of these have been integrated within the Biz/ed service.

F15B, Maths G08, Chair: Oriel Kelly

Interdisciplinary trials of synchronous, voice-based communication systems
Day, Wood, Scutter and Astachnowicz *(Proc. p.152)*

This paper summarises four concurrent trials using synchronous, voice-based communication systems at the University of South Australia in the Divisions of Education, Arts and Social Sciences, Health Sciences and Business and Enterprise. The benefits of synchronous communication as well as the challenges associated with the use of these technologies in an online learning environment are discussed, and the strategies that can be employed to meet these challenges described. The purpose of the trial was to utilise voice-based, synchronous chat systems that would assist in explaining technical concepts to students; help to address the written language problems experienced by NESB students; allow external students to deliver oral presentations to the class and lecturer, discuss assignment development and obtain group feedback; reduce the volume of listserv postings during learning community formation; facilitate supervision of postgraduate students and allow student located in rural and remote locations to present annual review seminars; allow external students to present a simulated external client presentation to student peers and lecturer and engage in post-presentation discussion; record/edit classes for students who missed class and archived for future use, and allow external students to view the work of others and make comment on it in a synchronous environment.

F15C, Maths 112, Chair: Maree Gosper

Online introduction to information literacy: ticking that box or embedding that attribute??

Collins and Hill *(Proc. p.126)*

The University of Wollongong introduced an online compulsory undergraduate Information Literacy Introductory Program (ILIP) in 1999. Extensions and adjustments make ILIP 2003 a requirement for postgraduate coursework students as well as undergraduate students. ILIP is also highly recommended to incoming research students. Such policy initiatives for a compulsory online learning tool raise interesting questions about the interaction of University policy and learning and teaching policy, about the implementation of such policy and about the effectiveness of the tool both alone and as part of a process. This paper suggests that the compulsory ruling has effected the tool's development and implementation. The paper contends the tool should be considered both as an online learning device and in its use in developing alliances between library and learning support staff and faculty in the development of desirable student learning outcomes. Such alliances are part of the University meeting its Graduate Attribute outcomes and thus part of the current debate regarding generic skill development and employability skills. Where the Program is most effectively used is where it becomes the stepping stone to interaction and integration of information literacy - a key component of success for students in their studies and beyond. Here it can have impact!

F15D, Maths G02, Chair: Linda van Ryneveld

Embedding expertise for online tutor development

Fletcher *(Proc. p.605)*

This paper describes the ongoing developmental interaction between the Charles Darwin University's Academic Consultants and tutor team of CUC 100, Academic literacies. This generic skills unit consists of a large number of concurrently enrolled students, studying in both internal and external modes, and has a required online discussion requirement. The developmental focus is on the tutors' online discussion facilitation skills. The interaction between the two roles (consultant and tutor) is becoming increasingly interactive, and more deeply embedded along the observer-participant continuum.

Abstracts:
Concise paper sessions

Concise paper session C1
Monday 8 December 2003, 2:30pm

C1A, Union Hall, Chair: Ian Roberts

The virtual laboratory: an online program to integrate authentic activities into the biology curriculum

Brack, Elliott, Fisher and Stapleton *(Proc. p.581)*

We have created an online learning environment "The Virtual Laboratory" for the integration into the curriculum of authentic experiences for learners of biology at year twelve level. As part of a 2002 State of Victoria (Department of Education & Training) Science in Schools partnership we collaborated with teachers to design an online environment based on constructivist theories of learning. This was developed in a framework of cognitive interactivity. Students were given a scenario-based task and required to conduct a processes of enquiry by developing hypotheses, researching background, undertaking investigations and experimental work, then reflecting upon and refining their original hypotheses. In this way students were guided through the process of evidence-based enquiry. Interactivity and feedback to students operated at several levels to engage learners and enable students to gain control of their learning. A variety of techniques and media have been embedded in the environment, including digital images, animation, video, basic/advanced reading text and links to external web sites. Feedback is offered to address issues of problem-solving, knowledge and concepts. Subject areas addressed were Immunology and Gene Technology. Evaluation data indicates an overall positive reaction by students and teachers to "The Virtual Laboratory".

C1B, Maths G08, Chair: Ian Olney

Implementing learning design: the Learning Activity Management System (LAMS)

Dalziel *(Proc. p.593)*

Learning Design has the potential to revolutionise e-learning by capturing the "process" of education, rather than simply content. By describing sequences of collaborative learning activities, Learning Design offers a new approach to re-use in e-learning. This paper describes the Learning Design approach, a detailed example, and its implementation in the Learning Activity Management System.

C1C, Maths 112, Chair: Shirley Agostinho

Integrating an interactive online program on report writing into a chemical engineering laboratory course: what has been the impact?

Drury, O'Carroll and Langrish *(Proc. p.597)*

As the emphasis in engineering education has changed to focus more on the social and professional context of engineering, students are expected not only to develop the necessary technical skills but also the so-called 'softer skills', most importantly, effective communication skills. Effective communication is rated highly by prospective employers and is seen by recent graduates to be critical for success and advancement in the profession (Sageev and Romanowski, 2001). Although the laboratory report has traditionally been part of the laboratory course, this has generally not involved explicit teaching of the language features of the report genre in this context. Collaboration between subject area specialists and writing specialists led to the development of a face-to face program on report writing integrated into the third-year laboratory course and this has formed the basis for the online program. In transferring to an online environment, the interactive and integrated nature of the face-to face program has been maintained. The program has been well-used and positively evaluated by students in the process of writing their reports, while its integration into a report writing feedback cycle has led to improvements in student writing.

C1D, Maths G02, Chair: Michelle Honey

Virtual lectures versus face-to-face lectures: a four-year study exploring the impact on students' results

Signor *(Proc. p.700)*

Many of the subjects in the ITSM discipline at Swinburne University, Lilydale have replaced the traditional mode of delivering lectures face-to-face with virtual lectures available on the Internet. This paper explores the impact this has had on final exam raw scores for students in one of these subjects by comparing two years of face-to-face lectures with two years of virtual lectures. Interestingly the statistics over the four-year period demonstrate no significant effect on the students' exam raw scores. It would appear that the transition to virtual lectures has had little impact on the academic results of students. This paper will address these findings in more detail whilst considering some of the variables that may have influenced the results.

Concise paper session C2
Monday 8 December 2003, 2:50pm

C2A, Union Hall, Chair: Ian Roberts

Regular motion
Swan *(Proc. p.706)*

Eight on-line quizzes were integrated into a first year physics unit at Edith Cowan University in semester 1, 2003. These quizzes were typically available for eight days after the content had been delivered in lectures and students were able to make a second attempt for each quiz using feedback from their first attempt. Students who attempted the quizzes overwhelmingly believed that they were easy to access and helped them learn physics. However, almost one quarter of all students did not attempt any quizzes and these students achieved poor overall grades.

C2B, Maths G08, Chair: Ian Olney

Learning design at the University of Wollongong
Lambert *(Proc. p.643)*

This paper describes the work done by the author to develop and document a Learning Design process at CEDIR, a centrally funded and located educational development support unit at the University of Wollongong. CEDIR works with educational technology as an intrinsic part of educational design. The Learning Design unit was set up in January 2002 with the aim of ensuring sound pedagogical design of CEDIR educational products and to maximise staff development opportunities during their development The new service processes and tools developed to facilitate these aims have been further refined and evaluated in 2003. This paper reports on the evaluation of the academic experience of participating in the learning design process via survey and interview. The author concludes that learning design at the University of Wollongong values academic partnership and academic staff development. By analysing the learning design process, staff development opportunities can be identified and planned into the educational resource development process. A larger study now needs to be undertaken and feedback from other institutions is sought.

C2C, Maths 112, Chair: Shirley Agostinho

Developing an interactive writing tool for business law students
O'Reilly, Samarawickrema and Maiolo *(Proc. p.670)*

Students' performance in assessment tasks requiring logical written answers to case study problems can be adversely affected by difficulties in constructing a full length, logical written argument that demonstrates understanding to the level expected. This paper describes a teaching and learning tool developed to assist students in constructing logical full-length answers to given problems, using individual understanding of underlying concepts and their application. The tool allows students to see their thoughts and reasoning written into full-length answers of different styles. Developed initially for Business law students, this Answer Styles tool has scope to assist students' writing in many disciplines.

C2D, Maths G02, Chair: Michelle Honey

Cultivating the hybrid: a case study of a three year evolution of elearning for blended delivery

Kelly *(Proc. p.629)*

This case study describes the process of the integration of eLearning at Manukau Institute of Technology (MIT). After only three years, there are more than 500 courses with an online presence, most far beyond the static, online filing cabinet approach, and with use spread across almost all departments of the institute. The success is put down to the low key, no barrier approach taken, the deliberate cross pollination and the central and devolved support measures established. As a result, a large proportion of the institute's lecturing staff have added eLearning to their repertoire of teaching skills and the students graduate with enhanced IT literacy capability.

Concise paper session C3
Monday 8 December 2003, 3:30pm

C3A, Union Hall, Chair: Judi Baron

Character-acting online: using role-play to develop staff training resources
Weaver and Kish *(Proc. p.725)*

This paper describes the design and implementation of a professional development workshop for university staff in using WebCT to manage their students' progress. The workshop required the design of an online unit, complete with student submissions and assessment result, and development of authentic activities around this resource. Colleagues participated in a role-play exercise to populate the online unit with student activity, according to designated 'personalities' and study styles. This paper also discusses the subsequent use of this resource in the staff development workshop.

C3B, Maths G08, Chair: Mike Keppell

Supporting sustainable e-learning: a UK national forum
Wiles and Littlejohn *(Proc. p.730)*

This article outlines the progress of a national Supporting Sustainable eLearning Forum, funded by the UK Learning and Teaching Support Network Generic Centre. The aim of the forum was to move e-learning on from project innovation to embedded practice, and address questions around the scaleable nature of e-learning. Assimilated views of a wide range of support staff are presented. These include ideas on how to devise strategies for supporting Higher Education lecturers in the design, development and implementation of online courses; disseminate good practice in supporting sustainable approaches to eLearning; and contribute to the ongoing debate in the sharing and reuse of e-learning resources.

C3C, Maths 112, Chair: L. Scot Aldred

Building online communities: the lecturer's role in facilitating interaction among non-computer oriented, mature-age adult learners
Schiller *(Proc. p.691)*

With the significant growth of online learning in Australian universities, there is need to examine the pedagogy of online learning, particularly from the perspective of the lecturer. Comparing the online strategies used in a postgraduate course on educational leadership of change with a core, undergraduate teacher education course, focusing on issues of sociology, this paper examines the impact on the lecturer and the students of distance learning courses in which a significant proportion of online interaction was mandatory. The following questions provided the focus for this paper; "In what ways can lecturers facilitate greater interaction in the online environment? Can an online community be established among non-computer oriented, mature age adult learners?"

C3D, Maths G02, Chair: Susan J. Shannon

A culturally aware course design
Munro-Smith *(Proc. p.662)*

Culture has a profound influence over student expectations and the way they engage with computer mediated teaching and learning. Models of cultural analysis from the international management literature have great potential to inform course design to minimise cultural incompatibilities. This paper discusses how Hofstede's model of cultural analysis (the most widely cited of the models) could be applied to course design. It also looks at some of the practical limitations designers would face implementing the full model and proposes a simplified version.

Concise paper session C4
Monday 8 December 2003, 3:50pm

C4A, Union Hall, Chair: Judi Baron

Navigation: metaphorical and real
Tripp *(Proc. p.720)*
In preparation for building a dictionary browser, an actual navigational interface (a digital chart plotter) was analyzed for design guidelines to be applied to an interactive semantic navigator. WordNet is a lexical database structured as an inheritance system encoding numerous semantic relationships. The guidelines are applied to the design of a browser for WordNet.

C4B, Maths G08, Chair: Mike Keppell

Implementation of a quality assurance system for online units at the University of Tasmania
Jackson and D'Alessandro *(Proc. p.614)*
The development and provision of standards for online units is becoming a common practice in tertiary institutions that provide online teaching and learning. The University of Tasmania is taking a further step in this regard by implementing a quality assurance system for online units to ensure a minimum level of quality and consistency across all online units. This involves sets of standards, checklists, institutional processes for data collection and unit release, and the provision of data to key stakeholders. The implementation of the system has been underway since 2001 and the system has been fully activated for the first time in semester one 2003. This paper presents an institutional and contextual background to the system; an overview of the system; current implementation issues/findings, and some of the lessons learned thus far.

C4C, Maths 112, Chair: L. Scot Aldred

Integrating learning objects with learning designs
Agostinho, Bennett, Lockyer and Harper *(Proc. p.571)*
The premise underlying the concept of a learning object is that it can be reused. Current research and development efforts focus on establishing standard ways to annotate learning objects using metadata schemas so that they can be retrieved easily. There is, however, a pressing need for research and development work to investigate how learning objects can be reused in a pedagogically appropriate way. This work-in-progress paper describes a project that aims to address this gap by developing a framework to assist teachers and instructional designers incorporate learning objects into generic learning designs they adapt to suit their educational contexts.

C4D, Maths G02, Chair: Susan J. Shannon

E-learning - 'trick or treat'? Using technology for teaching and learning in a tertiary setting
Campton *(Proc. p.585)*
This paper is a critical analysis of current e-learning practice within a first year unit in the Faculty of Commerce at the University of Tasmania. It reflects on the changes in learning that have occurred over the last twenty years at a senior secondary level in Tasmania, then reviews and documents the nature of e-learning currently being employed at a tertiary level as experienced by the author. With over 20 years experience in using Information & Communication Technology (ICT) within a senior secondary educational environment the author was then appointed as a Lecturer to the University of Tasmania in July 2002. He was required to implement an e-learning program for a first year unit, Business Information Systems (BSA101) within the Commerce Faculty. Essentially, the paper is from a personal perspective and attempts to document what has occurred before the moment is lost.

Concise paper session C5
Tuesday 9 December 2003, 2:30pm

C5A, Union Hall, Chair: Ron Oliver

Are instructional designers worth the money? Encouraging flexibility in design
Knowles, Kunz, and Tarnowska *(Proc. p.638)*

The paper describes the role of the Instructional Designer in the development of an education resource that was produced against a background of challenging design requirements (conflicting purposes and different target audiences). It is argued, and illustrated, that the key activities normally undertaken by the instructional designer can assist in the resolution of conflicting design requirements, resulting in a flexible resource that is considered acceptable and usable by a range of users/learners.

C5B, Maths G08, Chair: Leslie Burr

Can reflective and executive control skills be fostered online?
McLoughlin and Luca *(Proc. p.653)*

One of the crises facing the professions is the scepticism surrounding the nature of professional knowledge and whether individuals can cope with the increased complexity of society and the changing demands of the workplace. In order to develop these skills students need to be able to reflect on their learning experiences, integrate them with prior knowledge, self-evaluate and develop decision-making and planning processes. The development of reflexivity is presented in the context of an online tertiary unit where students proceed through the cycle of action, reflection, planning and abstract conceptualisation by engaging in a range of collaborative tasks including peer assessment and problem solving.

C5C, Maths 112, Chair: Linda Pannan

Integrating real and virtual learning spaces
Littlejohn *(Proc. p.648)*

Undoubtedly, the widespread introduction of Learning Management Systems over the past few years has had significant impact on online learning by enabling lecturers to easily upload and disseminate learning resources, as well as providing the potential for new forms of online interaction. However, LMSs have had significantly less impact upon the sorts of interactions that can occur in class: both lecturer-student and student-student. This article considers ways in which campus based students can benefit from the integration of real life and virtual interactions. It reflects upon lessons learned from the use of a prototype Learning Management System and explores ways in which virtual and real spaces may combined to address specific academic needs. This is illustrated in two scenarios that outline ways in which virtual learning spaces may be integrated with face-to-face teaching within a campus based context. A third scenario offers a glimpse of future integration of real and virtual learning spaces which allow students to develop and share learning resources. Finally, a set of common principles underpinning the development and support of these methodologies are outlined.

C5D, Maths G02, Chair: Cathy Gunn

Key factors for a fully online e-learning mode: a Delphi study
Chin and Kon *(Proc. p.589)*

This paper investigates the views of four different perspectives to determine the key factors that are considered to be essential in order to enable the delivery of a postgraduate course in a fully online e-learning mode. These perspectives include students, IT staff, academic staff and management. The key factors were identified through the use of a three-round Delphi study. Khan's (2001) e-learning framework was used to categorise the identified factors. The outcome of this study has shown that there were huge differences between the four different perspectives on what should be considered as priority factors. Despite the fact that there was no consensus amongst the four different views, the outcomes of this study has provided a very rich picture of what is really required for this kind of learning and teaching mode.

Concise paper session C6
Tuesday 9 December 2003, 2:50pm

C6A, Union Hall, Chair: Ron Oliver

Evaluating streaming media applications for higher education
Parfenovics and Fletcher *(Proc. p.674)*

Streaming media applications are poised to make a large impact on higher education. Currently a growing number of new audio/video production and delivery applications are being packaged for and presented to higher education. One of the appeals is that the new technologies leverage existing educational practices, in particular, the traditional lecture format. Evaluation of options for implementing this technology into higher education must take into account the following: the ability to adapt existing resources, the amount of training required for educators to integrate the technology, and technical factors. These factors are backgrounded against standardization efforts by the streaming media industry. This paper describes how evaluation factors, as asserted in vendors' claims, are being catalogued within an ongoing watching brief.

C6B, Maths G08, Chair: Leslie Burr

The use of e-portfolios to enhance student learning: a faculty-level strategy and experience
Allan, Zylinski, Temple, Hislop and Gray *(Proc. p.576)*

This paper describes the approach taken in initiating student electronic portfolio use in the Faculty of Life Sciences, RMIT. The work was commenced as a strategic project to investigate e-portfolio systems as a means of advancing learner centred assessment, elevating student information interaction skills, and creating a progressive form of documenting professional accomplishment. We report on the experience of implementing a Faculty-level framework for e-portfolios in two undergraduate programs.

C6C, Maths 112, Chair: Linda Pannan

Utilisation and acceptance of mixed mode teaching and learning
Henderson and Bone *(Proc. p.610)*

This paper describes and discusses student utilisation and acceptance of online (Blackboard) mixed mode digital technology for teaching and learning. Whilst students utilised the asynchronous capacity of online learning to its maximum, course and lecturer evaluation results indicated that students were less than enthusiastic with some aspects such as a lack of paper-based handouts and teaching style.

C6D, Maths G02, Chair: Cathy Gunn

Predicting the future use of web-teaching tools by academic staff
Shannon and Doube *(Proc. p.696)*

156 academic staff members with teaching responsibilities responded to a 2003 anonymous staff survey requesting information about their future intentions with regard to using web-teaching tools at the University of Adelaide, and the impact of various factors on their decision-making. A discussion of the implications of the findings and how such issues might be dealt with are covered in this paper.

Concise paper session C7
Tuesday 9 December 2003, 4:10pm

C7A, Union Hall, Chair: Marty Fletcher

"Was she smiling as she typed that?": an exploratory study into online tutor competencies and the factors that affect those competencies
Reid *(Proc. p.684)*

The purpose of this study was to examine the perceptions of online tutors, online students and online unit coordinators to discover what they feel are the competencies possessed by online tutors in interactive text-based online units. An ethnographic approach was used in online tertiary classes chosen for their use of interactive delivery technology.

The study spanned one University semester and examined the competencies of the online tutors of these classes. Data collection occurred from before the units started and finished after the units ended. Data analysis began with the first collection of data and continued throughout and after data collection finished. The study focused on the instructional and guidance roles of online tutors rather than the roles of unit coordinators or developers of instructional material.

This research study identified the online tutors' competencies and classified the competencies according to five categories and twenty-six sub-categories created by the researcher. The study also identified a number of factors that affect the competencies of online tutors.

C7B, Maths G08, Chair: Richard Elliot

NESB student attitudes to an ict-supported team project
Elgort, Marshall and Pauleen *(Proc. p.601)*

This paper considers attitudes of two groups of students, those from non-English speaking backgrounds (NESB) and native speakers (NS) of English, to working in information and communication technology supported teams in the context of a post graduate Knowledge Management course.

C7C, Maths 112, Chair: Roy Tasker

'Learning by remote control': exploring the use of an audience response system as a vehicle for content delivery
Williams *(Proc. p.739)*

Audience response systems (also referred to as group response systems or personal response systems) have long been a feature of game-shows, televised pre-election debates, and corporate training workshops and conferences. More recently, these systems have found their way into the classrooms of tertiary educational institutions, primarily in the United States and in the United Kingdom. While their relative novelty precludes any detailed longitudinal study into their pedagogical effectiveness just yet, several studies have been published that endorse the more extensive adoption of this technology by universities and colleges. The conclusions of this exploratory study into the use of an audience response system at a graduate business school in Australia lend broad support to the findings of the existing body of research. Specifically, evidence is presented suggesting that, in a given context, the technology may be used in such a way that lectures (as they have been traditionally defined) may be discarded in favour of class meetings that are more interactive, and where students are motivated to engage more energetically with the course content. Importantly, the results of this study imply that, with enhanced opportunity for quality group discussion, there is a greater prospect of critical thought and deeper learning.

C7D, Maths G02, Chair: Anne A'Herran

Using user design focus groups for adding quality in Esiykhulumayo (the language that we speak)

Johannes, Wissing and Knoetze *(Proc. p.624)*

This paper describes the design process of a support tool (named Esiykhulumayo) for Non-English speaking students. It is a web-enabled language explanatory lookup tool, selected by students when working through learning material when they encounter difficult or unknown words. Design specifications for the tool are developed by user design focus groups, acting as knowledge-building communities. The action cycles in the development process will be described and a presentation will illustrated the tool features.

Concise paper session C8
Tuesday 9 December 2003, 4:30pm

C8A, Union Hall, Chair: Marty Fletcher

Development of a process for the usability testing of online courses
Wilks and Strand *(Proc. p.735)*

Although usability testing should be an integral part of course design, not all institutions have standard procedures for ensuring quality testing. This paper discusses the development, at The Open Polytechnic of New Zealand, of a test for a specific design element (navigation) of an online course. This process has led to the production of a set of good practice guidelines for usability testing of online courses in general.

C8B, Maths G08, Chair: Richard Elliot

Using a case-based reasoning approach in on-line learning: in learning about rural practice
Oliver, Munn and Pedder *(Proc. p.666)*

This paper describes the early work undertaken in the design, and implementation of an on-line learning environment created for the Master of Rural Health (MRH) program at the University of South Australia using a Case-Based Reasoning approach. Utilising the UniSAnet version2 platform a template for the MRH program was created.

The Master of Rural Health program primarily caters for the professional needs of health and human service personnel who are living and working in rural Australia. The content of this program reflects contemporary issues in health and human services where learners have the opportunity to hone their skills in managing human, IT as well as other resources vital for effective practice and functioning in health related organizations. Many professionals find rural practice to be isolating and for this reason we adopted a Case-Based Reasoning (CBR) approach as the conceptual framework for the courses offered in this new program enabling practitioners to interact, react and learn from a repository of expert cases that is made available on-line. The discussion gives insight to life and work in rural communities and the learner experience in the course entitled 'Practice in Rural Communities'.

C8C, Maths 112, Chair: Roy Tasker

Generic usage monitoring of programming students
Thomas, Kennedy, Draper, Mancy, Crease, Evans and Gray *(Proc. p.715)*

It is becoming feasible and practical to monitor the generic computer usage of students for extended periods, recording low level actions such as mouse clicks, typing and window changes. This paper presents a case study on the deployment of GRUMPS technology during a period of six weeks when 4.7 million such actions were collected from 141 first year university students learning Ada programming. We suggest our approach can be characterised as REDDI, Rapidly Evolving Digitally-Derived Investigations. Data preparation and cleaning is noted as a bottleneck in generic data collection, but seems less so as techniques are developed and understood.

C8D, Maths G02, Chair: Anne A'Herran

The need for interactive narrative in educational management simulations
Jacobs and Bone *(Proc. p.618)*

The authors believe that well designed stories are one of the crucial factors in the engagement of the learner. This belief also applies to the design of interactive computer simulations, which historically have been thin on rich narrative. This paper explores the need for interactive narrative in educational management simulations and the role it plays in providing realistic settings for learning in management education. It will explain what is meant by interactive narrative and discuss the design features of an experimental interactive narrative simulation, an EdSim.

Concise paper session C9
Tuesday 9 December 2003, 4:50pm

C9A, Union Hall, Chair: Marty Fletcher

Making explicit our theories of teaching and learning: designs that motivate our work as instructional designers
Keppell *(Proc. p.633)*

This paper examines the explicit design principles used to create an authentic learning module for a medical problem-based learning curriculum. It examines the 'design' process utilised by an instructional designer in the conceptualisation of a project. Secondly the paper focuses on epistemological beliefs of instructional designers and the need for designers to articulate their learning design for evaluation and research purposes. The third aspect of the paper outlines the learning design for the Sensitive Examination Technique (SET): Cervical Screening module.

C9B, Maths G08, Chair: Richard Elliot

An online subject delivered with help from an "absent ceo"
Meek and Agostinho *(Proc. p.658)*

This paper examines recent modifications to a masters-level subject in the area of technology-based learning. It shows how a scenario built around a fictitious consultancy company was joined to a new content set. Particular attention is given to a structuring device aimed at strengthening motivation in the addition of an unseen Chief Executive Officer (CEO) character. This device, coupled with reconfiguration of the lecturer as a company adviser, has become a primary driver of subject activity.

We explain the rationale for adopting our approach and describe how it was implemented. Preliminary reflections are considered and the paper concludes by outlining some issues requiring further investigation in an ongoing work-in-progress.

C9C, Maths 112, Chair: Roy Tasker

Reuse in practice: learning objects and software development
Paris *(Proc. p.679)*

Learning objects (LOs) may be considered from two perspectives: the learning perspective, with a focus on learning objectives, content, and assessment in order to derive small instructional components from existing resources; and the object perspective, stemming from the object-oriented paradigm in computer science, with a focus on the development of small, reusable components, which are characterized in terms of accessibility, reusability, and interoperability. This dual perspective reflects the interests of the protagonists in the LO movement: the education community and the learning technology community. While the technologists are concerned with the development of technical systems designed to meet educational needs, these systems must also conform to pedagogical theories and concepts of instructional design, which are the domain of the education community. Many commentators disassociate learning objects from the object-oriented paradigm; at the same time, the LO community is preoccupied with the issue of reuse, which is a fundamental of this paradigm. This review draws parallels between both communities, as the same concerns are mirrored; the fundamentals of object technology should be applied to the entire learning object development process if higher levels of reuse are to be achieved.

C9D, Maths G02, Chair: Anne A'Herran

Analysis & design of a web-based marking system

Tahir and Tanalol *(Proc. p.710)*

This paper is concerned with the analysis, design and later on the implementation of a Web-Based Marking System to enhance the lecturer teaching and learning activities. Web-based marking system is to be developed using web-based performance supports system and developed especially to support the need of a flexible and mobile way of keying in marks by the lecturer. The system can be accessed through the Internet and or the intranet; hoping that the lecturer can improve their performance by using the marking system from anywhere, anytime and can eliminate some of the problem faced in the current process of keying in marks. It will be enhanced with the use of knowledge management capability applied in the sub-system of the system.

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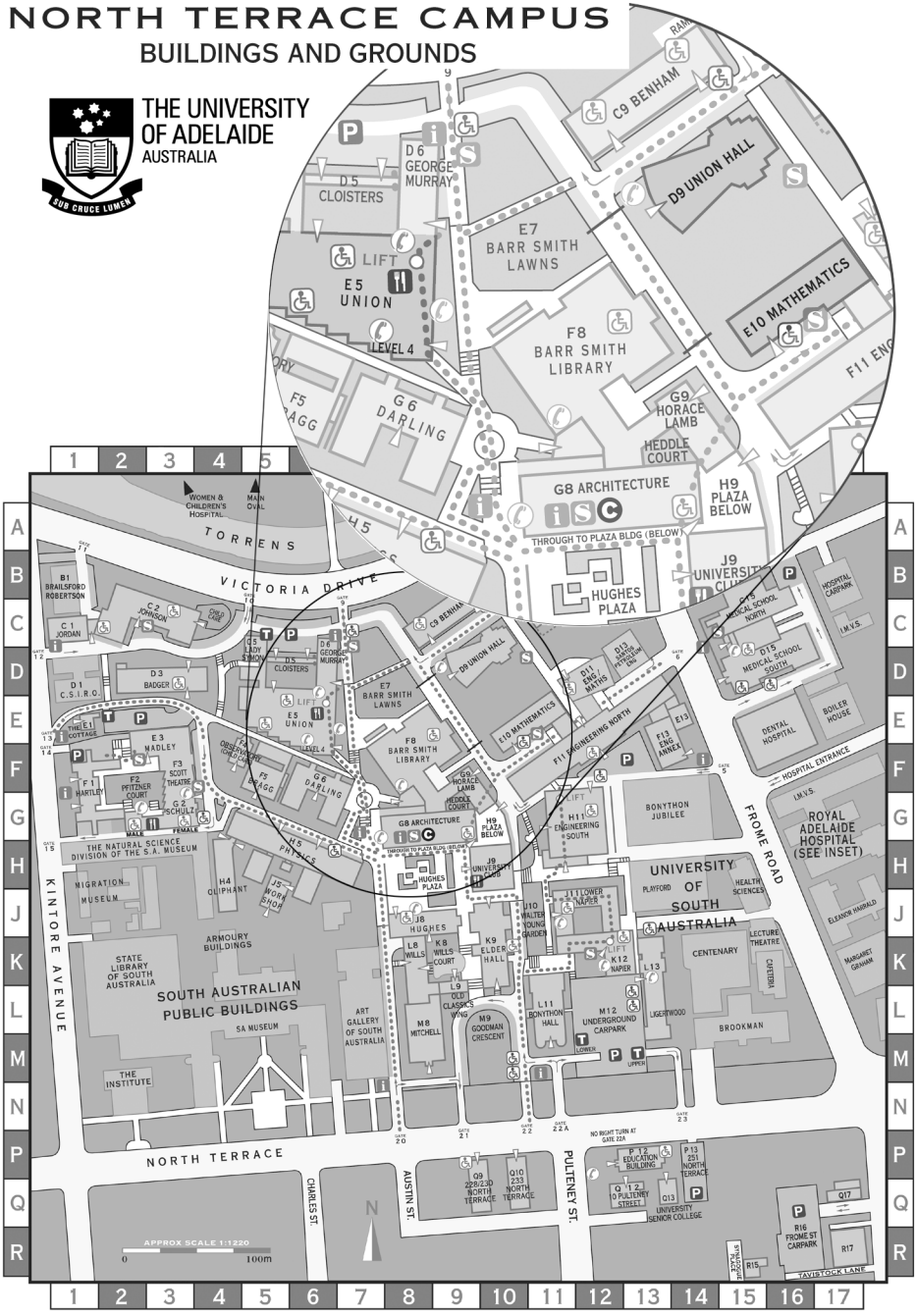

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