

2004 Reports

INNOVATION IN TEACHING GRANTS

DEBRA CARR

BRIDGING MATHEMATICS FOR DIVISION OF SCIENCE STUDENTS

An appreciation of mathematics and statistics is vital in tertiary science and engineering subjects, however, there is an acknowledged worldwide decline in the mathematics ability of engineering and science students when they commence tertiary education. In this project a Mathematics Department on-line intervention (Mathercize) was developed for Division of Science students. The Departments that took part in this project were Clothing and Textile Sciences (project leader), Mathematics and Statistics, Zoology, and Physics. Mathercize is available on-line and therefore is removed from peer-knowledge of completion. The intervention contains sets of questions divided into topics (e.g. basic mathematics, metrics, quoting numbers, proportions, statistics, self-test) and problems are hidden within a framework that is focused on a particular Department.

SALLY CARSON

100 YEARS OF MARINE SCIENCE

The objective of the project was to design and build an interactive computer programme that would bring students and visitors to the Aquarium back in time to discover how the last 100 years of research at the Portobello Marine Laboratory has shaped our current understanding of the southern ocean. The programme was designed to allow users to meet scientists and make marine discoveries through short documentaries that highlight research projects that have been carried out through the Portobello Marine Laboratory. The virtual field trip allows users to climb on board the Research Vessel Munida in 1904, 1954 or 2004 and choose research equipment available at that time to sample the sea. The users collect data and make marine discoveries. They get a first hand look at how advances in technology have increased our understanding of the underwater world and allowed further exploration and exploitation of this environment. Local marine life comes to life through an interactive database of all the species found in the Aquarium and off the Otago Coast. The database has been designed so that users can look up a species by its name, what tank it is found in or who it is related to. The

programme has formed the basis of a living history and can be easily updated and expanded. Its application is far-reaching from young to old, and fisher to academic, sparking interest at a variety of levels.

MATTHEW CROUCHER

EDUCATIONAL TRAINING VIDEOS FOR BASIC SKILLS IN OLD AGE PSYCHIATRY

Old Age Psychiatry is uniquely taught in the Christchurch School of Medicine and Health Science as an integral part of the Older Persons Health run. This project allowed the production to a professional standard of three teaching films on DVD covering model interviews to elicit a history of depression from an Elder, a history of cognitive impairment from an Elder or their carer, and to perform bedside cognitive assessment. A special focus on risk assessment and on sensitive but structured interviewing was included. Each short film incorporates didactic teaching as well as the model interview itself. The use of these films has enhanced the teaching course in measurable ways, although it has taken a year to find the best method of incorporating them in the course so that students gain the most benefit from seeing them. The DVD format also enables these films to be used in other settings where teacher time is harder to come by.

TANIA KA'AI

GOING ON LINE WITH MINDS

The CALT grant was used to employ a Research Assistant to help with investigating the feasibility of putting the Masters of Indigenous Studies (MIndS) Programme "On-Line". MIndS is a taught full-calendar year multi-disciplinary Masters programme involving papers from Te Tumu, Political Studies, English and Spanish. In 2003, Te Tumu fielded numerous enquiries from people around Aotearoa/New Zealand asking whether the programme was available On-Line. Many of these prospective students had already worked with Indigenous communities and wanted to channel their experiences into gaining higher qualifications. It was also envisaged that the creation of MIndS On-Line would allow MIndS to develop as an internationally recognised On-Line Indigenous Masters programme, which would attract interest from Indigenous communities world-wide, including Hawaiian, Canadian, Samoan and Fijian students. Essentially, the CALT grant enabled us to assess the effectiveness of MIndS On-Line by undertaking a 26-week pilot programme using one of the core MIndS papers (i.e., INDS501: Indigenous Theory and Method). Within this programme the effectiveness of a range of assessment, teaching and

student/teacher interactions through the On-Line medium were investigated, including the use of Blackboard scrapbooks, the delivery of lectures On-Line, chatroom interaction, and the use of audio-conferencing. The MIndS On-Line project was a success in that all staff and students involved were positive about MIndS being taught through an On-Line medium.

KWOK-WING LAI

USING ELECTRONIC PORTFOLIOS AS A PROFESSIONAL DEVELOPMENT TOOL

This project was specifically designed to evaluate the use of electronic portfolios as professional development and assessment tools. Increasingly, portfolios have been used in teacher education and in 2004 the Faculty of Education was able to offer, for the first time, the Master of Teaching. As a professionally-orientated programme it was considered appropriate to use an electronic portfolio system as an assessment tool to reflect professional practice. Postgraduate students in the Faculty of Education distance programme were invited to participate in the research project that invited personal evaluation of the electronic portfolio system used in their courses. Students participated in initial needs assessment interviews followed up by interviews during the final stages of their papers to evaluate the effectiveness of the electronic portfolio system.

NICK LAIRD

ONLINE MARKING AND EVALUATION SYSTEM

JANICE LORD

ECOLOGY IN THE 21ST CENTURY

TAMAR MURACHVER

WHAT ARE THE ATTRIBUTES OF A GOOD PHD SUPERVISOR?

Two aims of the project were: (1) to determine features that PhD students identify as being important for quality PhD supervision; and (2) to determine the features that students identify as obstacles to successful PhD supervision. Forty students representing Health Science, Science, Humanities, and Commerce divisions of the university provided in-depth interviews about PhD supervision. These interviews yielded features that students identified as being important for good PhD supervision. Many of these focussed on how well the supervisor was

able to support and understand the student's needs in the research context. Points mentioned included general supportiveness, availability, and interest in the student's career. Issues related to interpersonal skills were frequently mentioned, including having good communication, being approachable, and establishing good rapport. Knowledge and enthusiasm were further important qualities, as was providing constructive feedback, direction, and structure. Obstacles to good supervision included the supervisor being too busy to be effective, providing poor feedback or not being able to communicate well, and lacking commitment and interest. Other obstacles mentioned included tensions or conflicts with co-supervisors, having unrealistic expectations, and behaving in a selfish and disrespectful way towards the student. Mentioned less often were issues of inexperience, lack of knowledge, and personality clashes.

DAVID ORLOVICH

A WEB-BASED INTERACTIVE KEY TO DUNG FUNGI

Students in BTNY 322 do a five-week exercise to collect and identify the numerous fungi that grow on animal dung. Students develop an in-depth knowledge of the main groups of fungi, and ability to identify and illustrate them. We have developed a database of images and descriptions of the species students are likely to encounter. Students can upload their own records (including digital images, descriptions, measurements, notes etc) to the database. In this way students contribute to, and feel part of, a growing educational and scientific resource.

LESLEY PROCTER

EMBEDDING INFORMATION LITERACY SKILLS AND CONCEPTS IN TWO ACADEMIC PROGRAMMES (SOC1 101 AND SOC1 302)

Information Literacy (IL) is the lifelong ability to locate, evaluate, and effectively use information and is a central component of the University of Otago Teaching and Learning Plan (2002). The Australian and New Zealand Institute of Information Literacy (ANZIIL) developed a set of prescriptive standards aimed at embedding IL skills and concepts into the academic curriculum. Aligning course content with these standards is a difficult and complex task however. The aim of this initiative was to embed the IL standards into the Sociology Programme in order to produce graduates with highly developed IL skills in addition to the traditional 'core' subject knowledge. Embedding the IL standards to this level is unprecedented in New Zealand universities, and attempts elsewhere

are only in the embryonic stages. This initiative also set about assessing the degree of success achieved in the embedding process in two specific Sociology papers - one at first year and the other at third year. This project used small focus groups and whole-class anonymous surveys based on the Information Skills Survey (ISS) developed by the Council of Australian University librarians (CAUL), to gather both quantitative and qualitative data to assess both student IL learning and the embedding outcomes.

CHRIS RUDD & JANINE HAYWARD

PILOT STUDY TO INCREASE ACTIVE LEARNING

The aim of the project was to shift students from passively attending lectures and then cramming required readings just before exams, to actively attending tutorials, engaging with course material and resources and developing critical analysis and lifelong learning skills. Through the use of online methods and the video recording of material this provided students with greater freedom and flexibility to explore their own ideas, and provide quality time for students to grapple with conceptual problems.

GORDON SANDERSON

E-OPHTHALMOSCOPE

The ophthalmology section has constructed a computer programme available on CD Rom, simulating the use of an ophthalmoscope to examine a patient's eyes. The students are given a case history from which they are invited to select an appropriate ophthalmoscope from a choice of three (each type of ophthalmoscope is supported by a video demonstration). Once the selection has been made the simulated examination begins. A retinal photograph from a bank of appropriate pathologies is displayed through an aperture on the screen and the student navigates around the image using the mouse. The field of view and orientation of the image is determined by the choice of instrument selected. Once each "patient" has been "examined" the student is asked a selection of questions. Each attempt is scored and the length of time taken to examine the case is recorded. Students' scores are collated from data that include the correct choice of instrument, the length of time taken to examine the patient and correct answers to the questions. Students are given a total of 10 cases before their final mark is awarded. Answers to any incorrect responses are provided at the end. This teaching resource is made available to IVth and Vth year Medical students in CD Rom form and also on Blackboard.

JOHN SCHOFIELD

POSTGRADUATE TRAINING IN THE USE OF VETERINARY AND HUMAN MEDICINES FOR RESEARCH, TESTING AND TEACHING PROGRAMMES

The primary objective is to develop a training programme for the use of Prescription Animal Remedies (PARs) in research, testing and teaching (RTT) that will allow postgraduate students to master the essentials of anaesthetic and analgesic drug use in experimental animals. Following successful completion of a Computer Aided Learning (CAL) programme, personnel will attend a workshop to learn 'hands-on' skills of drug administration and anaesthetic monitoring. All postgraduate students using animal models will be required to complete this training programme, including the Wellington, Christchurch and Dunedin Schools. The second objective was to promote best practice in anaesthetic and analgesic drug administration for laboratory animals used by postgraduate students.

TERRY SCOTT

A PILOT STUDY INTO THE INTEGRATION OF E-LEARNING RESOURCES INTO THE TEACHING OF FIRST YEAR PHYSICS

In this pilot study, two groups of years 12 and 13 secondary school students were taught two weeks worth of a standard first year physics course. The same material was presented using two different teaching methods. One of these methods was a traditional two week lecture course; the other method was based on the active engagement of the students in the learning environment. Prior to attending these courses the students' understanding of the foundational concepts of classical mechanics were tested using the FCI (Force Concept Inventory). After the students had attended the two courses, their understanding was retested using the FCI and another test, the MBT (Mechanics Baseline Test). The primary result of the pilot study is that the FCI score of the innovative group improved more than that of the traditional group ($p=0.0213$). We also found that there was a tendency for females to benefit much more from the innovative programme. At the conclusion of the pilot, student attitudes toward the two different teaching methods was surveyed. Students found the innovative programme more enjoyable ($p=0.0219$), they felt that they learnt more in the innovative programme ($p=0.0024$) and that lectures were less boring in the innovative programme ($p=0.0004$).

INTERNATIONALISATION OF THE CURRICULUM GRANTS

MALCOLM CONE

THE ART OF BUSINESS IN CHILE, AN ETHNOGRAPHIC STUDY

JOHN DRUMMOND

IN-COUNTRY STUDY FOR 400-LEVEL LANGUAGE STUDENTS

CALT grants for 2003 and 2004 have enabled the Department of Languages and Cultures to establish general exchange agreements with thirteen universities in Asia, Europe and Latin America. More recently, in 2005 we were able to visit five potential partner universities in Spain and to initiate exchange agreements with them. Another trip to the Iberian Peninsula in March and April 2006 took these discussions further. Two agreements have now been signed with Spanish partner universities and are now fully operational (Universidad Autonoma de Madrid and Universidad Complutense the Madrid). A third agreement with the Universidad de Alcala de Henares has been signed at our end and sent to Alcala for their approval. Two more proposals (for the Universidad de Granada and the Universidad de Cordoba) are now being prepared for submission to the Internationalisation Committee for discussion and ratification. A meeting with the Camoes Institute in Lisbon during the 2006 trip to Spain and Portugal has opened up the prospect of support for the teaching of Portuguese language at Otago.

NOEL WAITE

GRAPHICS AND CONTEMPORARY SOCIETY

In 2004 14 Design Studies students from the University of Otago joined 15 Design Studies students from the University of New South Wales in the course Graphics, Global Communication and Society. This was taught jointly by UNSW Senior Lecturer Leong Chan, Otago Lecturer Dr. Noel Waite and Teaching Fellow Tom Bond via the online collaborative design environment, Omnium (see <http://www.omnium.edu.au/projects/>). In the second semester, the Otago students reflected on their online experience and completed a real-time collaborative graphic design project, applying the lessons they had learned online. The online environment offered Otago students the opportunity to work collaboratively with Australian students and enhance their understanding of the

role of cultural values in graphic design through cross-cultural design practice. It also simulated the online collaborative design processes adopted by multinational design firms to take advantage of different time zones. Dr Noel Waite and Tom Bond are currently designing a new course, Anzac: Navigating Regional Graphic Identity. It is hoped that the partnership between the UNSW and Otago Design Studies Departments will be enhanced with further collaboration in the design and delivery of courses via Omnium.

Research into University Teaching

CHRISTAL JAYE

TEACHING AND LEARNING ON HOSPITAL TEACHING WARD ROUNDS

Hospital ward rounds are a time-honoured means of teaching medical students about the application of medical knowledge in a clinical setting. This study was based on observations made during surgical teaching ward rounds including observations of pre-ward round meetings of clinical staff and interviews with both teachers and students on completion of the rounds. Perhaps the most significant finding (because it emerges many times with varying implications) was the constraint imposed on the learning environment by its location in an institution dedicated to the routine delivery of health care. While that context is most appropriate in the sense that it will be the setting for the students' practice in the coming years, it is also a setting in which patient well-being must take priority over student learning. The tension between student learning and patient health care has effects that vary from student to student, for example students respond differently to the opportunities that are open to them. Another significant finding was the differences in perceptions that existed between teachers and students. For example there were significant, if subtle, differences between how clinical staff saw case presentations at the bedside and what students made of them. For clinical staff these presentations were the opportunity to succinctly summarise the main features of the case and to present this data to colleagues for critical review, thus combining efficient and effective communication with a review process. On the other hand, students tended to see case presentations as risky opportunities for creating the impression that they knew what was going on and often their aim was to complete them as quickly as possible with a minimum of questions being asked. Overall the study showed that both staff and students respond differently to the learning opportunities that arise in a clinical workplace. The challenge is to maximise the educational value of these opportunities without disrupting the flow of clinical work.

JOY RUDLAND

THE ATTITUDES OF STAFF OF THE MEDICAL FACULTY TO PEER TUTORING

Peer tutoring is a form of peer-assisted learning. It involves student tutors (of the same or higher year of learning) facilitating the learning of other students. The benefits of peer tutoring have been recognised in the cognitive development of the tutees, and the tutors' cognitive and meta-cognition. However, very little research has been conducted in to the perspective of staff on the formal use of peer tutoring although it has been suggested that teacher support is necessary for successful implementation of peer tutoring schemes. The broad aims of the project were to determine staff perceptions and understanding of peer tutoring and any differences between types/grades of staff. Teaching staff at Dunedin, Christchurch and Wellington Clinical Medical Schools participated in the project. Results showed that there was qualified support for peer tutoring schemes. Some staff felt that it was not the student's roles. The disadvantages highlighted by staff members related to their concerns that student tutees would be given misinformation or that the information would be poorly delivered by an inexperienced tutor. In conclusion, the concern that it is not the student's role to be a teacher is debatable although it is the opinion of the authors and current medical education policy documentation that students need undergraduate training in education to fulfill their postgraduate teaching commitments. The concerns of staff are not supported by the literature and it is somewhat ironic that staff felt that students needed training in educational delivery although their own educational training is often minimal.

RACHEL SPRONKEN-SMITH

MILLENNIUM GRADUATES - THE IMPACT OF A UNIVERSITY OF OTAGO EDUCATION

This CALT Research into University Teaching grant has enabled the generation of a capable and productive research team who have undertaken a piece of unique research that will certainly further knowledge of the longer term impacts of higher education. The scope of the project exceeded initial expectations and although many outcomes are already apparent, further analysis will occur throughout 2006.

MARTYN WILLIAMSON

**THE USE OF SAFE AND EFFECTIVE CLINICAL OUTCOMES (SECO) AS A MEASURE OF
MEDICAL STUDENT PERFORMANCE**

Twelve 4th year undergraduate medical students and seven experienced general practitioners (GPs) volunteered to partake in a series of simulated general practice clinics designed to assess their abilities to achieve predetermined safe and effective clinical outcomes for each patient they saw. The clinics were designed to replicate the real life challenges of general practice as far as possible. Measures to achieve this included case histories based on real patients, flexible use of time for the clinicians, the ability to use any written or electronic resources e.g. text books, and access for advice to a colleague on the phone. There were a total of four GP clinics giving a total of 70 patient contacts and four student clinics with 90 patient contacts. The GPs outperformed the students as expected, however this trend was stronger in proficiency (as measured by time per patient) than in the achievement of SECO. Both groups found the experience to be educationally valuable and that it did test abilities required for professional practice. The positive feedback from both groups has resulted in the SECO clinic forming part of the Department of General Practice end of run summative assessment for 5th year students, in addition to its ongoing formative role.