
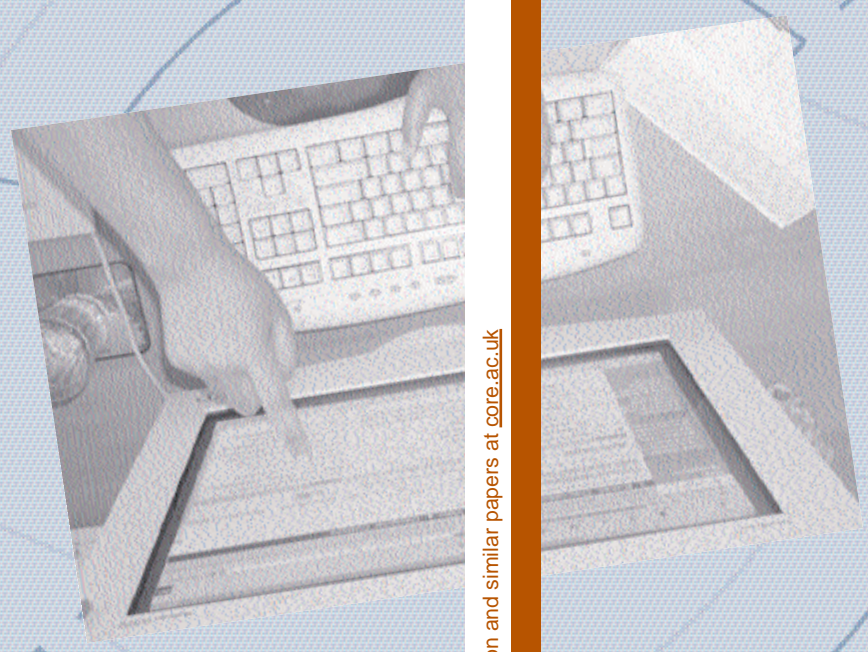


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online
forum for the discussion of teaching and learning at The University of Sydney



Institute for Teaching and Learning
The University of Sydney

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Online teaching and learning

Professor Paul Ramsden, Pro Vice-Chancellor (Teaching & Learning)

Welcome to this edition of Synergy, which focuses on developments in teaching and learning using online learning technologies.

Scholarly innovation is a fundamental quality of teaching and learning at The University of Sydney. An evidence-based approach to the use of information and communications technologies (ICT) ensures that academic imperatives drive the use of technology in learning.

In order to assist faculty with ICT initiatives in teaching and learning, the University adopted a centrally-supported e-learning platform (WebCT) in late 2000. Since then, we have worked to coordinate faculty and central efforts in the rollout of this platform. The goal has been to provide all staff members with a stable and well-supported set of learning tools to support student learning.

While our experience since 2000 has been successful, it has also revealed areas in which we need to integrate more closely the different contributions of each part of the University. Only a coordinated approach will enable us to maintain an effective and efficient service that encourages excellent learning outcomes.

In addition to supporting the teaching and learning needs of our staff and campus-

based students, the University is increasingly aware of its obligations to its alumni and other post-graduate students who seek professional and lifelong learning opportunities. Drawing on the foundation provided by the faculties and the central infrastructure, strategic initiatives such as the Innovation and Technology in Education Ventures project are assisting colleges and faculties to identify and develop award programs that are highly sought after for professional and lifelong learning. These initiatives present important commercial opportunities as well as educational ones and re-emphasise the need to guarantee excellence.



Paul Ramsden

I encourage you to read about the work of our colleagues in this edition of Synergy. I am sure that they would welcome your thoughts and questions. Remembering that, as Diana Laurillard says, 'A university is defined by the quality of its academic conversations, not by the technologies that service them', we need to maintain a lively dialogue about initiatives such as those discussed here. We should work together, applying the best available evidence, to develop our understanding of what it takes to create the highest quality student learning experiences using ICT.

About This Issue

This special issue of Synergy is devoted to Online Teaching and Learning, and thus it seems appropriate for Synergy to appear in both print and online versions. The website for this issue of Synergy (Issue #18) can be accessed directly from the homepage [<http://www.itl.usyd.edu.au>].

To generate the articles that appear in this issue, we invited Anne Forster (Manager, Special Projects, Vice-Chancellor's Office) to prepare a central discussion paper which was then disseminated to Faculties, Schools and Teaching & Learning Committees. We received a substantial response to the invitation for contributions, and the process of selecting and editing has given us some insight into the varied and complex practices that constitute online teaching and learning at The University of Sydney.

Some experiences may resonate with you; some stories may well inspire you to consider integrating online activities into the learning you design and conduct for your students. We hope you will enjoy reading the papers in this issue. *Kim McShane & Tai Peseta - Editors, Synergy #18*

DISCUSSION PAPER

Online teaching and learning

Anne Forster, Manager, Special Projects,
Director, Innovation & Technology in Education
Ventures (iTEV), Vice-Chancellor's Office



Anne Forster

This issue of Synergy is published as The University of Sydney prepares for the culmination of its Sesquicentenary celebrations. Over a three day festival in October, the University will showcase its achievements, people and spaces. While the wonder of Sydney is its history and depth of research leadership in so many fields, the festival will not be able to reveal the quiet revolution taking place in our classrooms with online teaching and learning.

Online learning technologies provide opportunities for faculty to design teaching which enables guided interaction between learners, engagement with learning resources and essential communications about courses. Still, the expectation of the majority of students is that the Sydney experience will bring them face to face with "those who wrote the books and made the discoveries" (The University of Sydney submission to the Review of Higher Education, June 2002), an expectation that becomes increasingly difficult to sustain as student numbers increase relative to the size of the faculty available to teach.

Thus, at The University of Sydney, online teaching and learning focuses not only on the design of effective pedagogical environments but also on the efficient management of the learning system and the design of services that leverage scarce resources. The focus of the technology infrastructure has been to ensure that support for the campus experience of online teaching and learning is a priority. Thus Sydney is investing in a major upgrade of lecture theatres and network infrastructure. Computer

access centers have been increased and provided with more system support, centrally supported WebCT now accounts for over 700 units of study, and increased funding has been earmarked for faculty support in the use of learning technologies.

The Institute of Teaching and Learning works closely with faculties on strategies for program design, academic staff development and, together with the Flexible Online Learning Project, has provided expertise and skill development through seminars, workshops and resources. Fisher Library provides digital resources and image databases to support flexible online learning and also provides expertise in the management of digital rights, an increasingly complex process.

While this focus on learning technologies has enhanced the Campus experience, there is another quiet revolution taking place. Changing student demographics and an increasing demand for postgraduate professional education has resulted in the design of more flexible programs better able to meet the needs of the part time, employed adult student with limited time to attend classes. Throughout the University, postgraduate programs are making use of online learning and teaching to optimize student participation. Missing the occasional lecture is not so much a problem if the lecture materials are made available online or if the whole lecture is web streamed. Some programs are provided wholly online such as Project Management Outreach in the Faculty of Engineering. Most provide a blend of classroom attendance with independent study supported by online resources and communication tools.

Print-based distance education programs have played a small but significant role in the Sydney experience with programs available over many years in the Health Sciences, Rural Management, Education and Science. These have fully adopted online learning technologies to provide the communication and collaboration tools to minimize the isolation experienced by the distance learner.

Postgraduate professional education is highly competitive and an important source of revenue for the University. In realizing a return on the investment needed to develop innovative and responsive programs, faculties are implementing business planning and management processes. The Innovation and Technologies in Education Ventures project (iTEV), provides support to faculties wanting to start up a new education venture or to improve the return on existing programs. iTEV acts as a referral hub to existing University services, provides business and project management expertise and advisory services and supports a co-investment model for new program development.

The University of Sydney is a multi campus institution and online teaching and learning is recognized as the means to link campuses and classrooms to leverage faculty availability and increase student access. The development of the Centre for Rural Education at Orange for example, will require the creative use of learning technologies in the provision of Liberal Studies, Computer Science, and Rural Pharmacy programs.

The increasing diversity of the teaching and learning environment and the role of online technologies is challenging the services available to support the changing nature of academic work, the needs of learners and the demand for more responsive administrative systems. At this stage most innovation is an add-on rather than a replacement of existing workload. Realising the full benefits of online teaching and learning will only come when the institutional response reaches equivalent flexibility. Changing administrative processes to enable variations to existing practices such as continuous enrolment, varied examination periods,

smaller units of study, and web-based services are recognized as a priority through the launch of the University's Portal Project, designed to address business integration for online service delivery.

The Academic Board is leading the challenge to policies and practices through a working party of the Teaching and Learning Committee. To complement policies already developed for online teaching and learning, work is now focused on the management of quality in ICT enabled learning environments.

This brief overview of online teaching and learning barely touches the surface of the actual work undertaken by the academic staff in continuously improving the learning environment at The University of Sydney. Celebrating the Sesquicentenary of the first University in Australia is also to acknowledge that this University places its students first and strives for innovation and quality in the Sydney experience.

Anne's role at the University of Sydney is to manage strategic initiatives including responses to the use of ICT in education ventures. Before joining the University of Sydney in September 2001, Anne was interim CEO of the Canadian TeleLearning Network of Centres of Excellence, a research consortium of twenty five Universities focused on eLearning technologies, tools and methodologies.

Anne's experience in the higher education and training sector has included academic, and management appointments in Australia, the UK and Canada. As Vice President Learning Services for NextEd Ltd she was involved in the establishment of the Global University Alliance. She has worked for KPMG Consulting, the University of New South Wales and the Australian Graduate School of Management (AGSM). She has published and taught courses on learning at a distance for the University of Wisconsin, Madison and the University of South Australia. She has consulted internationally on distance education and elearning business development.

Email: a.forster@vcc.usyd.edu.au

A virtual place learning environment

Steve Clark and Mary Lou Maher
Faculty of Architecture



Mary Lou Maher
& Steve Clark

A critical aspect of any Architecture curriculum is the *design studio*. The design studio is a place for students and design teachers to come together in a learning context or place. We have since extended this notion of

place and established a Virtual Learning Environment (VLE). Developing a VLE or virtual place for the design studio means that learning is not bounded by the limitations of physical studio space but is open to collaboration and possibility.

Using an immersive 3D Virtual World based on Active Worlds, we created a virtual studio for students in DESC9123 Website Design. The studio has two distinct parts: a classroom-like place and student galleries. Students can navigate and communicate (synchronous chat) within the environment in the form of an avatar (virtual person) as shown in Figure 1. They can construct and display their knowledge and learning experience using contextual learning resources and tutorials in the 3D virtual classroom environment. The student galleries provide a place for the visual representation of students' own design work which is submitted for peer review and collaborative feedback.

The curriculum design is informed by the literature on student-centred learning, in particular, three key elements - constructivist learning theory, technology and design. The combination of design and learning makes pedagogy central to the

learning environment and this has meant that we have needed to think educationally about the importance of context and experience. In fact, the *place* is designed specifically for context. For example, the virtual place is a gallery of student work. Students add to the gallery with their own exhibitions. The place is designed explicitly to support the construction of knowledge, where students have the ability and are expected to contribute to the place. For us, developing a sense of place, enables students to construct a context that can help them understand their own learning.

Anne Forster's discussion paper raises a key issue about the opportunity to design teaching and learning that enables guided interaction between learners and their engagement with learning resources. These two activities are critical for design students, who often work under the mentorship of an academic to develop their skills and knowledge.

Our reflections on the VLE suggests that the studio gallery acts as a nexus for students - they engage in discussion and collaboration with their peers while viewing each others' website designs. The key feature that distinguishes this from a traditional chat room is that the students share a common visualisation of the learning materials that constitute their own work. The use of the virtual world intrinsically supports the collaborative and conversational approach to learning since students are able to immediately see who else is in the studio/galleries and can converse with them using a talking by typing approach. Our experience of this type of virtual learning is that students communicate and share

thoughts and ideas openly and freely. In a traditional design studio environment, students can often be more reticent about openly expressing their opinions on each other's designs.

What improvements do we envisage? Many students have suggested that we include a face-to-face component to the website design course. This is often due to a perception that online lectures are being taken up by an extensive amount of conversation revolving around student questions and problems, and thereby distracting from the focus of the main topic. Monitoring stu-

dent conversation in the virtual world is a key problem. There is a constant need to balance unit learning outcomes with what students see as relevant to their learning. To address students' frustration, we have introduced a series of staggered face-to-face lectures at key milestones during the semester. The results have been positive and we are still working on the balance between the real world and virtual world teaching and learning experience.

Visit the URL for website Virtual Learning Environment at: [<http://www.arch.usyd.edu.au/~stevec/teaching/desc9123.htm>]

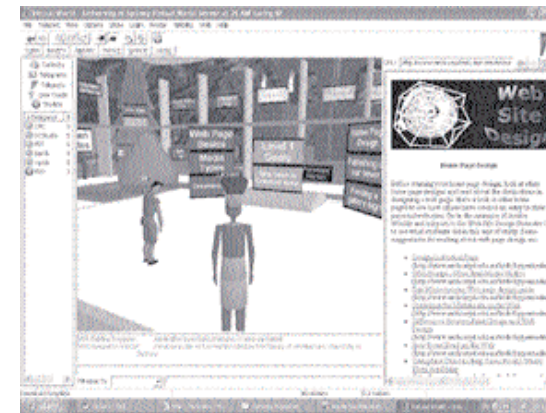


Figure 1. Students communicating and collaborating on a web page design.

Steve Clark is a part-time lecturer of Design Science and Digital Media in the Faculty of Architecture and a full-time PhD student with the Key Centre of Design Computing and Cognition. His research focuses on Virtual Learning Places that encourage collaboration and constructivism.

Email: stevec@arch.usyd.edu.au

Mary Lou Maher is the Professor of Design Computing in the Faculty of Architecture. Her research includes the use of intelligent virtual environments for collaborative design.

Email: mary@arch.usyd.edu.au

Blended learning in the Masters of Taxation Law course

Jenny Gage, Richard Vann, Celeste Black, Faculty of Law
Rob Ellis, Institute for Teaching and Learning

Traditionally, the Corporate Tax Course takes a problem-based learning focus through its use of case studies. This focus ensures that students, who are mostly professionals, learn both the technical legal content but also develop problem-solving skills essential to the practice of tax law. A continuing difficulty for students in the Master of Laws Program is the quality of their case study preparation due to significant professional work commitments. The use of blended learning in postgraduate courses, as noted in Anne Forster's discussion paper, where classroom attendance is supplemented with online learning facilities, can provide a great deal of flexibility for busy professionals. This has been the rationale for the way in which the Corporate Tax teaching team has been developing a blended learning approach. Its main purpose is to help students prepare for the complex issues identified in the case studies.

Developing Meaningful Online Learning Activities

The process of redeveloping the case studies to include meaningful online learning activities led to a review of the learning outcomes of the Unit of Study. The review recognised that students needed to develop a structural awareness of the changing landscape of taxation legislation, and that they would develop it best through a deeper understanding of the basic concepts underlying each case study.

The online learning activities scaffolded the basic concepts of the case studies through enquiry-based learning processes. To engage in these processes, students applied the relevant legislation, case extracts and rulings (linked to a html page in a useful online for-

mat by staff in the Fisher Library) to the case studies and then tested their understanding through online quizzes. Using this learning as a basis, their understanding of how the provisions related to the case studies was further developed through short answer questions where students posted answers to a discussion forum. In the seminars, the lecturer was able to pitch the level of the discussion in relation to the understanding the students revealed in the online quizzes, short answers and discussions.

A Few Key Issues

In addition to prompting a review of the student learning outcomes, the redevelopment of the case studies raised a number of issues for the teaching team.

Adopting a Student Perspective while Developing the Online Activities

To help students experience meaningful learning, the Corporate Tax teaching team adopted a student perspective in the design of online activities. In other words, the team needed to think about how the online materials might be designed to help students develop a structural awareness of the changing landscape of taxation legislation. The team's response to this issue came from an awareness of common misunderstandings or difficulties raised by past students about the case studies. This motivated the design and development of the quizzes and short answer questions. For example, students typically had difficulty understanding the taxation legislation related to franking accounts. To help students better understand the basic issues of franking accounts, a franking account interactive which embedded learning in an authentic context complemented the issues raised in the relat-

ed quiz. It involved students completing the franking account within a framework that highlighted the taxation implications along the way.

Developing a Sustainable Learning and Teaching Strategy

The teaching team was concerned that the online learning preparation for seminars might also become unsustainable for all concerned if students had difficulty understanding its purpose. To help students understand the purpose of their online learning, a tutor took on the responsibility of supporting their needs. This support took a number of forms - a training session addressing online learning strategies was held at the beginning of the semester; a number of interstate students received telephone tuition on the use of the site, and ongoing queries about the purpose of the learning activities was typically dealt with through a bulletin board posting to the whole group. Technical support needs were dealt with by the University's technical helpdesk. When compared with previous experience, the number of student queries about online learning was significantly reduced. Student feedback on the training sessions held at the end of the course suggested that the different forms of learning support were the reason for this.

Since the learning outcomes from the online activities provided impetus for the seminar discussions, communication between the tutor and the seminar lecturer about the outcomes of the quizzes and short answer questions was essential. The tutor and the lecturer worked together to summarise five or six main issues that emerged from the online activities, which warranted discussion at the seminar.

The Students' Perspective on the Learning Experience

Over the past 12 months, students from both law firms and those located on-campus have provided feedback about their learning experiences in the Masters of Taxation Law. The questions explored the usefulness of the online activities for the seminar learning, students' perceptions of

the purpose of the online learning activities and the level of difficulty they associated with the online learning activities. The majority of students (n=44) felt that the online learning activities made them better prepared (86%); helped them to get more out of the face-to-face seminar than usual (70%), understood the purpose of the online learning activities (75%) and felt that the level of difficulty was about right (68%). Others thought the activities could be made more challenging. These results and comments indicate there is a variation in the learning experience. Future strategies to improve the online learning experience might include increasing the level of complexity for some of the activities and introducing others that will help the students to be more aware of their relationship to problem-solving in the seminars.

Jenny Gage and Celeste Black teach on the Masters of Taxation Law Program. Jenny leads the online development of the Corporate Taxation Unit. Professor Richard Vann coordinates the Masters of Taxation Law Program. Rob Ellis works in the Institute of Teaching and Learning.

This project has been supported by iTEV, WebMCQ and the Flexible Online Learning Project.

Email: jennyg@law.usyd.edu.au

Medical E-ducation

Associate Professor Jill Gordon, Faculty of Medicine



Jill Gordon

In Issue 3 of "Synergy" (1996) Professor Ann Sefton referred to plans for a new medical program: "To ensure that students become competent with computers, we are developing a major initiative, an intranet (and) computer-based learning packages, databases, electronic forums and applications like spreadsheets".

What has happened in the last six years as a result of this "major initiative" in online learning and teaching? What may be of value to other schools or faculties? Here are just some of the things that we have found:

1. The new Program has led to a dramatic improvement in students' perceptions of their medical education, as reflected in the Course Experience Questionnaire.
2. Continuous quality improvement is much easier when curriculum management is electronic. Students and faculty provide feedback which is constantly translated into improvements to the Program [<http://www.gmp.usyd.edu.au>]. Our custom-designed content management system responds to our precise educational needs.
3. Some staff need more support than students, almost all of whom are computer-literate on entry. Students rapidly develop core skills such as literature searching and the use of electronic databases for the practice of evidence-based medicine.
4. Excellent resources for independent study can be developed for use on line. For example, an electronic clinical reasoning guide [<http://www.medfac.usyd.edu.au/divisions/info/dme-hk-paper.pdf>] assists students in the transition from

fully supported PBL tutorials in Years 1 and 2 to more independent clinical reasoning during Years 3 and 4.

5. Students' responses are not always predictable - electronic forums are not as popular as we had expected, a fact that students explain by reference to the amount of direct interaction in small groups and the availability of electronic bulletins and email.
6. Online learning has prepared us for an expansion in rural education and training. Commencing in 2004, the Department of Health and Ageing will require at least 25% of medical students to spend a minimum of one year in a rural setting during their third or fourth year. This process will be facilitated by online learning in clinical schools and department of rural health in Broken Hill, Dubbo and Northern Rivers. Our AV/IT network will eventually provide state-wide communication. In fact our major challenge in rural education will not be the online curriculum, but the provision of on-the-ground clinical teachers for students in rural areas.

The costs are considerable. Our IT Group alone comprises around 20 support staff for teaching and research, distributed across the campus and clinical schools. To sustain the process of continuous quality improvement in education and ICT, the Faculty has needed to identify new income streams.

To help underwrite the cost of the medical program, the Department of Medical Education (DME) [<http://www.medfac.usyd.edu.au/divisions/info/dme.html>] and the Faculty IT Group have combined educational and technical skills to educational consulting, courseware design and delivery, educational software solutions and web hosting services.

Experience with online learning in the health

sciences has led to:

- **Consultancies**
Curriculum review
Curriculum design
Curriculum change management
Instructional design
Review of available IT options
Managing IT in educational programs
- **Online courseware design and delivery**
Blending educational and IT expertise
- **Online workshop design and delivery**
Facilitated discussions forums for remote access
- **Specialized educational software solutions**
Multiple choice question databanks
Image banks
Online clinical audits
- **Commercialisation of Faculty's intellectual property**
University of Sydney Medical Program (USydMP)
Wilson Anatomy Museum
- **Web-hosting services**
Hosting for general websites
Hosing for specific projects
- **Face-to-face workshops**
Impact of IT on Education
Problem and case-based learning using IT

Years 1 and 2 of the Program have been licensed to the University of Witwatersrand in South Africa and the University of Nottingham in the UK and we are about to establish a licensing agreement with Australia's newest medical school at the ANU. The income from licenses will fund innovations that benefit each of the universities involved.

Other direct benefits include the further development of an online image bank in Anatomy. With the help of the Teaching Improvement Fund, the Departments of Anatomy and Medical Education are developing the 'Virtual Anatomy Tutor'. We have assisted the Faculty of Veterinary Science to develop the OLIVER Veterinary Image Bank, a storage and retrieval system for undergraduate and postgraduate students. Finally, the Project Development Group has collaborated with colleagues in Health Sciences to develop StudyAge a postgraduate program in ageing and aged

care [<http://www.studyage.chs.usyd.edu.au/>].

In her discussion paper in this issue of Synergy, Anne Forster mentions continuing professional development. The Faculty's postgraduate arm has now been incorporated into the DME an increasing amount of postgraduate training is being prepared for online delivery. Professional training colleges have sought our expertise to develop a Basic Surgical Training Program online for the Royal Australasian College of Surgeons and a Basic Physician Training Program online for the Royal Australasian College of Physicians. We are also working on a project to promote rational test ordering with the College of Pathologists.

Other clients have included the Drugs Program Bureau of NSW Health, which commissioned an online accreditation program in pharmacotherapies to replace a face-to-face program. The online program comprises typical clinical cases, self-assessment and an electronic discussion forum facilitated by clinicians with expertise in drug and alcohol problems.

We could not have predicted these developments in 1996 in the days of "Synergy 3". The total number of contributors makes it impossible to acknowledge everyone involved, including our students, during the first few terrifying years. Our students are being transformed into junior doctors, now working in hospitals across the state. The early responses from clinical supervisors applaud their generic and specific skills. We look forward to meeting them again during their postgraduate training and continuing professional development – both in person and online.

Jill Gordon is Associate Dean, Medical Education, in the Faculty of Medicine. She chairs the Faculty's Education Committee and recently succeeded Joy Higgs as chair of the College of Health Sciences Education Committee. Her research interests include students' acquisition of personal and professional values.

Email: jillg@med.usyd.edu.au

Mixing it up: blending face-to-face and online learning in first-year Art History and Theory

Dr Jennifer Milam, Faculty of Arts



Jennifer Milam

The first-year experience in Art History and Theory aims primarily to engage students in the excitement of learning, thinking and expressing critical ideas about visual culture. As detailed in Anne Forster's discussion paper, most students come to the University of Sydney with the expectation that their learning experience will bring them closer to researchers in the field through face-to-face contact. This contact has come under threat through the contraction of teaching assistance and the rise in student numbers. The key to the success of the first year unit of study Art History and Theory (ARHT1001) lies in the blending of the teaching and learning modes, so that students have the face-to-face contact they desire and expect, in the form of engaging lectures and museum visits. These experiences are augmented with online tasks which improve understanding and offer an introduction to the professional work of art historians.

The ARHT1001 unit of study integrates weekly components organised around three face-to-face lecture hours, a group exhibition project conducted either via the Internet or in person, and a 45-minute quiz taken in WebCT. In the middle of the semester, a concentrated period of face-to-face tutorials takes place at the Art Gallery of New South Wales. Capitalising on the students' demonstrated interest in the relationship between the discipline and museum work, I have redesigned the course to

involve students in the development of online exhibitions, a relatively new trend in the museum world.

Using the Internet, students now become curators and art critics, discussing issues of interpretation relevant to their exhibition objects, writing interpretive texts about works of art and reviewing the exhibitions of their peers. The Group Exhibition Project also achieves an essential academic objective of the discipline by engaging students in the methods of art history. Over a period of six weeks, the groups are given pairs of images to discuss in light of a particular critical approach (subject, artist, form, beholder). Through discussion postings, they gradually prepare virtual wall texts for each topic and set of images, culminating in a broader introductory text in Week 5 and a critical review of another group's exhibition in Week 6. Thus our students acquire foundation skills in interpretive practice, they learn to work together (a University generic skill) and they help each other through the pedagogical process. The Exhibition Project task also enables students to develop the teamwork skills required in the professional practice of curatorial work and art criticism.

Open-response evaluations of the course in 2002 (with 203 questionnaires completed out of an enrolment of 352) indicate that 59% of the students found the lectures to be the most enjoyable aspect of the course. This compares with the 25% that remarked generally on the course content, 6% that favoured the museum tutorial, and 10% that responded to the structure of the course, including the online components.

However, more interesting than this data was the wide-spread student approval of the course (at 97%), despite the absence of regular and traditional tutorials.

A significant majority of the students described themselves as active users of the online teaching and learning materials, indicating that these components had contributed to their learning. For example, 98% of those enrolled completed most, if not all, of the 10 online quizzes. A majority of the students commented that these were an effective, enjoyable revision tool. To quote one student, the quizzes provided "a good way of making sure you were up to date with all of your work and understood what you could improve".

The Exhibition Project, which was more time-consuming and demanding than the quizzes, was slightly less effective in terms of participation. Still, 75% of the class participated actively (a minimum of four postings with significant comment was required), with a third of this group communicating very frequently online. One of the most revealing comments came from a student who said that while it was "not easy", the project offered a "great way to interact" and featured "qualities needed in life like cooperation and teamwork". However, more needs to be done to make these latter outcomes worthwhile and appealing to all students from the beginning of the assignment.

In retrospect, the biggest challenge for students was learning to 'discuss' online. I found that specific assistance with online discussion needs to be given early, with the lecturer and/or online tutors monitoring student exchanges during the first weeks. Although it is enormously time-consuming, daily postings by the lecturer or tutor in this early period help get things off to a good start. Several of the students who found the Project useful also commented that it was "difficult to orchestrate". A detailed timeline and clear guidelines, distributed to students in hard copy and online, are essential, particularly for first-year students. The Exhibition Project could also become more sophisticated, but no less complicated, by

allowing students to choose the images for their exhibition, rather than simply writing on preselected objects.

In developing this mixed-mode structure for 'ARHT1001' I have experienced many of the growing pains associated with the adoption of online teaching and learning. Components need to be continually refined and modified based on student feedback. Perhaps the most gratifying comments in regards to the Exhibition Project came from students who had found similar exhibitions on 'real' museum sites. They were excited by the fact that they were engaged in work which paralleled that in the profession. To capitalise on this recognition, and as a form of encouragement, I will incorporate such sites into the future task guidelines. I have my students to thank for this modification to the Project design.

Dr. Jennifer Milam is Lecturer and Teaching Coordinator in the Department of Art History and Theory. She has received several grants for the continued development of her online initiatives in the first-year program, the most recent awarded by Apple Australia.

Email: jennifer.milam@arthist.usyd.edu.au

Supporting students in their first year at university: the role of online learning

Associate Professor Mary Peat & Dr Sue Franklin,
Faculty of Science



Mary Peat and Sue Franklin

For almost a decade we have been providing large groups of first year, undergraduate, biology students with computer-based resources to support them in their learning. Moving these resources online has provided students with the flexibility to work with them any time/any place. This meets the requirements of many of our students who, although enrolled as full-time on-campus students, are in paid employment and thus have limited time to attend classes (as noted in Anne Forster's paper). Our online resources include tutorial modules to help support learning and understanding, self-assessment modules to enable students to test themselves and gain a perspective on their own learning requirements, lecture notes, links to useful web sites, and links to in-house help desks. The materials are all presented via a virtual learning environment (VLE) that was designed around the building metaphor with each unit of study having a "room" equipped with the resources specific to the



Figure 1: The Lobby in the Virtual Learning Environment [http://FYBio.bio.usyd.edu.au/VLE/L1/]

unit. From the "lobby" of the VLE (Figure 1), each door leads to a specific unit of study room. There is also a resource room that contains all first year biology computer-based resources. Both the VLE itself, and the learning modules within, have been evaluated by students.

Although we continue to develop additional resources to be added to the VLE, in recent years we have been investigating how students use these materials and how they perceive the materials support their learning. Several projects have now been completed on the use and usefulness of online materials, including some longitudinal studies on online learning. A recent study has indicated that 15-20% of our first year biology students are choosing not to use online resources. Some of our unpublished data suggest that if students are not using the materials, they may be at risk of performing badly.

One of our more recent projects was to look at students' use of assessment resources (formative and summative; online and offline), and students' perceptions of the usefulness of these resources to their learning. The research plan enabled us to investigate correlations between use or non-use of the assessment resources and final performance in the unit of study. The assessment activities available are shown in Table 1.

Qualitative and quantitative methods were used to determine whether students had used the summative and formative assessment materials and how useful they had found them in supporting their learning. Participation rates in all compulsory assess-

ment tasks were high (97-99%), however participation in the formative assessment opportunities was much lower, with 20-30% of students not using them. Generally speaking, most of the students who had attempted or completed the various assessment resources found them to be at least useful, if not extremely useful. However, students responded less positively to the summative resources (weekly quiz, report and poster presentation) than to the formative resources (mid-course exam, self-assessment modules and weekly self-test quiz).

Open-ended questions investigated students' perceptions on how the formative assessment resources helped them in their learning. Students reported that the self-assessment modules and the self-test quizzes were most useful for revision and consolidating knowledge/enhancing understanding, as well as highlighting an awareness of their understanding/lack of understanding of the course content. Students who did not use a particular formative assessment resource were asked to explain their reasons for non-usage. Time, motivation or lack of awareness of the resources was the primary reason for non-use, however, some indicated that they would use them later for revision.

The relationship between final grade and use or non-use of formative assessment resources was analysed. Student performance was clus-

tered into three categories – students with a credit or above for the final mark (65% and over, i.e. excelling students), students with a pass (50-64%) and failing students (less than 50%). Interestingly a greater proportion of the students who failed the course had taken more advantage of the formative assessment resources than the students who passed! Within each student performance category the use and non-use of formative assessment resources was compared with the mean mark for each category of students. The data showed that there is no apparent difference in any of the student categories for final performance outcome for students who did or did not use the various formative assessment resources. Thus it would appear that using the formative assessment resources and finding them useful is not a predictor of learning outcomes for any of the three student performance categories. This project has been accepted for the ASCILITE 2002 Conference: [http://www.unitec.ac.nz/ascilite/] later this year.

As we are currently providing a variety of assessment resources with what we believe to be relevant feedback we are concerned that these resources are not having the desired impact on student learning. Thus the worrying aspect of our results is that, although the poorer students are trying very hard and more of them (compared with the more successful students) are using the formative

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Type of assessment	Online	Offline (paper-based)	How taken
Summative	• Weekly quiz	–	Supervised
	–	• Individual laboratory report • Group work on poster/oral presentation	Non-supervised
Formative	–	• Taking mid course practice exam	Supervised
	• Marking mid course practice exam • Self-assessment modules	• Weekly self-test quizzes	Non-supervised

Table 1: Assessment activities

Making online teaching commonplace: the role of staff support

Stephen Sheely, Team Leader,
Flexible Online Learning Project



Stephen Sheely

In her discussion paper, Anne Forster notes that online teaching and learning focuses not only on the design of effective pedagogical environments, but also on the efficient management of the learning system and the design of services that leverage scarce resources. The Flexible Online Learning Project: [<http://learn-online-admin.usyd.edu.au>] was established in 2000 within the Major Projects Group to address these issues at an institutional level.

Guiding Principles of the Flexible Online Learning Project

The FOL Project brief was to provide an infrastructure which would support the widespread, effective use of online teaching and learning and provide the economies of scale made possible by centralising support activities. The project drew heavily on a set of principles (some of which are listed below) which were first identified by Sheely, Veness and Rankine (2001). [<http://www.ascilite.org.au/ajet/ajet17/sheely.html>]

Web teaching is essentially different

Online communication is written, computer-mediated and unsupported by familiar clues such as tone of voice and non-verbal language. Teachers and learners are often separated by time or space, or both.

Web teaching is essentially the same

There are certain educational principles which remain common to both face-to-face and online education. The most useful of these centre on student learning, and in

particular on students' tendencies to adopt deep and/or surface approaches to their learning.

Teaching online is not an individual effort

The design and conduct of online teaching requires more collegial support than face-to-face teaching, and is ideally a collective activity involving both academics and a range of support staff.

Workload

Teaching online is often represented as a way of reducing workload, yet there is evidence that, unless carefully managed, online teaching can increase staff workload.

Focus on supporting teaching and learning

The infrastructure needs to be as transparent as possible so that teaching staff can focus on the educational aspects of what they are doing, not on the technology.

Dispersion of expertise and control

Online education has a lot in common with Distance Education (DE) but many DE models result in the teaching staff losing control of projects they have initiated. In online teaching the project should remain with the teaching staff who initiate it. This is particularly important in institutions such as The University of Sydney where the majority of online teaching is blended with on-campus teaching.

Formalise hardware & software maintenance

Technical difficulties can deter both staff and students from using the online environment. These need to be minimised in a

number of ways, which include standardising the software being used across the University, using existing central IT services to maintain the hardware, and ensuring that staff support and student help are available.

As long as the technology is perceived as novel and difficult, it will remain the focus of discussion. Only when online teaching and learning is regarded as commonplace, will our discussion focus on what we can do with the medium - and not the medium itself. However, for teaching staff, maintaining a focus on education while also learning and using the new technologies is a most challenging issue. To be able to focus on the teaching-learning dimensions, teaching staff firstly need to have confidence in the technical system, and they need to know that help and support are available to sustain their efforts.

The Flexible Online Learning Project at The University of Sydney

Managing hardware software and databases locally is the sort of thing that can keep staff focussed on the technology, rather than the teaching. To counter this, The University of Sydney has adopted WebCT [<http://www.webct.com>] as the university standard platform. A single institution-level installation is being run off machines supported and maintained by ITS. Administration of the software and integration with other university systems is managed by the FOL Project.

The FOL Project team has focussed its energies on providing support for staff developing their teaching in the new medium, tempered by a commitment to allowing teaching staff to retain control of the process. The project team not only manages a technical web-based system that works, but it continues to support staff acquisition of the skills necessary to use that system. It is reassuring for staff to know that if they run into problems, there is somewhere to go for help. The FOL Project provides a helpdesk service for staff using WebCT which fields over a thousand helpdesk enquiries each semester by both email and phone.

In conjunction with colleagues in the ITL, the FOL Project team runs a program of generic Introductory WebCT Workshops for teaching staff. Discipline-specific, customised versions of this workshop program have also been offered in a variety of faculties. Intermediate WebCT Workshops are now being offered to explore specific issues and skills in online communication and online learning. A series of weekly Designers' Workshops, providing one-to-one assistance to staff members who are developing units of study, runs throughout each semester. In total, over 600 staff, representing every faculty at the University, have received some form of training via these workshop programs, since October 2000.

Evaluation feedback from university staff has highlighted the effectiveness of the support strategy and identified the positive role these support mechanisms continue to play in enabling the University's lecturers and tutors to teach effectively in the online environment.

Maintaining the focus on teaching and learning is both the most important, and the most difficult, strategy for the FOL Project. As we continue to work towards a technical system that is completely transparent, our extensive staff user network encourages us to maintain our commitment to the principles and goals of quality online education for the University.

Stephen first became interested in online education when he worked on the 1998 DETYA report "An Evaluation of Information Technology Projects for University Learning". He then spent 2 years building an institutional infrastructure to support online teaching and learning at The University of Western Sydney. Since July 2000 he has been working as the team leader for the Flexible Online Learning Project, building an institutional infrastructure at The University of Sydney.

Email: ssheely@mail.usyd.edu.au

Developing a flexible postgraduate program in the Faculty of Veterinary Science

Dr Jenny-Ann Toribio, Professor Richard Whittington,
Professor Reuben Rose, Faculty of Veterinary Science;
Ruth Laxton, R. L. Learning Designs



Jenny-Ann Toribio



Ruth Laxton

Introduction

In order to address stringent market requirements and animal disease threats, Australian livestock industries require specialist veterinary assistance. Currently there is a lack of veterinary expertise in livestock medicine and production, and training options for veterinarians are limited to research programs at Australian universities or coursework programs overseas. In response to this urgent need for more highly skilled veterinarians to service the livestock industries, the Faculty of Veterinary Science at The University of Sydney is developing a new postgraduate coursework

program in Veterinary Public Health. This program will be a flexible, largely distance education program to accommodate the potential student base of busy professionals located at regional and rural centers throughout Australia.

New initiative – New approach

This flexible program combining online delivery and short residential programs is a first for the faculty. A mixed mode program requires a new approach to course development that presents a real challenge to standard faculty procedures. Some new elements include higher development costs, requirement for a technology platform, more detailed market assessment, training of academics in online education and a team-based and more rigorous pedagogical approach to the course development.

Given the large component of online delivery, sustainability requires students and teachers familiar with the technology and a reliable technology platform. Consequently, initial planning included a market survey of potential student access to computer facilities and level of computer skills, and negotiations about use of university technology facilities. In addition, long-term viability requires the program to attract a range of potential participants. Based on market feedback, it is therefore also planned that various units of study (and partial units of study – *learning modules*) will be offered as non-award professional development modules. This delivery option is being built into the design of the learning resources.

Program planning began with an academic and industry workshop in February 2002 at which it was decided that Session 1 2003 was an achievable start date. Given that the program will be delivered primarily online and will begin with a residential in February 2003, all the course planning and resources need to be complete by January 2003. At this stage (October 2002) we have completed the broad program design, had the course proposal approved by the Academic Board, attracted academics interested in developing units for the program and potential students interested in 2003 enrolment, and begun development of three units of study. Due to heavy workloads, this is not as far down the development track as we had hoped to be. As Anne Forster from iTEV said in her Synergy discussion paper, “At this stage most innovation is an add-on rather than a replacement of existing workload.”

New initiative – New lessons

As well as providing guidance on how best to go about planning such a program, iTEV has been able to provide valuable support to the Faculty in project management and instructional design. The aim is that this start-up support will assist the Faculty to recognise the skills and expertise needed to successfully produce such a program and to either develop these skills within the Faculty or realistically finance such projects in order to buy in the required expertise. At present the program has attracted support and funding from the Meat and Livestock Association and the Vincent Fairfax Family Foundation that has allowed us to employ a program coordinator and to meet marketing and other administrative costs.

Academics involved in developing this program are on a steep learning curve. Not only do they have to learn to use the technology (in this case, WebCT), but they are coming to grips with the demands of a rigorous and systematic planning process for the teaching and learning that will comprise the program. With the instructional designer they are working through questions that will define the design of the unique learning experience that will characterise this program. These questions include:

- Our students will be mature, professional, working people. What features does our learning program have to incorporate to meet their specific needs? What mode of study will suit them?
- What are the knowledge and skills they will be seeking?
- What are the learning outcomes for each unit of study?
- How can the Faculty, and the students themselves, best assess achievement of these outcomes?
- What range of learning strategies will best help the students achieve these outcomes?

- How can we give our students choice and flexibility in what and how they learn?

Through addressing these questions to create a flexible program, academics are building skills that will enhance their teaching across all of the Faculty's programs.

Conclusion

While there is sound justification for this faculty to provide a flexible program for busy veterinarians wanting postgraduate training, we commenced this initiative with a limited understanding of the requirements of such a program. With university support from Innovations and Technology in Education Ventures (iTEV) and the Institute of Teaching and Learning (ITL), and external funding from industry and community bodies, we are tackling the challenge. We encourage other sectors of the university to take up the same challenge but to learn from our example and to plan ahead for its unique requirements, by introducing a longer planning and development phase, additional resources and expertise, and on-going staff development.

Jenny-Ann Toribio is a lecturer in epidemiology in the Faculty of Veterinary Science with a special interest in innovative approaches to teaching in veterinary science.

Email: jennyt@camden.usyd.edu.au

Ruth Laxton (R. L. Learning Designs) is an educational design consultant who has been working on the flexible delivery of learning in the corporate, vocational and tertiary education sector since 1992.

Email: rlaxton@rllld.com.au

Richard Whittington (Chair of Farm Animal Health) and Reuben Rose (Dean of Veterinary Science) are distinguished scientists and champions of innovative teaching in veterinary science.

Email: richardw@camden.usyd.edu.au
dean@vetsci.usyd.edu.au

S-STAR's trial Bioinformatics Course: an online learning success

Lim Yun Ping¹, Jan-Olov Höög², Phyllis Gardner³, Shoba Ranganathan¹, Siv Andersson⁴, Subramanian Subbiah³, Tan Tin Wee¹, Winston Hide⁶, Anthony S. Weiss⁵.



Tony Weiss

Introduction

The S-Star group of teaching institutions formed an alliance to provide a global, unified bioinformatics learning environment (GLOBULE) made up of modular courses in the disciplines of genomics, bioinformatics, and medical informatics. The S-Star group is alternately titled the S*Life Science Informatics Alliance and comprises six institutions from five continents. It is the result of cooperation between Karolinska Institutet Sweden², the National University of Singapore¹, Stanford University USA³, Uppsala University Sweden⁴, the University of Sydney Australia⁵, and the University of Western Cape South Africa⁶. The cooperation was initiated because there is an overall global demand for bioinformatics teaching. The initial aims of GLOBULE are to jointly provide:

- A globally accessible online course for training in bioinformatics and genomics;
- Accessibility to the highest possible quality of online courseware available in the world today;
- High quality assessment, grading and courseware that has been approved by the educators from the host institutions.;
- An integrated modular learning environment that allows a student to select from both pre-requisite modules and advanced modules in order to build a comprehensive program in genomics and bioinformatics.

The main mission of the project is to provide an introductory course in bioinformatics to anyone with Internet access. All classes are given in English, regardless of whether the classes are attended by individuals or in groups.

Results and Discussion

The first S-Star Trial Bioinformatics Online course was offered by the S* Life Science Informatics Alliance from October to November 2001. Participants were enrolled from Asia, Australasia, Europe, North America and South Africa, each from diverse academic backgrounds. Of the initial 150 students, 96 followed the entire course and 70 passed the final examination. The course was free to all online registrants. The management and delivery of the course was facilitated through the National University of Singapore's Integrated Virtual Learning Environment [IVLE - <http://www.ivle.nus.edu.sg>]

During the course, participants from various continents and academic backgrounds accessed streaming video lectures from the S-Star website. Lecture notes, discussion forums and multiple choice question assessments were hosted on IVLE. The discussion forums and assessments were made accessible to the S-Star course participants following the lecture schedule. For each lecture, participants contributed to the associated discussion forum and assessments during the two weeks duration specifically assigned to each lecture. At the end, 70 participants had fulfilled the course requirements and were awarded a certificate of participation signed by all cooperating universities. 62 students dropped out of the course; 36 did not participate in the first assessment; 18 indicated they did not have time to complete the

course and 8 commented that they encountered technical difficulties (Internet access and bandwidth issues). Problems of bandwidth and Internet connectivity were initially resolved with the set up of mirror sites in South Africa, Singapore and USA as well as regional helpdesks to address these issues. Further mirror sites have since been set up in India, China and Malaysia. For those participants who experienced low bandwidth problems in viewing the lecture video files via real time streaming, the mirror sites have been particularly helpful in enabling students to download lectures easily.

For the duration of the discussion forum for a specific lecture, the lecturer gave guidance and answers to issues raised by students. The discussion enabled a sense of community between students and staff. Participants learned from each other, clarified issues and were involved in group learning. Active participation was considered of utmost importance to the effectiveness of the discussion and to both comprehension and learning.

Feedback from participants upon completion of the course (as indicated in the charts below) show that the course was rated as informative, interactive (because of discussion forums) and above all effective for dis-

course learning. Overall, participants felt that the course content was useful and well presented with good technical support. They also indicated that the strength of the course lay in the flexible online accessibility (via audiovisual streaming) to the course content. The discussion forums received a broadly distributed rating from the participants and this is likely to reflect the preferred learning styles represented as well as varying degrees of comfort and familiarity with the approach.

The lack of live two-way interaction in the course did not seem to limit the participants' ability to learn the course material as judged by our assessment results. We were reassured by the result that 69 out of 71 respondents said they would participate in future S-star online courses. On the basis of received student feedback (Figure 1) we have introduced further rounds of the S-star Bioinformatics online course. The lecturing staff, their affiliate institutions and links are described in detail at [<http://www.s-star.org>].

Associate Professor Anthony Weiss is founding chair of the S-star.org international teaching consortium. He established and chairs the Molecular Biotechnology Program, University of Sydney.

Email: director@biotech.usyd.edu.au

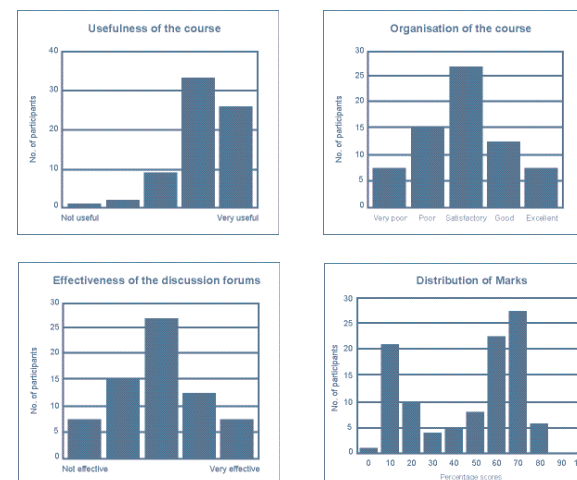


Figure 1. Breakdown of survey responses by students and the mark distribution

Moving online from independent study distance learning materials requires transformative thinking

Associate Professor Cherry Russell, Dr Mary Jane Mahony, Faculty of Health Sciences
Stewart Barnett, Dr Tim Shaw, Faculty of Medicine



Study Age Team

Introduction

In 2001-2002 we designed and piloted an iTÉV- [<http://www.itev.usyd.edu.au/>] supported project called Study AgeOnline, a flexible postgraduate program of education in ageing and aged care for practicing health professionals. This project aimed to integrate formal, postgraduate award course provision with continuing professional education short courses in an innovative online distance environment.

In her discussion paper, Anne Forster notes that the growing demand for part-time, postgraduate professional education has been part of a 'quiet revolution' with significant implications for the university's view of its student 'market', their learning needs and for its academic and support structures. Moving from an existing masters-level, traditional distance education format to an interactive practice-oriented, online educational model has posed particular challenges of transformative thinking to us all. We have been concerned to document and evaluate the StudyAge online project in ways that would prove credible and useful for our university colleagues. In this paper we describe and reflect on two key features of the StudyAgeOnline educational framework.

Modularisation

The learning design is organised around modules representing about 50 hours of total participant learning time, undertaken over 4-6 weeks, and equivalent to one-third of a unit of study. Modules are directly mapped to units of study in an approved University of Sydney program, the Master

of Health Science (Gerontology). A module can also be undertaken as continuing professional education (CPE), with or without assessment. This feature was a response to challenges posed by the nature of the student market who typically are employed adult professionals with busy work schedules and other demands on their time, such as family responsibilities. Our developmental consultations with industry confirmed too, that for many qualified practitioners, the prospect of 'dipping a toe' in the academic waters via CPE, but with future credit towards a degree should they want it, would prove attractive.

Practice-based teaching and learning strategies

Two distinct content placeholders were designed into the web site structure: independent study activities, and online study activities which connect students with each other and with expert facilitators. Much of the latter involves practice-based activities, such as workplace surveys, and/or offline reflection on an aspect of professional practice for submission to a timetabled online forum. This approach integrates a more contemporary frame of reference which extends beyond the traditional study guide and reading list. Marrying research-derived knowledge with the working knowledge of current professional experience is essential in the provision of cutting-edge continuing professional development.

Transforming our Thinking

Our team-based approach to developments such as these has necessitated increased, careful communication to ensure all members understand the perspectives and expertise of team members, the goals of the development

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An online approach to teaching report writing in the disciplines

Helen Drury and Peter O'Carroll
The Learning Centre

Introduction

The Learning Centre has been working collaboratively with Departments and Schools on developing student-centred approaches for integrating writing skills into the curriculum. What were originally paper-based teaching materials for learning about writing laboratory reports in Biology and Chemical Engineering, have now been adapted for online learning. Students can access programs at their own pace, in their own time and according to their own needs.

Program Design

The report writing programs aim to make explicit to students the genre and discourse requirements of the laboratory report within the disciplinary context. The typical stages of a laboratory report are used to create the macro-design of each program. Within each stage, explanations, examples and interactive exercises followed by feedback are used to help students understand the appropriate content, structure and language features of that stage. Although each program is designed to stand-alone for self-directed learning, the integration of the program into a relevant course is a more effective way of using the program.

Evaluation

An early version of Writing a Laboratory Report in the Biological Sciences was evaluated in 1999. On a student questionnaire, the majority of students who used the program rated it highly in all design areas and 90% rated the exercises and feedback as excellent. The program had made students more aware of their problem areas and more knowledgeable about writing laboratory reports. Similarly, the report writing program for Chemical Engineering has undergone extensive evaluation using questionnaires, focus groups and pre-and post-tests. Questionnaires and focus groups indicated that most students found the module to be

useful ('it's a great program' and 'I learned a lot'), particularly for learning about the structure of a report and the appropriate content for each stage.



Helen Drury & Peter O'Carroll

Students also developed an appreciation of the importance of laboratory reports ('It showed me how [chemical engineers] pay attention to detail without waffling on about unimportant information'). NESB students found the sections on language to be very helpful ('[they] guided me in areas where...I was really weak and most importantly, in the kind of language that's appropriate'). A literacy analysis of students' writing is currently being carried out.

Future Directions

Because the report writing process is germane to many scientific disciplines, providing an online format is, as Anne Forster notes, also about designing resources that can be efficiently maintained and managed. This semester, we continue to work with the Department of Biochemistry but hope to extend this work across the University. With ongoing student evaluations incorporated in each stage of the program, we expect this will encourage staff to consider an online approach to teaching report writing in their disciplines.

Chemical Engineering package: [<http://www.chem.eng.usyd.edu.au/courses/chemenglab/>]
Biological Sciences package: [<http://bugs.bio.usyd.edu.au/BiologyLiteracy/>]

Helen Drury and Peter O'Carroll are lecturers in the Learning Centre. Both have an interest in teaching academic literacy online.

Email: hdrury@mail.usyd.edu.au
poc@mail.usyd.edu.au

Complementary experiential learning: Mekong E-sim

Associate Professor Philip Hirsch
Faculty of Science

Anne Forster's introductory paper makes clear that online teaching and learning is not so much a substitute as a complement to classroom, laboratory or field-based learning. I have taught a senior Geography unit on Asia-Pacific Development in both lecture and field mode for more than a decade. The challenge for a lecture-based approach is to relate the reality of complex political-economic interests, decision-making and cross-cultural aspects of development more closely with students' cognitive milieu. Field-based learning is inherently experiential but requires adequate opportunities for reflection, conceptualisation and generalisation. An online electronic simulation/role-play initiative provides students with such complementary opportunities.

The Mekong electronic simulation (E-sim) is a multi-disciplinary, multi-university online initiative run by Geosciences since 2001. It involves about 140 students - geography students at USyd, engineering students at Adelaide and technology assessment students at UTS. The four week interactive exercise is integrated into the course-work program of each institution. E-sim provides a hands-on experiential learning opportunity. Specifically, it asks students to:

- identify the political, social, economic and scientific dimensions to decision making in the context of natural resource management conflicts;
- identify the responsibilities and appropriate responses for characters in the roleplay-simulation;
- develop communication, research, critical thinking, negotiation and decision-making skills and an appreciation of cultural differences and approaches;
- utilise information technology and telecommunication skills.

It involves four main stages, set in real time to facilitate phased interaction, each with an

assessment component. A briefing stage helps students become familiar with their role personas and online process. The second stage comprises interactions between different personae in response to events within the simulated environment, but based on real-world developments. The third stage is a set of simultaneous intensive online public forums over a 48 hour period. The fourth stage is a reflective debrief.

Student responses to E-sim emphasise problem solving skills, real-world feel, teamwork and active engagement. Initially they are concerned with having to adopt new learning styles and the work demands of such a tightly run program. From a teaching perspective, the approach is highly stimulating and provides a more grounded understanding of development and environment issues facing the Mekong Region, of the roles of different actors, and also of the different mindsets brought to the subject by geographers, engineers and technology assessment disciplines. The E-sim is demanding on teaching resources and reinforces an important consideration for those anticipating on-line teaching - done well, it is not a device for getting "more for less"!

Mekong E-sim has won two national awards: the ASCILITE award for best Australasian web-learning project in 2001, and the Uniserve Science Teaching Award. Descriptions of E-sim can be seen in both poster format [<http://www.usyd.edu.au/sul/geography/staff/phirsch/ExperientialLearning.JPG>] and article format [<http://www.ascilite.org.au/conferences/melbourne01/pdf/papers/mclaughlanr.pdf>].

Philip Hirsch is Associate Professor of Geography in the School of Geosciences and Director of the Australian Mekong Resource Centre. [<http://www.mekong.es.usyd.edu.au>].

Email: hirsch@mail.usyd.edu.au

Extending face-to-face tutorials by creating tutorial discussion boards

Agi O'Hara, Faculty of Arts

Psychology for Social Work introduces students to foundational theories and models in psychology, as well as practice strategies for dealing with many of the complex issues they will face in their future careers. Students are expected to develop reflexive self-awareness by monitoring their personal reactions to the themes and issues raised in the unit, and to consider them in relation to the realities of Social Work.

Students have explored these ideas primarily through traditional face-to-face tutorials. Consistent feedback over the years suggests that students are interested in extending tutorial contact. Like many units, this has not been a real possibility due to resource constraints. I decided to create a WebCT site for the unit and to incorporate, amongst several other features, tutorial discussion groups as a way of extending tutorial contact. Discussion groups offer a user-friendly way for students to continue exploring the issues raised in their face-to-face tutorials. Questions are set each week to initiate and stimulate discussion postings, although postings are not limited to these. Students are expected to post at least two responses to their Discussion Group each week. The quality of postings determines tutorial participation marks for the unit.

Postings in the first 3 weeks of semester served as an orientation to the online discussion groups and responses from students (110 enrolled) were very encouraging. Before tutorials had even begun, over 50 postings were made to the general discussion area. The comments were very positive

Hey there everyone - I like this idea of the discussion board! I think we can get a lot from it - using this medium and learning from each other too...

I wasn't born with a computer implant like you young ones, so accessing this website is a real triumph for me!!

I just wanted to thank you for this idea, as I am very hesitant about talking in tutorials and sometimes I feel guilty that I'm not really offering anything to the group hopefully this should fix the problem...



Agi O'Hara

Many students disclosed quite personal anecdotes and opinions as they grappled with difficult subject matter. They remained connected with the issues raised in tutorials for the week following the tutorial. Informal evaluations indicate that students are learning much more from sharing ideas via the online discussion boards than would have been possible in a one hour tutorial. While there seems to have been real learning benefits from reorganising the unit, I am mindful of the workload implications of going online. Anne Forster's comment that online learning "is an add-on rather than a replacement of existing workload" reminds me that it takes approximately four hours each week to assess the tutorial postings. My next challenge will be to determine how I can better integrate student learning outcomes in the unit the feasible management of online tutorial discussion groups.

Agi teaches and researches in the Department of Social Work, Social Policy & Sociology. Her responsibilities in Psychology for Social Work are lecturing, tutoring and coordination. Other teaching interests are ethical professional practice and groupwork. She has been the chair/ member of the Department's Teaching & Learning Committee for several years and on the Faculty of Arts Teaching & Learning Committee (1999-2001).

Email: agi.ohara@social.usyd.edu.au

Supporting students in their first year at university: the role of online learning continued from page 13...

assessment resources provided, these resources do not appear to be helping them. This is in contrast to some of the current literature in which the use of formative tests before summative examinations has been shown to increase the final grade of students. We, as teachers, need to demonstrate to our students how to use our resources to their advantage. Perhaps to do this we may need to review our feedback and ask ourselves is it good enough?

Associate Professor Mary Peat is an Associate Dean in the Faculty of Science with special responsibilities for teaching and learning. Dr Sue Franklin is the Director of First Year Biology. Mary and Sue jointly research student use, and perceptions of usefulness, of online and offline resources that have been developed to support student learning in large first year classes. (The current first year enrolment is 1300). They have each received two awards for Excellence in Teaching from The University of Sydney. Their recent publications can be found on [http://fybio.bio.usyd.edu.au/fyb/ribet/publications/pubcat.htm]

Email: maryp@bio.usyd.edu.au
sue@bio.usyd.edu.au

Moving online from independent study distance learning materials requires transformative thinking continued from page 20...

project, and the standards to be met. Curriculum and technology strategies undergo intense, multi-faceted scrutiny in such a team approach. This has led to unexpected implications for existing course curricula, project timelines and staff workload. However in this development phase, which has been a period of intense professional development for all team members, we have produced a set of innovative, challenging and engaging learning modules for post-graduate students who might not otherwise have access to such learning opportunities. In achieving this each of us have found our thinking about teaching and learning – as colleagues and as teachers – transformed.

Dr Cherry Russell is an associate professor in the School of Behavioural and Community Health Sciences. She coordinates the Graduate Program in Health Sciences (Gerontology) which she first established in 1987. She is internationally known for her research and teaching in gerontology.

Email: C.Russell@fhs.usyd.edu.au

Dr Mary Jane Mahony is Senior Lecturer in Distance and Flexible Education and Director of Education Connections in the Faculty of Health Sciences.

Email: mj.mahony@fhs.usyd.edu.au

Stewart Barnet is the Manager of the Educational Design and Delivery Unit for the Department of Medical Education. He is a senior instructional designer for the StudyAgeOnline project, and he manages the educational design for the Sydney Medical Program.

Email: stewartb@gmp.usyd.edu.au

Dr Tim Shaw is Manager of the Department of Medical Education's Project Development Group and Postgraduate Committee in Medicine. He specialises in the management of large IT-based educational projects.

Email: tims@gmp.usyd.edu.au

ITL Bookshelf

In each issue of Synergy we review selected teaching and learning publications, including higher education research journals, which will be of interest to members of the University community. Materials reviewed in this and past issues of Synergy are available in the ITL's Resource Room (Level 3, Carlsaw Building, F07).

For this particular issue of Synergy Tai Peseta and Kim McShane have selected two topical titles for brief review. Whatever your position on new technologies in teaching and learning, here are two authors you cannot ignore.

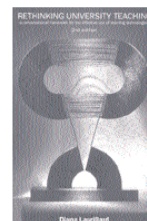
ICT and Higher Education

Digital Hemlock: Internet Education and the Poisoning of Teaching
Brabazon, T (2002) Sydney, Australia: University of New South Wales Press

Those of us who inhabit that contested terrain of "enhancing university teaching and learning" would do well to take notice of the way Tara Brabazon frames her discussion of the move to embrace technological pedagogies in response to the challenges facing higher education. Going online it seems, offers students choice, access and flexibility in ways that bodily and fleshy communications cannot, and universities are presently occupied with the right sort of articulation between pedagogy and technology. Brabazon's book draws our attention to both the dangers and possibilities of the technological teaching and learning machine. With such provocative chapter titles: *Do you want fries with that? Internet teaching and the administration of knowledge* and *Point, click and graduate: student motivation in the information age*, Brabazon is clearly not against technology. Her book cautions against the eagerness of any relationship between the Internet and Education. As teachers grapple with absence, presence and availability, and students work hard to feel connected when moving through information, knowledge and wisdom, an entirely new set of teaching and learning expectations will develop. These are bigger issues than those pushing technology might admit because it reminds us of the kind of university education we must value in a time of uncertainty and supercomplexity - TP.



Rethinking University Teaching: a conversational framework for the effective use of learning technologies (2nd Edition)
Laurillard, D. (2002) London, UK: RoutledgeFalmer



Almost a decade on, Diana Laurillard revisits the 'conversational framework' that she first revealed to the Higher Education field in 1993. ICT environments have evolved and new ICT-based practices have emerged in the intervening period, and this second edition acknowledges these developments. The revised 'conversational framework' (p. 87) also incorporates signs of the theoretical shifts that have been taking place in educational thinking in the interim. Teaching is still about 'mediating learning' and Laurillard continues to describe the conversations of learning as dialogic relationships that are labelled *discursive, adaptive, interactive* or *reflective*. However, in this second edition the spectrum of ICT media have been recategorised into new 'media forms': narrative, interactive, communicative, adaptive, productive. By cross-matching the How (processes) and the What (the media) and by shifting the arrows in her framework, Laurillard seeks to help us understand the educational strengths of each medium. The goal is to plan and provide an 'optimal balance' of *media x processes* for students. An optimal balance will necessitate some integration of all five media forms, Laurillard writes. It's a 'tall ask', but then the model reveals its educational strength when Laurillard (p 176), observes, 'With [a comparative] analysis of this kind it becomes possible to see the extent to which the idea of a wholly electronic university is an extremely sub-optimal solution.' Essential reading for flexible educators. - KMcS

SYNERGY

Synergy is a forum for informed critical debate on teaching and learning at the University of Sydney. Views expressed by contributing authors are not necessarily shared by the editor or the Institute for Teaching and Learning. SYNERGY 18 was edited by Kim McShane and Tai Peseta in consultation with the Director and staff at the Institute for Teaching and Learning. Design: Gail Priest. Layout: Rachel Williams. Cover photo: The University of Sydney Publications Office.

Feedback and contributions

Readers are invited to respond to this issue of Synergy with comments and suggestions in the form of a short critique or a letter to the editor, for publication at the editor's discretion. Readers' responses will help to shape future issues of the magazine. If you would like to contribute an article please contact: The Editor Synergy: Institute for Teaching and Learning, Carlsaw Building, F07, University of Sydney NSW 2006 Australia, phone (02) 9351 3725 fax (02) 9351 4331 email: synergy@itl.usyd.edu.au. Deadline for Synergy 19, to be published in April 2003: 15 February 2003

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Copies of Synergy are circulated without charge to all members of academic staff at the University of Sydney. It is also available on annual subscription externally. Please contact the editor if you want a subscription.



Conferences, workshops &

Information on ITL projects, workshops and seminars is available at the ITL Homepage: <http://www.itl.usyd.edu.au>

2003 CONFERENCES

THE SUN CONFERENCE ON TEACHING & LEARNING

Critical Thinking and Independent Learning
7-8 March 2003
The University of Texas at El Paso
<http://www.utep.edu/cetal/sun>

CAL '03

21st Century Learning
8-10 April 2003
Queen's University
Belfast, Northern Ireland UK
<http://www.cal2003.com>

INTERNATIONAL CONFERENCE IN HIGHER EDUCATION (ICHED)

Teaching and Learning in Higher Education: New Trends & Innovations
13-17 April, 2003
University of Aveiro, PORTUGAL
<http://event.ua.pt/iched/>

UNESCO CONFERENCE ON INTERCULTURAL EDUCATION

Teaching and Learning for Intercultural Understanding
Human Rights & a Culture of Peace
15-18 June 2003
University of Jyväskylä, FINLAND
<http://www.jyu.fi/ki/unesco2003/>

ED-MEDIA 2003

World Conference on Educational Multimedia, Hypermedia & Telecommunications
23-28 June 2003
Honolulu, Hawaii, USA
<http://www.aace.org/conf/edmedia/call.htm>

4TH INTERNATIONAL CONFERENCE ON INFORMATION COMMUNICATION TECHNOLOGIES IN EDUCATION

3-5 July 2003
Research & Training Institute of the East Aegean, University College of the Fraser Valley, Canada & National & Kapodistrian University of Athens at INEAG Samos Island, GREECE
<http://www.ineag.gr/ICICTE>

HERDSA CONFERENCE 2003

Learning for an Unknown Future
6-9 July 2003
University of Canterbury
Christchurch, NEW ZEALAND
<http://www.conference.canterbury.ac.nz/herdsa2003/>

ASSOCIATION FOR QUALITATIVE RESEARCH (AQR)

Creating Spaces for Understanding
16-20 July 2003
Sydney, AUSTRALIA
<http://www.latrobe.edu.au/aqr/offer/conferen03.htm>

EUROPEAN ASSOCIATION FOR RESEARCH ON LEARNING & INSTRUCTION (EARLI)

Improving Learning: Fostering the Will to Learn
26-30 August 2003
University of Padova, ITALY
<http://earli2003.psy.unipd.it/>

ALT-C 2003 - COMMUNITIES OF PRACTICE

10th Anniversary Conference of the Association for Learning Technology (ALT)
8-10 September 2003
Sheffield, UK
<http://www.shef.ac.uk/alt>

ITL PROGRAMS & EVENTS

The ITL will continue to run its 3 day Principles and Practice of University Teaching Learning Program in 2003. Further information about dates for 2003 will be available shortly at <http://www.itl.usyd.edu.au/itl/3dayProgram/>

New and experienced academics involved in higher degree research supervision might like to consider registering for the ITL's web-based Postgraduate Supervision Development Program at <http://www.itl.usyd.edu.au/postgrad>. Information about workshops for 2003 will also be available shortly.

WEBCT WORKSHOPS

University staff interested in registering for WebCT workshops should check the Flexible Online Learning Project site for information, dates and registration: <http://learn-on-line-admin.usyd.edu.au/public/HOME>

Please send details of conferences on aspects of teaching and learning for listing on the Noticeboard to:

Synergy

Institute for Teaching and Learning
The University of Sydney
fax: (02) 9351 4331
or email: synergy@itl.usyd.edu.au