

# POSTER ABSTRACTS



# REUSABLE ICT-BASED LEARNING DESIGNS

**Shirley Agostinho**  
 Digital Media Centre  
 University of Wollongong, AUSTRALIA  
*shirley\_agostinho@uow.edu.au*

## Abstract

*The purpose of this poster is to showcase the outcomes from the AUTC Project: Information and Communication Technologies (ICTs) and Their Role in Flexible Learning to encourage the reuse of the generic ICT-based learning designs produced.*

## Keywords

*Learning designs, generic templates, software tools, reuse*

## Introduction

The primary aim of the Australian Universities Teaching Committee funded project: *Information and Communication Technologies (ICTs) and Their Role in Flexible Learning* is to facilitate sharing and uptake of high quality ICT-based learning designs amongst academics in higher education. A wide range of existing high quality, ICT-based learning implementations were examined for the purpose of selecting learning designs suitable for dissemination in the form of reusable guidelines, templates and/or software tools. (A learning design refers to the strategy in which activities, resources and support mechanisms are planned and sequenced for students.)

### **Examples of reusable learning designs**

A sample of generic learning design templates, guidelines and tools produced includes:

- **enRole, Research, React, Resolve, Reflect:** Guidelines and document templates to assist the design, development and implementation of online role play learning designs.
- **Explore, Describe, Apply:** A guideline for a problem focussed learning design.
- **Investigate eShell:** A Web-based template to assist the design and development of an online learning environment to support students in decision-making, problem solving and case-based reasoning.
- **Predict-Observe-Explain eShell:** A Web-based template to assist the design and development of activities based on a 'predict-observe-explain' strategy.

## Conclusion

In the current climate where there is a growing imperative on reusability, the products from this project are significant and timely. Academics are encouraged to investigate how these products/resources may be applied in their teaching and learning context. Thus, whilst this project has produced a range of resources available for reuse, how these resources are reused is a work-in-progress.

### **Acknowledgements**

The project team would like to thank all those who participated in this project.

This publication was made possible through participation in the 2000-2002 Australian Universities Teaching Committee project titled: "Information and Communication Technologies and Their Role in Flexible Learning" funded through the Higher Education Innovation Programme (HEIP) via the Commonwealth Department of Education, Science and Training. Consortium: Project Team - Professor Barry Harper (University of Wollongong), Professor Ron Oliver (Edith Cowan University), Professor John Hedberg (formerly from University of Wollongong), Professor Sandra Wills (University of Wollongong); Research Team - Dr Jan Herrington (formerly from Edith Cowan University), Dr Garry Hoban (University of Wollongong), Dr Lori Lockyer (University of Wollongong), Associate Professor Catherine McLoughlin (Australian Catholic University); Project Manager, Dr Shirley Agostinho (University of Wollongong).

Copyright © 2003 Shirley Agostinho

The author(s) assign to ASCILITE and educational non-profit institutions a non-exclusive licence to use this document for personal use and in courses of instruction provided that the article is used in full and this copyright statement is reproduced. The author(s) also grant a non-exclusive licence to ASCILITE to publish this document in full on the World Wide Web (prime sites and mirrors) and in printed form within the ASCILITE 2003 conference proceedings. Any other usage is prohibited without the express permission of the author(s).

# INTERNET DELIVERY OF DECISION SUPPORT TOOLS FOR TEACHING NATIONALLY

**H. G. Daily, J. M. Scott and J. M. Reid**  
School of Rural Science and Agriculture  
University of New England, AUSTRALIA.  
{Helen.Daily, Jim.Scott, James.Reid}@une.edu.au

## Abstract

*We are delivering Decision Support Tools (DST) as teaching applications over the Internet via thin client technology to a variety of client groups around the country, including many universities.*

## Keywords

*Decision Support Tools, DSS, thin client technology, internet delivery.*

The University of New England (UNE) has long recognized the value of Decision Support Tools (DST) for teaching, particularly where students are able to integrate large amounts of information across disciplines in a “systems approach” as is the case with rural science and agriculture students using CSIRO Plant Industry’s DST, GrassGro(tm). The interactive nature of this program allows students to develop problem solving and decision making skills which would not normally be possible within the time or resource restrictions of a university degree, let alone investigate long-term consequences of management decisions possible within an agricultural grazing system and its inherent decadal time frame (see Bellotti et al, 1998; Daily et al, 2000; Scott, 2002).

We have developed an internet delivery system, called “eDSServe” (e-Decision Support Server) which delivers under licence, commercially available agricultural software via dedicated, load-balanced servers currently located at UNE. We are continuing to expand the range of software and modelling products available for teaching purposes via eDSServe well beyond rural science; for example, a Psychology survey to UNE students. To date, 4 universities have registered some 275 students to access DST for 8 units. This potentially increases the range of DST that any institution can offer its students, by reducing the need for individual installations on campus computers, and improves equity of access for internal and external students.

An internet portal (<http://edsserve.une.edu.au>) provides an entry point for registered undergraduate students both on- and off-campus to a customised home page with information on available software, classes and contacts at their institution, discussion boards if activated, and background information about the project driving this initiative. Students select units in which they are enrolled and use the decision support tool appropriate for teaching exercises in that unit. Additionally, lecturers are able to “constrain” the student experience to focus on specific areas of interest in a given unit. These facilities enable students to build knowledge and skill of complex DST in a stepwise, user-friendly manner, and to link these to their theoretical knowledge.

Funding support from Australian Wool Innovation is allowing significant support to any participating universities through a Decision Support Specialist who assists academics in developing teaching materials and exercises as well as IT support dedicated to the smooth delivery of the software.

In addition, we are exploring the use of this delivery system to provide educational services to farmer groups and secondary students, and there is international interest in collaborating on agricultural DST at undergraduate level. We will develop this service to assist with interactive assessment through multiple choice quizzes, and explore ways of evaluating teaching outcomes.

To date, rural science undergraduates are enjoying quality teaching outcomes and developing job-relevant skills. The impact of these new technologies as teaching tools will be amplified by the uptake of this delivery system by institutions nationally.

## References

- Bellotti, B., Daily, H., Kiley, M., Mullins, G., Peterson, R. and Tivey, D. (1998) *Integrating a computer simulation into the curriculum: a teachers guide*. The Advisory Centre for University Education, The University of Adelaide.
- Daily, H.G., Hinch, G.N., Scott, J.M. and Nolan, J.V. (2000). *The use of a decision support program to facilitate the teaching of biological principles in the context of agricultural systems*. Proceedings of the TEDI Conference, University of Queensland. [Online].  
Available: [http://www.tedi.uq.edu.au/conferences/teach\\_conference00/abstractsA-H.html#Daily](http://www.tedi.uq.edu.au/conferences/teach_conference00/abstractsA-H.html#Daily)
- Scott, J.M. (2002). *Enhancing student learning using Decision Support Tools across the curriculum*. CAL-laborate (Life Sciences) Volume 8 June 2002 [Online].  
Available: <http://science.uniserve.edu.au/pubs/callab/vol8/scott.html>

## Acknowledgements

This project would not be possible without the support of Australian wool producers through Australian Wool Innovation, nor the support of CSIRO Plant Industry, their commercial partner, Horizon Agriculture, and the collaborating Australian universities.

Copyright © 2003 H.G. Daily, J.M. Scott and J.M.Reid.

The author(s) assign to ASCILITE and educational non-profit institutions a non-exclusive licence to use this document for personal use and in courses of instruction provided that the article is used in full and this copyright statement is reproduced. The author(s) also grant a non-exclusive licence to ASCILITE to publish this document in full on the World Wide Web (prime sites and mirrors), publication to CD-ROM and in printed form within the ASCILITE 2003 conference proceedings. Any other usage is prohibited without the express permission of the author(s).

# UPDATE ON THE DESIGN, DEVELOPMENT AND EVALUATION OF A VIRTUAL CHEMISTRY LABORATORY

**Barney Dalgarno, Andrea Bishop and Danny R. Bedgood Jr.**

Charles Sturt University, AUSTRALIA

*bdalgarno@csu.edu.au, abishop@csu.edu.au, dbedgood@csu.edu.au*

## Keywords

*Virtual Environment, Virtual Reality, Laboratory Education, Chemistry,*

## Context

At Charles Sturt University (CSU) one of the greatest problems that confronts us in providing undergraduate chemistry by Distance Education (DE) is how to adequately address the teaching of a laboratory component. This problem has also been frequently reported by others involved in teaching chemistry at a distance (Hollingworth and McLoughlin, 2001). In first year chemistry subjects at CSU, students attend a residential school, normally midway through the session, and undertake all of their laboratory work at this time. It has been found that students require time to become familiar with the laboratory environment and if they are not familiar, their focus tends to be on the process of completing the experiments rather than on the important chemistry concepts.

## Potential Benefits of a Virtual Laboratory

A virtual laboratory that allowed students to explore the environment, read about equipment and procedures and locate, collect and assemble apparatus before they undertook their first laboratory session would potentially have the following specific benefits:

- Students would feel more relaxed and comfortable in the laboratory;
- Less laboratory time would be wasted looking for items of apparatus;
- Students would be more likely to assemble and use apparatus in the correct way leading to more meaningful experimental results;
- Greater familiarity with laboratory procedures may improve safety;
- Students could devote more of their attention to the chemistry concepts involved in the experiments because they would already be familiar with the procedural aspects of the task.

## The CSU Virtual Chemistry Laboratory

The CSU virtual chemistry laboratory is an accurate 3D model of the undergraduate chemistry teaching laboratory at our Wagga Wagga campus. The initial version has been designed to allow learners to become familiar with the layout of the actual laboratory, as well as to find out information about laboratory procedures. Learners can explore the laboratory and find out information about items of apparatus and equipment by selecting objects. Information about laboratory procedures is accessible through menus in the environment. Learners can also collect items of apparatus that they might need for an experiment, carry them to a desk and then assemble them. The CSU virtual chemistry laboratory is accessible at <http://farrer.csu.edu.au/chemistry>.

## Evaluations

The virtual laboratory was initially piloted with a group of 10 on-campus students in 2002 and was then used by an entire class of 80 students in 2003. Students undertook written tests on their knowledge of the spatial layout of the laboratory and their recall of apparatus structure and laboratory procedures. Students also completed a questionnaire and were observed and timed as they undertook tasks in the real laboratory a week after using the virtual lab. The results suggest that students can see significant benefit from the use of virtual laboratories. Initial data also suggests that the virtual laboratory provides for more complete learning of laboratory layout than the use of a web site containing still images.

The virtual laboratory was also made available to distance education students in 2003 but many students encountered technical problems in installing the appropriate software on their machines and accessing the laboratory online. Our current focus is on addressing these problems in time for Autumn session 2004. One solution may be to provide the virtual laboratory and required software on CD-ROM rather than online. We are also planning to seek a grant to allow further development of the laboratory and in particular the addition of the capability for students to undertake virtual experiments, which we are confident will lead to significant learning of chemistry concepts.

## References

Hollingworth, R. and McLoughlin, C. (2001). Teaching Tertiary Chemistry by Distance Education: Where We're At and Where We're Going. In M.J.Mahony, D.Roberts and A.Gofers (eds) *Education Odyssey 2001: Continuing the journey through adaptation and innovation, Collected papers from the 15th Biennial Forum of the Open and Distance Learning Association of Australia*.

Copyright © 2003 Barney Dalgarno, Andrea Bishop, Danny Bedgood

The author(s) assign to ASCILITE and educational non-profit institutions a non-exclusive licence to use this document for personal use and in courses of instruction provided that the article is used in full and this copyright statement is reproduced. The author(s) also grant a non-exclusive licence to ASCILITE to publish this document in full on the World Wide Web (prime sites and mirrors) and in printed form within the ASCILITE 2003 conference proceedings. Any other usage is prohibited without the express permission of the author(s).



# EDNA ONLINE

**Nelly Ivanova**

education.au limited, AUSTRALIA

*nivanova@educationau.edu.au*

## **Abstract**

EdNA Online <http://www.edna.edu.au/> is a national asset collaboratively funded by the Australian Commonwealth and State/Territory governments. It is built upon one of the world's largest publicly funded databases of quality, evaluated online resources relevant to the Australian education and training community. The project is managed by *education.au limited*, a National Australian ICT agency.

As Australia's gateway to resources and services for education and training, EdNA Online is constantly seeking to improve both its resource discovery functionality and its collaborative services. A rich knowledge base and a meeting place for education and training communities, EdNA Online empowers educators and learners alike by offering networking opportunities, online resources, information services and tools to support their research, teaching and learning needs. Services offered by the EdNA Online portal include access to quality, evaluated resources discoverable through the metadata repository, metadata exchange, distributed searching, collaboration via online communities, forums, chat, noticeboards, discussion lists etc.

The poster session will highlight the uniqueness of EdNA Online as a trusted, well-resourced information and knowledge base for educators and learners alike. The presenter will guide the audience through the different access points on the gateway to freely available, web-based teaching and learning resources and services.

## **Keywords**

*online learning, e-learning, collaboration, interoperability,  
education and training communities*

Copyright © 2003 education.au limited

The author(s) assign to ASCILITE and educational non-profit institutions a non-exclusive licence to use this document for personal use and in courses of instruction provided that the article is used in full and this copyright statement is reproduced. The author(s) also grant a non-exclusive licence to ASCILITE to publish this document in full on the World Wide Web (prime sites and mirrors), publication to CD-ROM and in printed form within the ASCILITE 2003 conference proceedings. Any other usage is prohibited without the express permission of the author(s).

# DEVELOPING GUIDELINES FOR MANAGING LEARNING RESOURCES

**Sally Joy**

Faculty of Business and Economics  
Monash University, AUSTRALIA  
*Sally.Joy@buseco.monash.edu.au*

**Owen O'Neill and Jane Howie**

Technology Services Group, Faculty of Business and Economics  
Monash University, AUSTRALIA  
*Owen.Oneill@buseco.monash.edu.au, Jane.Howie@buseco.monash.edu.au*

## **Abstract**

*Recently, there has been much research into the development and management of reusable learning resources. Much of this research has revolved around the technologies and standards required for creating, managing and using these resources. Potential benefits of managing learning resources such as the possibilities of greater access, reuse and collaboration have been well documented. However, successful outcomes from such a system often require significant organisational and cultural change.*

*Monash University has been involved in a project in conjunction with COLIS (Collaborative Online Learning and Information Services) to develop guidelines, processes and workflows for the use of managed learning environments. The project is also looking to document potential barriers to implementation. This documentation is designed to be non-application or system specific so that it can be repurposed by other institutions. It is anticipated that this information can be used by others in the development of comprehensive implementation strategies for managed learning environments.*

## **Keywords**

*Learning objects, leaning resource, learning resource management, LCMS*

Copyright © 2003 Sally Joy, Owen O'Neill and Jane Howie.

The author(s) assign to ASCILITE and educational non-profit institutions a non-exclusive licence to use this document for personal use and in courses of instruction provided that the article is used in full and this copyright statement is reproduced. The author(s) also grant a non-exclusive licence to ASCILITE to publish this document in full on the World Wide Web (prime sites and mirrors) and in printed form within the ASCILITE 2003 conference proceedings. Any other usage is prohibited without the express permission of the author(s).

# PERSPECTIVE POP-UPS AND CHARACTER DESIGN

**James Meek and Lori Lockyer**  
 Digital Media Centre  
 University of Wollongong, AUSTRALIA  
*jim\_meek@uow.edu.au, lori\_lockyer@uow.edu.au*

## Abstract / Summary

*This poster highlights one aspect of a website developed for an international telecommunications company. The site is about a methodology used in managing research projects. The poster focus is on visual characters used in what we have termed 'perspective pop-ups'.*

*Analysis of learning needs and available content source revealed a chance to promote understanding of others' need and to encourage discussion about the methodology among a range of key players. The opportunity to promote perspective taking was recognised. Re-use of views gathered from company staff was indicated, and the interaction mode chosen allowed users to bring forward role-based viewpoints, or to simply pause, consider, and then move on. It also allowed injection of some low-key humour and a little graphic relief in text-heavy content.*

*A cast of characters was devised to represent key stakeholder/participants; a simple, attractive and re-arrangeable cuing mode employing these was produced; comments for characters to 'make' in relation to selected aspects of the methodology were scripted, based on interview and artefact input; pop-up windows were created to contain comments from the characters. Visual design of characters paid particular attention to gender and race representation, and stereotyping issues. By intention, no attempt was made to represent actual staff of the client organisation.*



Figure 1. The full cast designed for use in 'perspectives prompts'.  
 (Only three or four characters were used in each of the final five topic/discussions employing the mode.)

*Visit the poster to see one example of this character device in use, an indication of the reception it received, and a discussion of design issues revealed in the project. Contribute your own thoughts on character design, particularly in relation to adult learning material. Nominate a case where you have seen such representations used in technology-based learning. Help us with research which is currently underway.*

## Keywords

*Character representation, Multiple perspectives, Interaction design*

Copyright © 2003 James Meek and Lori Lockyer.

The author(s) assign to ASCILITE and educational non-profit institutions a non-exclusive licence to use this document for personal use and in courses of instruction provided that the article is used in full and this copyright statement is reproduced. The author(s) also grant a non-exclusive licence to ASCILITE to publish this document in full on the World Wide Web (prime sites and mirrors) and in printed form within the ASCILITE 2003 conference proceedings. Any other usage is prohibited without the express permission of the author(s).

# STAFF SUPPORT FOR TEACHING WITH LMS/VLE

**Russ Pennell**

Centre for Educational Development and Interactive Resources  
University of Wollongong, AUSTRALIA  
*russ@uow.edu.au*

## **Abstract**

*Staff support systems at ten Universities in Australia, the US and UK are compared through interactive annotated diagrams, and the parameters influencing their differences (including maturity, history and resource provision) are detailed.*

## **Keywords**

*staff support, online teaching, elearning, LMS, VLE*

## **Context: LMS/VLE support**

Although learning technology has become embedded in tertiary teaching, the use of online environments is subject to particular needs and is often provided with specific support. Learning Management Systems, also called Virtual Learning Environments, are usually offered to staff as a centrally supported facility, and teaching staff are provided with infrastructure and development support to varying degrees in different institutions. The systems supporting staff might include pedagogical and skill development, media production services, and website creation, modification and maintenance.

## **Project Overview**

This project has collected information about the system structures at relevant Australian, US and UK institutions through published sources, site visits and interviews. Data collection was initially based on a list of relevant functions that might be achieved by the institution. Case studies of ten anonymous institutions describe their staff support systems in a manner that allows comparison and highlights similarities and differences and potential causes of these.

## **Data Presentation**

Organisational diagrams are not adequate; structures differ enormously and labels have different meanings between countries and also between institutions. Adequate text descriptions are lengthy and do not allow rapid comparison of the systems of different institutions. Data is presented as interactive diagrams with integrated annotations. Concept maps are also used to detail the interactions between and the influences upon various parameters.

## **Parameters**

Parameters currently identified include:

- maturity, as measured by the penetration of online support into traditional teaching practices
- research orientation of the University and of the Learning and Teaching Support unit
- role differentiation between the Information Technology support unit and the Learning and Teaching support unit
- the ratio of support staff to teaching staff
- history of the institutional teaching environment re on-campus/off-campus students

As will be evident, these parameters are not independent, and discussion of their interaction illuminates the comparisons.

Copyright © 2003 Russ Pennell.

The author assigns to ASCILITE and educational non-profit institutions a non-exclusive licence to use this document for personal use and in courses of instruction provided that the article is used in full and this copyright statement is reproduced. The author also grants a non-exclusive licence to ASCILITE to publish this document in full on the World Wide Web (prime sites and mirrors) and in printed form within the ASCILITE 2003 conference proceedings. Any other usage is prohibited without the express permission of the author.

# A RESOURCE DESIGNED TO INCREASE STUDENT AWARENESS OF SAFETY ISSUES IN LABORATORY AND FIELDWORK SETTINGS.

**Hasmeeta Shukla**

Centre for Educational and Professional Development  
Auckland University of Technology (AUT), NEW ZEALAND  
*Hasmeeta.shukla@aut.ac.nz*

**Barbara Jacomb**

Department of Applied Science  
Auckland University of Technology(AUT), NEW ZEALAND  
*Barbara.jacomb@aut.ac.nzs*

## Poster summary

Ensuring that students have a good understanding, and realise the importance of the key safety issues surrounding them when they are in the laboratory or field settings is not an easy task. Often students who come straight from high school do not have much, if any, laboratory experience, and need to be treated as if they are working in this type of setting for the first time. With more experienced mature working students, there are problems where the practices in the workplace differ from what is expected in a teaching environment. The resource presented here is aimed at making students aware of the safety regulations that they are expected to abide by during their studies, as well as to make them familiar with the safety features and their usage before they come to their first class.

The resource is divided into five sections that together would engage the students in about 20 - 30 minutes interactive online activity.

The five main sections are as follows:

1. What to wear?
2. Where are the safety features and fire exits located?
3. How and when are the safety features used?
4. What can go wrong and what action should be taken?
5. Review of the above content in the form of a quiz.

It is intended that the students will be provided access to the resource at the same time as receiving their programme timetables. They will be expected to undergo the activities before they come to their first practical session, and the teaching staff will check that they have done so. Its completion will be made a requirement of the course. In total, 3 different resources are planned depending on the type of practical work involvement in the course. One will be aimed at chemistry students, one at biology/medical science students and the third for students who are expected to go off campus.

Sections 1 and 2 comprise of interactive activities based on computer animations. Section 3 comprises of short video clips or photographs as appropriate for the safety feature being demonstrated. Section 4 consists of scenarios of incidents that have actually occurred, both avoidable and unavoidable, to help the students appreciate the importance of good practice and the consequences if it is not adhered to. These will be randomly generated so that should a student be enrolled in more than one chemistry module, for example, which is highly likely, they will not come across the same set of scenarios. The last section is a review quiz to assess student learning. The questions will again be randomly generated and students will be allowed multiple attempts. A sample of the range of activities that are developed in this resource will be presented.

The aim of the resource is to cover the general aspects of safety when working in the laboratory or field setting, leaving more time for the teaching staff to cover the specifics related to their discipline. It will also provide a more consistent approach towards safety across a very diverse range of practical classes. It is envisaged that by increasing the students' awareness in this way, they will develop a more responsible attitude towards their own safety in the workplace.

#### **Keywords**

*Safety, laboratory, fieldwork, online resource*

#### **Acknowledgements:**

We would like to thank AUT for a project grant to enhance teaching and learning.

We would like to also thank Peter Mansfield for the development of the multimedia resources.

Mostly, we would like to thank the staff of the department of applied science at AUT for their support, encouragement and co-operation during this project without which it would not have been possible.

Copyright ( 2003 Hasmeeta Shukla and Barbara Jacomb.

The author(s) assign to ASCILITE and educational non-profit institutions a non-exclusive licence to use this document for personal use and in courses of instruction provided that the article is used in full and this copyright statement is reproduced. The author(s) also grant a non-exclusive licence to ASCILITE to publish this document in full on the World Wide Web (prime sites and mirrors) and in printed form within the ASCILITE 2003 conference proceedings. Any other usage is prohibited without the express permission of the author(s).

# ALL ABOARD THE ONLINE EXPRESS: ISSUES AND IMPLICATIONS FOR PASEFICA E-LEARNERS

**Nicoletta Rata Skudder and Danny Angeth**  
e-learning centre  
BEST Training: New Zealand  
*niki@besttraining.co.nz, danny@besttraining.co.nz*

**John Clayton**  
Centre for Learning Technologies  
Waikato Institute of Technology: New Zealand  
*John.Clayton@wintec.ac.nz*

## Abstract

*The development of e-environments in the tertiary sector creates opportunities and challenges for all tutors and learners. E-educationalists dealing with Pasefika communities are further challenged to develop e-experiences and educational outcomes for a group, which has historically failed to achieve in the New Zealand education system. This presentation will explore the challenges faced by Best Training in the move into online education. It will review the strategies and tactics used by them in the development and delivery of successful online programmes to Pasefika e-learners.*

## Keywords

*Pasefika communities, e-learning, online learning, blended delivery, mixed-mode delivery*

## Poster Summary

Since 2000 Best Training, a Private Tertiary Education Provider in Auckland New Zealand with a history of providing educational opportunities to the Pacific Island and Polynesian Community, has been committed to the implementation of e-learning as a tool to provide quality educational programmes that responsively and effectively meet the educational needs of its Pasefika peoples.

This client group, because of financial and family commitments, find attending and studying in traditional educational institutions difficult and sometimes impossible. Best Training has addressed the needs of its client group with the development and delivery of a number of mixed mode / blended delivery e-learning programmes.

This presentation focuses on one mixed mode / blended delivery e-learning programme, The Advanced Certificate Business. The majority of students enrolled within this programme are Polynesian, with approximately 85% being of Maori or Pacific Island descent. Feedback from students completing the course indicated that a significant number (69%) would not have undertaken tertiary study if this mixed mode / blended e-learning option had not been available. However, working with this client group presents many challenges.

Students need hardware, software, infrastructure and computer skills. Tutors need to re-examine their teaching practices and become aware of the changing roles and responsibilities for both themselves and their students in an e-learning environment. This presentation will explore the challenges faced by Best Training in the move into e-learning environments. It will review the strategies and tactics used by them in the development and delivery of successful mixed mode / blended delivery e-learning programmes.

Copyright © 2003 Nicoletta Rata Skudder, Danny Angeth and John Clayton.

The author(s) assign to ASCILITE and educational non-profit institutions a non-exclusive licence to use this document for personal use and in courses of instruction provided that the article is used in full and this copyright statement is reproduced. The author(s) also grant a non-exclusive licence to ASCILITE to publish this document in full on the World Wide Web (prime sites and mirrors) and in printed form within the ASCILITE 2003 conference proceedings. Any other usage is prohibited without the express permission of the author(s).



# USING INTERNET TECHNOLOGY TO ENHANCE THE LEARNING EXPERIENCES IN DATA COMMUNICATION COURSE

**Siti Hasnah Tanalol and Asni Tahir**

Information Technology Program, School of Engineering and Information Technology,  
Universiti Malaysia Sabah, MALAYSIA  
*hasnah@ums.edu.my, asnieta@ums.edu.my*

## **Abstract**

*Today students have no limit to their access of learning. With the present of the Internet, students are exploring new frontiers of knowledge and challenging traditional notions of learning. In this process, they are sowing the seeds for global learning in the learning institution. This research highlights the use of Internet in delivering Data Communication course and how to exploit the potential of Web technologies. The research was conducted to a group of major (IT) students (with a group of 60) taking data communication course in SKTM. The purpose of the research is to see how the Internet can enhance the teaching and learning using online delivery by simultaneously facilitating the learning of key concepts introduced in the classroom and supplying the students with hands-on Internet experience. This report will review the important phases of building the system; features, the implementation and the key lessons learnt and will conclude with a summary of some of the future opportunities/works.*

*Limitations one can expect when using Internet technology in an academic setting also being discussed in this report.*

## **Keywords**

*Web-based learning, Internet, Online course, Interactivity, Collaboration*

Copyright © 2003 Siti Hasnah Tanalol and Asni Tahir

The author(s) assign to ASCILITE and educational non-profit institutions a non-exclusive licence to use this document for personal use and in courses of instruction provided that the article is used in full and this copyright statement is reproduced. The author(s) also grant a non-exclusive licence to ASCILITE to publish this document in full on the World Wide Web (prime sites and mirrors) and in printed form within the ASCILITE 2003 conference proceedings. Any other usage is prohibited without the express permission of the author(s).

# BUSINESS ON A BUDGET – ICT IN EDUCATION

**Mike Taylor**

School of Mathematics, Science and Technology  
Queensland University of Technology, AUSTRALIA  
*mj.taylor@qut.edu.au*

## **Abstract**

*An outline of a 'work in progress' study focusing on the issues encountered in the implementation of ICT into four Queensland Independent schools in during their first 10 years of operation.*

## **Keywords**

*Information Communication Technology, ICT, Implementation, Independent Schools, Private Schools, Case Study Activity Systems Theory Engeström Yin*

## **POSTER SUMMARY**

Growth of the Independent school sector (non-Catholic) in Queensland by 49 percent between 1991 and 2001 (ABS, 2002), has placed considerable pressure on these schools to maximise the efficiency of their limited financial and human resources. This study investigates the issues that influence the implementation and development of Information and Communication Technology (ICT) in Independent schools during their first 10 years, and the educational outcomes.

Employment as the 'Director of Information Services' during an Independent school's formative years gives the author unique insight into unlocking these complex issues.

The study employs case study methodology to gather data from four new Independent schools located in the greater Brisbane area. The data will be gathered via emailed questionnaires and semi-structured interviews with key personnel. The application of a 'replication logic', endorses the potential of this study to 'produce very robust findings' (Yin, 1993, p.34). Analysis of this data will then be conducted by the application of Activity Systems Theory as devised by Engeström (1987).

This poster outlines the key elements of this 'work in progress' study. To enrich the depth of this study, feedback is invited from persons who have undertaken similar research.

## **References**

Australian Bureau of Statistics 2001, *Schools 2001*, cat. no. 4221.0, ABS, Canberra.

Engeström, Y. (1987), *Learning by Expanding: An activity-theoretical approach to developmental research*. Orieta-Konsultit, Helsinki

Yin, R. (1993), *Applications of Case Study Research*, SAGE, Newbury Park.

Copyright © 2003 Mike Taylor.

The author(s) assign to ASCILITE and educational non-profit institutions a non-exclusive licence to use this document for personal use and in courses of instruction provided that the article is used in full and this copyright statement is reproduced. The author(s) also grant a non-exclusive licence to ASCILITE to publish this document in full on the World Wide Web (prime sites and mirrors), publication to CD-ROM and in printed form within the ASCILITE 2003 conference proceedings. Any other usage is prohibited without the express permission of the author(s).