Improving Teaching and Learning in Universities

The urgent challenge of world-class university teaching and learning

Professor Donald Markwell

Warden, Trinity College,
The University of Melbourne

Guest Editor

The urgent need to enhance learning – and therefore teaching - in Australian universities is increasingly recognised. In the competitive global 'knowledge economy', the knowledge and skills of a nation's people will significantly determine the country's well-being. This makes the quality of learning – the acquisition by students of knowledge, skills, and also values - in universities of the utmost importance for the community as well as for each individual student.

This special issue of *B-HERT NEWS* draws on research and practical experience from authors in Australia, Britain, Hong Kong, Singapore, and the United States to address key issues related to improving the quality of teaching and learning in universities.

Perspectives vary on such issues as the connection between research and teaching, the problems and opportunities created by large classes, and much else. These articles reflect the benefits that can flow for learning from well-considered use of Information Technology, and from the growing diversity of student cohorts – reflecting, of course, the fact that students learn a great deal from each other, as well as from those who teach them.

Above all, there is near-unanimity on the need for teaching to be focussed on learning outcomes, rather than on the teaching process itself, and especially on engaging each individual student in their own active learning, including – especially through discussion and debate - in refining the skills of independent thinking and of clear communication which any university education should encourage. The teacher as performer, though valued by many in the past, appears now to be largely out of fashion. Is there a danger of some student-centred approaches being insufficiently challenging to students – supportively challenging, but challenging nonetheless?

Many factors shape the quality of learning. These include the aptitude and motivation of individual students and their own approaches to learning (including to collaborative learning), the quality and diversity of the student body of which they are part, the curriculum they study, the calibre and strategies of those who teach them, the size and nature of their classes, the ways in which learning is encouraged by assessment processes and feedback, the learning resources (such as libraries, laboratories, and

information technology) available and used, the scope for learning in the classroom to be enriched by learning outside the classroom (including in residential and extra-curricular settings), and the wider institutional and social context.

Much has been done, and is being done, to improve teaching and learning in Australian universities - from teacher training and other professional development programs, to awards for outstanding teachers, to tying some of the funding of faculties or departments to evaluations of their teaching quality. The recent Nelson reform package and the policies of individual universities, reflected in these pages, suggest – encouragingly - that the emphasis on enhancing teaching and learning is increasing.

Yet the decline in small-group teaching in Australian universities, and the diminished opportunities for individual contact between students and academics, has made all the starker the contrast between the world's best practice in teaching and learning, characterized by a high degree of individual attention in a collegial learning community within and outside the classroom, and the reality in Australian universities, with far worse and worsening student:staff ratios. This poses an acute challenge to all those with an interest in ensuring that Australia has higher education fit for the 21st century[*].

Part of the challenge is to think afresh about the content of what our students learn, and what needs to be done to encourage and assist them to gain that liberal and internationally-focussed education which – far more than most realise - is necessary, no doubt often as a prelude to more specialised professional education, to be fully prepared for careers and for citizenship in this rapidly changing world.

Several of the authors here stress the importance of teaching practice being based on research into what works and what does not, and not simply on hunches and guesswork. While Australian institutions place considerable reliance on largely-numeric student evaluations of courses and on other aspects of the institution, much would be gained from more qualitative research into what Australian students find really helps them learn – qualitative research of the kind reflected in the Harvard and Oxford studies presented here.

Such research should form part of the genuinely international conversation about university teaching and learning which a number of our authors encourage, and to which this special issue seeks to make its own contribution – Australian university educators contributing to an international conversation, and also learning from it, for the benefit of students.

Emerging issues for teaching and learning in Australian universities

Professor Craig McInnis

Centre for the Study of Higher Education
The University of Melbourne

The importance of teaching and learning in universities has shifted from routine and somewhat token acknowledgment in government policy to a central place in the higher education policy agenda. A series of government initiatives over the last decade has incrementally raised the profile of teaching, but much of the action was already underway within the faculties and departments. The conjunction of a dramatic growth in student enrolments, the introduction of new information technologies, and the intense market competition for students in the early 1990s put universities on notice with respect to the quality of their teaching and learning.

Despite the tensions created by the increase in class sizes, the pervasiveness of reward systems that favour research over teaching, and the overall decline in resources, our universities have managed to maintain Australia's international reputation for

innovation and quality in university teaching. However, the more emphatic stance on the improvement of teaching and learning in the recent reform package has the potential for taking the quality of teaching in Australian universities to a new level.

How and with what success universities, business and government combine to achieve a strong knowledge economy will depend in particular on some major shifts in the way they interpret and respond to the changing needs and expectations of undergraduate students. This includes in particular the design and management of student learning experiences.

How teaching and learning are changing

Many of the changes in the way students learn at university are well known although the nature and extent of their impact is not. As with almost every aspect of society the digital revolution has permeated universities, especially development and adoption of flexible delivery with web-based resources and online learning. The clearest indication of change is the commonplace use of technologies in lecture theatres and laboratories, and the routine design of courses on the assumption that students will have ready access to the internet.

Students are now more likely to study in multiple settings: in large lecture theatres, in groups on collaborative exercises, in computer laboratories with two or three others in an online tutorial, or simply working at home alone. They are less likely to spend significant time in small group tutorials, or to have one-to-one consultation with their lecturers. On the other hand, they often have access to the personal home pages of their lecturers and easy access to comprehensive learning support services.

While students are increasingly using information and computer-based technologies it is not necessarily in ways that enhance their engagement with the learning experience. The extent to which the management of these flexible learning experiences using these resources is directed by changing conceptions of the way students learn is not clear. Likewise, our knowledge of the nature and extent of student use of technologies and its impact on their learning outcomes is still sketchy.

Academics have on the whole embraced the opportunities that new technologies provide. However, their biggest challenge has been the increasing range of differences in student preparation, experiences and abilities in any given classroom. Meeting the needs of the students is almost impossible without an informed understanding of their approaches to learning.

While there is still a lot of ground to make up when it comes to basic principles of good teaching, there is clear evidence that students are more likely now than just a decade ago to encounter academics who demonstrate enthusiasm for their subjects. They are also providing clear goals and objectives for their subjects, and telling student how they are supposed to learn in the subject. To a large extent, much of these measurable improvements in the basics of good teaching have been driven by government and university accountability processes.

Enhancing teaching and learning

The impact of technologies on the nature of student learning has not, however, been matched in other respects. It would be misleading to suggest that there has been a wholesale shift in approaches to university teaching. The quality of learning experiences for many students remains patchy at best. Many continue to have a flawed experience that is fundamentally the same as for previous generations, and sometimes worse. The positive news is that three broad developments are emerging and, with the right policy drivers, they are likely to have an impact on the mainstream of learning experiences.

First, the notion of understanding and valuing the total student experience has recently been revived — partly to counter the likelihood of fragmented patterns of learning sometimes generated by flexible delivery as an end in itself. Since the initial surge in the adoption of new technologies, universities have become aware of the significance of the social context of student learning.

Engagement with learning occurs where students feel they are part of a group of students and academics committed to learning, where learning outside the classroom is considered as important as the timetabled and structured experience, and where

students actively connect to the subject matter. Where once it was assumed that students would naturally form natural support groups it is now clear that the mix of part-time work, idiosyncratic timetables, and the accessibility of web-based resources requires lecturers and course designers to design learning experiences that encourage students to develop informal networks.

Second, and obviously related, is the growth in student-centred and active learning approaches. This has been largely led by medical schools where problem-based learning is now widely incorporated or in fact totally embraced in the leading schools. There is also now an emerging effort, especially in research-intensive universities, to connect research to undergraduate teaching, and the integration of practical experience in professional courses is more systematic.

Third, there is a growing awareness of the importance of e v i d e n c e - b a s e d approaches to the organisation of learning experiences. That means universities and academics routinely collecting evidence about how much their students have learned and modifying approaches accordingly. This has partly reinvigorated the demand to stick with first principles in guiding the improvement of teaching and learning. We know from research that undergraduate students learn best when they: work with other students in a group whose main purpose is learning; get timely and informative feedback on their work; spend adequate time and focus on learning tasks; and are able to consult with academics about their study. These basics continue to hold true in the digital classroom.

Without evidence-based approaches to teaching and learning, the improvement of teaching becomes a hit-and-miss exercise: and without systematic monitoring of student performance and progress there is little chance of institutional learning. It is particularly easy, for example, to confuse the notion of active learning and engagement with social activities as an end in themselves, and to slide into

First, the notion of understanding and valuing the total student experience has recently been revived — partly to counter the likelihood of fragmented patterns of learning sometimes generated by flexible delivery as an end in itself. Since the initial surge in the adoption of new technologies, universities have become aware of the significance of the social context of student learning.

programs promoting 'busyness' with little effect on the quality of learning outcomes.

What we need to do

The lack of alignment between university reward systems and the core activity of academics is the biggest challenge facing government and universities. The fact is that most academics believe that teaching should be rewarded as much as research, but only a small minority consider that to be the case in their own university, and as one observer noted, 'money talks on campus as elsewhere, and the money says "do research"'.

Likewise, most academics believe that academics ought to have some form of training in teaching – but most think it is not necessarily for them personally, and up until recently there has been little career incentive to do so. Interestingly, academics are generally not very positive about their experience of training and professional development within their universities. For some time now most universities have been running compulsory induction programs for academics new to university teaching and, in the near future, formal institutional certification will become the norm. How well this impacts on the quality of the student experience in the future remains to be seen.

A similarly challenging task is to target resources at creating forms of learning appropriate to the new realities of student lives that will connect them with the academics and with other students in a social learning experience. Learning communities provide the advantages of traditionally small cohesive groups of students, moving together through their course as a cohort. Replicating this experience in some form is an achievable goal for all universities regardless of size, mission or student profile. Making effective use of ICT resources with this as a starting point would be a big step forward for many universities.

Australia has for many years led the way. Our experts are highly sought after in the UK and Europe where Australia is acknowledged as a prime source of research and innovative practice in teaching and learning. There is no shortage of dissemination of new ideas in the last five years or so. Yet, as one who has played an ongoing role in that process at the national level, it is painfully obvious at seminars and workshops around the country that a significant number of academics remain seriously unaffected by national and institutional efforts to improve the quality of teaching.

What we need most right now is to develop a distinctive national approach to the improvement of teaching and learning that ensures that the fundamentals of good teaching and learning are embedded in everyday practice. National efforts in the form of new bureaucratic structures and programs will amount to little, however, without substantial resources targeted directly at the quality of the mainstream of academic practice — and not simply on innovations. One estimate suggests that only 12 per cent or so of academics in the US are influenced by the dissemination of innovations in teaching to seriously rethink their approaches to teaching and learning. Australia is possibly well ahead, but unless national interventions have an impact ultimately on the ways in which the bulk of staff and students treat each other minute by minute, then change will continue to be confined to a minority of enthusiasts.

Harvard students – learning in and outside the classroom

Professor Richard J Light

Graduate School of Education and John F Kennedy School of Government, Harvard University

Author Photo ©Martha Stewart

Please contact the B-Hert Secretariat on bhert@bhert.com or +61 9419 8068 if you require a hard copy of this article.

The Oxford Tutorial

Extracts from The *Oxford Tutorial: 'Thanks, you taught me how to think',* edited by David Palfreyman, Oxford Centre for Higher Education Policy Studies (OxCHEPS), 2001. Reprinted with permission.

'Better than any alternative'

Professor Richard Dawkins

Charles Simonyi Professor of the Public Understanding of Science, University of Oxford, and Professorial Fellow, New College, Oxford

I continue to think the Oxford Tutorial is better than any alternative on offer. The virtues of individual attention are still there in full. A young relative of mine has recently graduated in Biological Science from another prestigious university. She loved her time there, and enjoyed lectures by excellent scientists. But one problem emerged at the end, which would have been inconceivable at Oxford (or Cambridge). When she came to seek a job and needed testimonials from her teachers, it proved almost impossible to find a quorum who had the faintest idea who she was. At Oxford she could have called upon half a dozen tutors, all of whom would have been on Christian name terms with her (both ways) and all of whom would have been intimately familiar with her work and her strengths. The Oxford Tutorial today may fall a little short of my rose-tinted recollections, but it is still greatly superior to the so-called 'tutorial' (actually usually a seminar or class) in any other university except Cambridge.

I still think the Oxford one-to-one tutorial was the making of my entire career. But if I am honest, I think this might have been so even if my tutors had known very little more than I did myself. The important thing was the knowledge that my essay, when I eventually completed it, would be the object of one hour's undivided and serious attention from somebody qualified to judge it and discuss its topic with me at least as an equal. The educational value comes not from listening to what the tutor has to say (as if a tutorial were a private lecture), but from preparing to write essays, from writing them, and from arguing about them in an unrushed session afterwards.

It is the feeling that one's essay will be valued and discussed for a whole hour that makes the writing seem worthwhile. It gives the undergraduate an inkling of how it might feel to be the world authority on a subject. If anything, this valuable educational experience might come better with a Junior Tutor than with a senior scholar who really is the world authority and whose prestige and reputation might seem to quell debate. The important thing to retain from Oxford's unique tradition is the whole hour of a tutor's attention, with nobody else present. Not only should Oxford and Cambridge find ways of making the system economically sustainable, but also the model could with advantage be exported to other universities.

The Socratic method: teaching students to think

Mr Robin Lane Fox

Fellow in Ancient History New College, Oxford

The Oxford Tutorial brings one or two pupils into contact with a single teacher in their subject. There are off days, and occasionally a teacher or pupil does not, or cannot, try. The off days, which are rare, are not the measure of the system. It is not just a source of information, of which there are so many sources, on and off line. It aims to teach pupils something else: to think.

The Oxford tutorial: the students' perspective

Dr James Clark

formerly Fellow in Medieval History, Brasenose College, Oxford and now Lecturer in Early Modern and Northern European History, Department of Historical Studies, University of Bristol

Of course, a genuine insight into tutorial teaching can only really be gained from speaking to those students who are currently studying in Oxford, before distance, dementia or the desire for revenge has distorted their views. To this end over the 1999/2000 academic year, I interviewed no fewer than forty undergraduates to find out what they thought about the tutorials they had experienced. They were drawn from six different colleges – roughly a fifth of the total number – and from a variety of arts and science subjects. There was a mix of first-, second-, third- and fourth-year students, and a little over half of the interviewees were women. Their response was enthusiastic: tutorials continue to play a prominent part in the life of any student at Oxford and there is no doubt that they think about them a great deal, how they work (and sometimes do not work) as a way of learning and teaching. Their views should be of interest to both critics and supporters of the system.

In the first place, it is very clear from the students' comments that there is much about tutorial teaching that has changed, and continues to change in contemporary Oxford. For the most part, of course, the tutorial does still set the pattern for the students' week; it is still their principal point-of-contact with their tutors and the focus of most (if not all) of their written assignments. Generally speaking it is also still a college-based activity, allowing students to form a close relationship with others of their cohort in the same subject area. But in other respects it has become something very different. The traditional one-on-one tutorial, between a tutor and a single student who reads an essay – or presents some other assignment – and receives (often peremptory)

feedback is undoubtedly a thing of the past. It is now very common for students to take a course of tutorials in pairs, and many of those interviewed had also experienced them in groups of three or four. In the Sciences, groups can be larger still. This seems to have been a welcome change. Most agree that there is far more to be gained from group discussion than from the somewhat stilted exchanges between a tutor and a single student. Generally, these larger tutorials have allowed a less formal and more natural atmosphere to develop in which students find it easier to express their views.

In many cases, the role of the essay (or other written assignment) in the tutorial has also changed. In many of the arts subjects it is now common for students to submit their written work prior to the tutorial, so whilst it does still form the basis of the discussion there is no time lost to a formal reading. In groups of three or four, it is often the case that the tutor will invite each student to give a brief presentation of their views on the subject as they have emerged in the preparation of the essay, before opening up the tutorial to a wider discussion. Once again, most students see this as a change for the better. Reading aloud has long been unpopular, both on practical – it uses up valuable time – and pedagogic grounds, tending as it does to reinforce the division between themselves and the tutor. In a less formally structured setting where no assignment is read in its entirety, students say they have found the confidence to enter fully into discussion with their tutors, to challenge interpretations and test out ideas of their own. Perhaps the only problem from the students' point of view is that it is now difficult to find an opportunity to discuss the specific strengths and weaknesses of their own written work. There is a danger that with the decline of one-on-one teaching we lose the opportunity to offer the kind of detailed, in-depth advice to an individual that was always a distinctive feature of the traditional tutorial.

Of course, the inner workings of a tutorial are not always (if ever) familiar to students when they first come up to Oxford. Many admitted that they had arrived with the image of an arrogant, authoritarian tutor whose only aim was to expose the intellectual weakness of his students. Some said they had benefited from the Student Survival Kit and other similar advice booklets issued by a number of colleges, which try to de-bunk some of the more

pervasive myths about student life. There are not yet enough of these manuals, however, to counteract some of the more disturbing impressions conveyed in the media and colluded in by the more mischievous alumni. New students remain nervous about speaking in front of their tutor, expecting the tutorial to be something similar to their original interview. They are also uncomfortable about confronting an acknowledged expert in their field, fearing they will find themselves out of their depth. There is also a suspicion that the tutorial does serve as one, unspoken mode of assessment, even if a written assignment is not given a formal mark. For many though the greatest anxiety is quite simply not to know exactly what it is that their tutor expects from them in each tutorial. Most of the students I spoke to said that their understanding of tutorials had grown only slowly, largely through a process of trial and error. Like many aspects of Oxford life, it seems that many tutors themselves still regard the art of the tutorial as something that cannot be taught and that understanding comes only through some mystical process of self-realization. Some tutors – especially the younger generation of college fellows – do now give their students guidance on how to approach and how to make the most of their tutorials. But it seems in most cases it is only after two or three terms, and sometimes after Mods or Prelims [first- or second-year examinations], that students say they are entirely sure about what they expect to do in, and take away from, their tutorials.

Once they have mastered the art, there is no doubt that most of the students do find their tutorials to be a great source of stimulation. Many draw a contrast with their experiences at school where direct access to tutors was limited and where class sizes and timetable demands meant the syllabus was covered only superficially and at a break-neck pace. Those I interviewed especially appreciated the degree of focus possible in a tutorial setting, where the finer points of a subject, its factual content but also its further implications could be painstakingly picked apart. At the same time, students also enthuse about the breadth of discussion possible in their tutorials. In comparison to lectures, or seminars that they often find contrived, in their weekly exchanges with their tutor and one or more partner they found there is far greater scope to explore a wide range of themes. There is a marked preference for those tutors who do not set any very specific agenda for discussion, and when spur-of-the-moment ideas can be pursued to their logical conclusion. Some liked it best if the tutorial became a testing-ground for ideas, an opportunity to identify problems and raise questions. Others preferred there to be a conscious debate over one, or a cluster of issues. If these discussions become heated then so much the better from the students' point of view; as one of them put it, 'the best tutorials are like Newsnight with the tutor as Paxman'. Either way, it is agreed that the advantage of the tutorial when it is working like this is that discussion is open, and open-ended, and there is every opportunity for the students to choose the direction or focus of it for themselves.

It would be wrong, of course, to claim that current students' opinions of tutorial teaching are unwaveringly positive. Most maintain that the character and quality of tutorials varies enormously across the University, and that much may depend on a chance meeting with a charismatic tutor in a single term. There was a suspicion – in this author's opinion, unfounded - that there is more to be gained from a tutorial led by a graduate student or a younger tutor than from a more mature, established scholar. Perhaps a more convincing point is that the great strength of the tutorial, that is to say the opportunity it provides for interaction between tutor and student on a personal level, can also on occasion serve as its greatest weakness. It does demand that the student can establish a good (and good-natured) working relationship with their tutor and, for a variety of reasons as much to do with the student as with tutor themselves, this is not always the case. Some students also made the more specific criticism that, whilst tutorials are an important forum for debate

> Some liked it best if the tutorial became a testing-ground for ideas, an opportunity to identify problems and raise questions. Others preferred there to be a conscious debate over one, or a cluster of issues. If these discussions become heated then so much the better from the students' point of view.

and discussion, they are poor preparation for the examinations (whether Mods, Prelims or Schools) themselves. In their view tutorials do nothing to expand their knowledge of their subject and yet it is this subject knowledge that forms the basis of the examinations. One interviewee opined: 'tutorials have taught me to argue…about anything, but not how to pass the exam'.

A small minority of students also raised a further point of criticism; that the tutorial system as practiced at Oxford is inherently gendered, favouring styles of learning that are more natural to men than to women. In their view the emphasis on debate and discussion in a tutorial setting places male students at a definite advantage given that young men tend to be far more self-confident, willing to argue and, quite simply, louder than their female counterparts. Certainly, it is important to register this concern and to recognize that students who are naturally shy, whatever their gender, can all too easily be marginalized in a lively tutorial discussion. But it would be dangerous to suggest that any of these capabilities could be inherent in only one gender.

Generally, current Oxford students are enthusiastic advocates for tutorial teaching. They value them as a prominent and stimulating part of their course. Initially, the prospect of debate and discussion with expert tutors does seem daunting, and it is only through the on-going cycle of weekly meetings that most have been able to master the art. But in time students do find them to be an engaging – even exciting – means of developing and expanding their understanding of their subject. If anything the opportunities for wide-ranging discussion and debate have increased in recent years as the formal one-on-one structure of tutorials has been modified. The tutorial in contemporary Oxford has evolved into a dynamic, flexible and popular method of teaching. Perhaps the only (slight) disappointment is that the eccentrics so prominent in the past are now so decidedly thin on the ground.

Making good teaching a high priority again: strategies for change

Professor Paul Ramsden

Pro Vice-Chancellor
(Teaching & Learning)
The University of Sydney

Over the last ten years, Australian universities have applied a more enterprising approach to their core business of generating excellent graduates. As a result, courses are more relevant. Generic attributes are embedded in many curricula. Innovations have flourished. Graduates are more satisfied. Accountability for teaching quality has soared. The days when universities tolerated poor teaching behaviour and showed contempt for students have gone forever.

In difficult circumstances, our universities in recent times have punched well above their weight. On any usual measure of performance, the Australian university teaching industry has been a story of achievement.

Much remains to be done. A combination of under-funding, restrictions on competitiveness, and a one-size-fits-all view of what a university should look like have squeezed the room for better teaching. There is still teaching that is substandard. There are still lecturers who are unrecognised for their excellence. There are still heads and deans whose skills in managing academics for high quality teaching are deficient and who consequently limit the performance of their staff. A new spirit of evidence-based teaching practice, built on the findings of research into university learning, has only begun to take hold against a sea of prejudice, hunches, opinions and guesswork.

Progress has not been helped by those who would impose further regulation and uniformity on an already tightly fettered sector. Denying universities the opportunity to offer diverse experiences to students is a recipe for mediocre instruction,

disheartened faculty and a set of lowest common denominator graduate skills.

Why should we bother about improving teaching? Mainly because good university teaching produces graduates who are more useful in the community. It makes people delight in embracing change. It inspires, it creates a vision of the future, and it equips them for a life of learning and service. The best teaching aims to stimulate students to greater mental effort under the intellectual stimulus of being part of a group of very able learners. These qualities are especially salient in research-intensive universities, and they go a long way to explaining why the graduates of our leading institutions are so attractive to employers. These graduates know a lot of detailed content; they can learn new knowledge quickly; they can think for themselves.

In A.N. Whitehead's words when he opened the Harvard Business School, the university imparts knowledge, but it imparts it imaginatively. As Whitehead realised, it is precisely the attribute of acquiring knowledge imaginatively that makes universities and their graduates so valuable to business and commerce.

To provide space for universities to pursue good teaching free from trivial regulation, we must accept that its support should reflect the mission of each university. The needs of students and staff at a small regional university with little research at international standard will be quite different from those in a large research-led institution. We must also recognise that we need better internal systems for managing the quality of university teaching. In particular, this implies practical methods for evaluating teaching quality, genuine reward and recognition, carefully targeted support for improving teaching, and strong leadership all the way from the CEO to the coordinator of a course.

In appraising and rewarding good university teaching, it is not enough to provide teaching awards and training courses for individual academics. The old methods of running optional staff development workshops and advising lecturers on technique are simply not powerful enough to meet the challenge. The experience at Sydney has been that improving teaching quality requires multiple levels of intervention (individual academic, course, school, faculty). Resolute management, explicit policies and a clear vision are needed to make step changes in teaching quality.

At Sydney, these initiatives have included:

- Required fundamental training in teaching for all new academics
- New promotions policies that recognise leadership and scholarship in teaching
- Rigorous, peer-reviewed audits of teaching and learning performance
- Teaching awards that require the exercise of an evidence-based, professional approach to teaching as well as basic competence
- Performance-based funding of teaching, deploying approximately $4.5m annually to reward good practice
- Financial rewards to academics for publications and scholarship in university teaching
- A $1m teaching improvement fund to address recommendations for development identified in reviews and a $4m teaching equipment fund to improve infrastructure
- Strategic investment in e-learning and graduate attributes development
- Large increases in the number of academics studying for formal qualifications in university teaching
- Formal benchmarking of teaching quality and academic quality assurance with leading international research universities
- Mandatory annual surveys of the student experience of courses and facilities, linked to funding and Academic Board Reviews

In the four years since we started to put these strategies in place, we have seen demand for Sydney undergraduate places increase substantially relative to our competitors. Simultaneously, our students have reported significant improvements in their levels of satisfaction. Teaching is once again a high priority in Australia's first university.

How can we improve university teaching across the whole system, and produce the kind of graduates from every university that Australia needs to be competitive on world markets?

The proposed National Institute for Learning and Teaching in Higher Education, one of the more imaginative ideas in the Nelson reform package, may provide a solution. A visionary development, it has the potential to bring a coherent approach to

improving learning and teaching in higher education.

It will be critically important for the Institute to be inclusive, recognising diversity in the university system and different models of good teaching. It must be ready to challenge some articles of faith, such as the idea that all academics in all universities must be world-class researchers to be good teachers.

The Institute will need to work with the academic grain rather than across it, avoiding a regulatory and bureaucratic approach and involving disciplines and professional associations from the start. Remembering the experience at the University of Sydney, it should emphasise benchmarking international standards and vigorously promote good practice in the management of evidence-based university teaching.

The National Institute represents an opportunity not to be missed to consolidate Australia's recent performance in improving university teaching. Properly handled, it could make Australia a world leader in the business of producing graduates for an uncertain tomorrow.

What do the best teachers do?
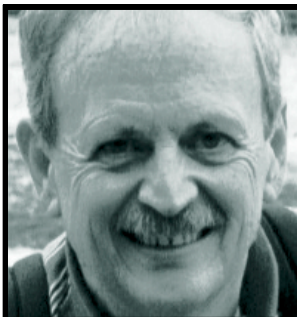
Professor
Ken Bain

Professor of History and Director, Center for Teaching Excellence
New York University

For the last fifteen years, my colleagues and I have been exploring the thinking and practices of highly successful college and university teachers. We sought to identify and study instructors who have had a sustained, substantial, and positive influence on the way students think, act, and feel. We identified more than sixty professors who have experienced exceptional success in fostering remarkable student learning, interviewed them and their students, observed them teach, reviewed their students' work and subsequent careers, studied course materials,

videotaped classes, studied those recordings, and drew our conclusions (Ken Bain, *What the Best College Teachers Do*. Cambridge, Mass.: Harvard University Press, 2004).

Anyone who expects a simple list of do's and don't will be terribly disappointed with our study and its conclusions. One can't teach well by the numbers anymore than one can expect to become a great artist by painting in that fashion. Excellence in teaching requires deep thought and often profound and subtle changes in the way we think about the nature of both teaching and learning.

We discovered two types of qualities–what we called Rembrandt's brush strokes and Rembrandt's insights–that seemed to account for the success they were having. To be a Dutch Master, one must learn Rembrandt's brush strokes, but that necessary condition is still insufficient. One must also develop Rembrandt's insights. Similarly, great teachers must master a variety of techniques–brush strokes–but they must also develop important insights into the nature of teaching and learning.

Two brush strokes appeared most frequently in the teachers we studied: The ability to talk well and the capacity to stimulate a conversation. While both of those abilities–with a variety of specific techniques too numerous to discuss here–made a significant difference in creating a strong learning environment, neither could carry the day. They worked because they emerged amidst complex and profound conceptions of both teaching and human learning.

The best teachers conceived of teaching as anything they might do to foster sustained and substantial changes in the way students think, act, or feel, without doing them any major harm. While that may sound like a natural way of thinking about teaching, it isn't the way many college and university educators understand what it means to teach. Instead, conventional teachers are likely to view their responsibility in the classroom as simply a performance, something they do to students. In that view, they can teach well even if students never learn. In contrast, our subjects thought that they didn't teach unless their students did learn. That seemingly simple yet complex distinction had a deep influence on everything they did.

Even more profound, the best teachers had developed notions of what it means to learn in their respective disciplines and of how and why human

beings do learn. They had asked themselves what they wanted their students to be able to do intellectually, emotionally, physically, and socially as a result of taking their courses, and they had developed elaborate and constantly emerging answers to that inquiry. Furthermore, they had engaged their students in that same intellectual discussion, asking them to think about their own thinking and how they developed both intellectually and emotionally as they learned. To some degree this was an epistemological discussion about the nature of knowing within a particular discipline, but it was also an exploration of how people learn and change as they do so.

As we probed our subjects' thinking about such matters, we discovered ideas that were remarkably similar to the concepts that emerged in recent decades from the research and theoretical literature on human learning and develop- ment. At first, we thought that the best teachers may do something that most of us never undertake, actually read the scholarship on learning and motivation and think about its implications for their teaching.

In fact, we discovered that they were no more likely to explore that literature than were their less successful colleagues, yet they had developed ideas and attitudes that have won considerable support from the research on teaching and learning and have strong theoretical foundations. Because they were unusually reflective, they had used their experiences with students to develop sophisticated notions about what it means to learn and about how they could best foster someone else's learning. Some of that thinking centered around their individual disciplines, but much of it cut across traditional divisions of study and offered insights into how people develop intellectually and emotionally. They fashioned ideas about what it means to become an expert or think critically, how to motivate students effectively, how they could create stimulating learning environments, and how they could best assess their students' work, among other important

notions. They came to understand their students, both collectively and individually.

They then used those rich insights to create highly effective techniques and classes, constantly changing and shaping their offerings to meet the individual needs of their students. As one of them said, 'You don't teach a class. You teach a student.' In general, they tried to build what we came to call natural critical learning environments.

To achieve that end, they were constantly learning new things about themselves, their subjects, and their students. None of them believed that they were born with all of the abilities and insights they needed to become effective educators. They had to work at it.

> We can begin to think about what it means to create a learning university concerned with the learning of both faculty (research) and students (teaching) and the ways in which the learning of one can benefit the other. . . . it could mean the creation of a community in which professors and students are engaged in rich intellectual conversations in a collegial environment.

To benefit from their expertise, we will have to work at it also. We can begin by exploring the major ideas about human learning and motivation that appear both in the research and theoretical litera- ture and in the thinking of outstand- ing teachers (in short, we must do something most of our subjects didn't do: read the literature on learning and teaching). We need an international disciplinary and multi-disciplinary conversation that explores the meaning of learning, the research and theoretical findings on how people learn, the implications of those findings for our practices with students, and how we and our students can best understand the nature and progress of their learning. The insights of highly effective teachers can point the way. They can suggest some tentative conclusions and plenty of questions we need to explore.

In that conversation, we can finally put to rest the traditional dichotomy between teaching and research that so often paralyzed higher education in the twentieth century. We can begin to think about what it means to create a learning university concerned with the learning of both faculty (research) and students (teaching) and the ways in which the learning of one can benefit the other. The

learning university might mean that students participate in the research of their professors, or that they engage in their own course of discovery. But more broadly it could mean the creation of a community in which professors and students are engaged in rich intellectual conversations in a collegial environment. It could be reflective of an attitude about students and their worth, a recognition that efforts to foster learning in others can stimulate our own greater understanding, a commitment on the part of the faculty to building and sustaining a community of learners. At its core, such a community could be defined by engagement, by commitment of faculty and students to sustaining the community and its conversations.

How do we create such a learning community? We saw major elements of it emerging in the classrooms and other places where our subjects worked with students. Their experiences can inform our efforts, but we can't just bottle their wisdom or procedures and drink it for breakfast. We have to develop our own understanding and invent the methods that will work best for our students. We must become both routine experts in which we know all the best practices, and adaptive ones in which we recognize (and value) both the necessity and opportunity for invention.

Institutions can play a major role in fostering the conversations necessary for those inventions to emerge. Some major universities are already beginning to do so with conferences on advancing university learning. My school, New York University, is planning such a program. For the last six years, Northwestern University has sponsored a three-day program on our study, featuring some of the teachers we researched. In 2004, NYU and the Searle Center at Northwestern will hold a similar program (see www.nyu.edu/cte/bestteachers.html). But more institutions must sponsor such gatherings. The disciplinary organizations must also join that effort. We must recognize both the ethical and intellectual reasons for doing so. It is inherently selfish to concentrate only on the learning of faculty members and ignore obligations to the development of our students, but it also impractical. We cannot long sustain an intellectual community that pits one generation's learning against the advancement of all others.

Education with a big E

Professor
T.S. Andy Hor

Department of Chemistry
National University of
Singapore

Winner of the National University of Singapore's Outstanding Educator Award for 2001-2002.

There are only four types of professors: they make students sleep, sad, angry or hungry for more.

Many professors have the ability to bore students to tears. They read from the script, regurgitate wholesale from standard textbooks, monotonously go through fact after fact, stare at the board as if there were no audience, and talk in a language that only their pets can understand. They never muster enough courage to face the mirror and see how they teach. They never learn.

Some professors try to teach well. In fact, some even try too hard, but the communication line does not work - there is no signal, mere noise. You do give them 'A' for effort. When they are stuck in Route One, they open up Route Two. They attend workshops and pick up tips and hints. They care about students´ feedback. The sad truth is, at the end of the day, there is just no rapport with the class. Students give them consolation marks but no more. How far can sympathy carry us in life?

Teaching and research are intellectually complementary, but in the real world, they often seem to be in conflict. How many times have you heard students complain that their professors care everything about research but nothing about teaching? All academics are paid to teach but do you know that many are happy to do research for free? You see professors glow and roar about their research ideas, but do they show the same excitement about new ideas in teaching? They spend day and night writing research papers and grant proposals, but would they burn midnight oil to develop a creative course for their students?

Students are angry, angry that they pay school fees to be taught by these professors. If you were them, you would be too.

The other professors are those that you wish to be on your payroll. They see students beyond students, classroom beyond classroom and teaching beyond teaching. Effective teaching must be driven by effective learning. Without going into the students' thoughts, one can never understand the learning process, let alone teach. Understanding the weakness in learning is often the key to the strength in one's teaching. The boundary of classroom is defined by the professor. Good professors are not limited by the physical boundary because they bring the world into their classroom. Learning becomes an experience of life. Learning with the world at your feet is what learning is about. Teaching without education at heart is eating without tasting. The great professors engage students not only in their thoughts but also their intellectual development. They inspire students to actively seek knowledge, setting them onto the rewarding path of life-long self-learning. They produce great scholars who are 'learned', not simply 'educated'. This engagement is the key in education; it is this process that makes education begin with a big E.

Nine principles to guide teaching and learning

Professor Peter McPhee

Deputy Vice-Chancellor (Academic)
The University of Melbourne

The Academic Board of the University of Melbourne last year adopted an inspiring document outlining the principles underpinning the University's teaching and learning objectives. *Nine Principles Guiding Teaching and Learning in the University of Melbourne* is a statement of the hallmarks of good teaching in a research-led university.

The Nine Principles are:

1. An atmosphere of intellectual excitement
2. An intensive research culture permeating all teaching and learning activities
3. A vibrant and embracing social context
4. An international and culturally diverse curriculum and learning community
5. Explicit concern and support for individual development
6. Clear academic expectations and standards
7. Learning cycles of experimentation, feedback and assessment
8. Premium quality learning resources and technologies
9. An adaptive curriculum

As the authors Richard James and Gabrielle Baldwin, from the University's Centre for the Study of Higher Education, explain, 'these principles reflect the balance of evidence in the research literature on the conditions under which student learning thrives. Each principle has a direct bearing on the quality of students' intellectual development and their overall experience of university life.'

The first four principles relate to the broad intellectual environment of the University while the remaining five describe specific components of the teaching and learning experience. Each principle is directly relevant to students' experience of university life, regardless of whether they are undergraduate, postgraduate coursework or postgraduate research students.

The University is committed to providing an excellent campus-based education and to the centrality of teacher-student interaction in this increasingly technological era. If the notion of a campus as an exciting place for students and their teachers is to survive, however, the teacher-student relationship needs regular re-thinking and re-emphasizing.

Our teaching and learning programs, underpinned by these nine principles, are designed to develop distinctive attributes in our graduates. As we know, students develop a range of generic skills along with the knowledge base they acquire through their university courses. Enabling them to recognize and hone these skills is, however, both a challenge and a

pressing need. Broad generic skills - such as critical thinking, a capacity for independent learning, leadership and related personal skills - do not necessarily spring to mind when students reflect on what they have gained from their years of study.

We know from course experience questionnaires that students feel they receive a good education at Melbourne - but not all of them identify the broad personal aptitudes they develop through their student experiences and campus life. The process of articulating these skills to students is an important challenge - students should know that they are learning about not just the French Revolution or Victorian flora, important though this knowledge is, but also gaining an education in a wider sense.

The Nine Principles is a living document that reflects the balance of evidence in the research literature according to which student learning is enriched when informed by their teachers' research. The second of the Nine Principles is to create 'An intensive research culture permeating all teaching and learning activities'. Research-based teaching occurs when teaching is enriched by the teacher's own original research, so that not only does the content draw upon the teacher's research in that area, but students are also exposed to the teacher's research experiences and approaches.

The 'teaching-research nexus' should, however, be a richer one than an incorporation of our research into what we teach. It was addressed in the annual Menzies Oration, delivered by the Vice-Chancellor of McGill University, Dr Bernard Shapiro, in October last year. Dr Shapiro defined the proper function of the 'teaching-research nexus' as embedding research values throughout the university, and in particular in developing students who are 'intellectually and morally autonomous'. Effective research-based teaching therefore develops high-order graduate attributes valuable to the individual, employers and the wider community. It also fosters intellectual curiosity and creativity and ensures that Australia has available to it the next generation of students excited by, and dedicated to, research.

Dr Shapiro expressed concern that undergraduates commonly have too little contact with their university's most eminent researchers, challenging research-intensive universities to find ways to create such contact.

Another specific challenge shared by all Australian universities is that of effective teaching and assessment of very large classes. Total student enrolments have grown by 36 per cent across Australia over the last ten years; however, staff numbers have generally remained steady or declined at almost all Australian universities. Between 1993 and 2000, national student:staff ratios have increased from about 15:1 to 19:1. Increases in student:staff ratios obviously impinge directly upon the staff time available for consultation with and giving feedback to each student, the core of quality teaching and learning.

Large classes are not necessarily an impediment to effective teaching, but they do require imaginative strategies. In recent years, some of the recipients of our teaching awards - such as Nilss Olekalns in Economics and Commerce, and Doreen Thomas in Engineering - have demonstrated how it is possible in classes with many hundreds of students to engage them effectively and to develop forms of assessment which are 'individualized' despite class sizes.

Among the most important activities of the Academic Board at Melbourne this year is a University-wide review of assessment and grading practices and how these relate to the quality of student learning. It will build on the excellent report by the Centre for the Study of Higher Education for the Australian Universities Teaching Committee. Entitled *Assessing Learning in Australian Universities*, this report is available electronically at: http://www.cshe.unimelb.edu.au/assessinglearning/docs/AssessingLearning

Our review of assessment is considering whether all subject or course descriptions should address how specific attributes are developed by particular assessment tasks. Well-chosen types of assessment not only provide useful feedback to students on their acquisition of knowledge: they also develop the generic skills and attributes we believe our graduates should have.

Nine Principles Guiding Teaching and Learning in the University of Melbourne: the framework for a first-class teaching and learning environment is available at: http://www.cshe.unimelb.edu.au/pdfs/9principles.pdf

Engaging students in large classes: challenging some of the learning myths

Dr Christine A Stanley

Assistant Dean of Faculties
Associate Professor,
Dept of Educational
Administraton and Human
Resource Development,
Texas A&M University

Dr M Erin Porter

Senior Lecturer,
Dept of Management Science
& Information Systems
McCombs School of Business
The University of Texas,
Austin

Large classes are a fact of life on many college and university campuses worldwide. Faced with enormous challenges, such as decreased funding from governmental sectors, increased criticism about the quality of student learning, increased pressure of accountability, and increased student enrolments, higher education institutions strive to find creative ways to meet the learning needs of students in large classes. At the University of Texas at Austin, the institution with the largest single campus student body in the United States (52,000+), faculty teach over 7,000 courses annually, and more than 650 of those classes contain 100 or more students. It is the rare professor who remains undaunted when facing 100, 200, or even 500 students in a classroom. Large classes are often the gateway courses to students' major fields of study. Two years ago, we garnered some 34 authors for our 2002 edited book, *Engaging Large Classes: Strategies and Techniques for College Faculty*. We assumed that there are conflicting ideas on how to teach large classes. We learned that all the contributors promote innovative student learning in large classes across disciplines. The message from our book is clear. Teaching large classes poses numerous, yet surmountable challenges! As Doug Andrews, Assistant Dean of the Marshall School of

Business at the University of Southern California says, 'A large class may be any class where its size requires you to think about the efficacy and efficiency of your traditional teaching style.' Conversations with faculty, administrators, students, and parents uncovered some basic assumptions about learning in large classes. The contributors from our book clearly demonstrate that these commonly held beliefs are myths.

Myth 1:
Large Classes Are Ineffective For Student Engagement

Emily Hoover, Professor of Horticulture at the University of Minnesota-Twin Cities says, 'I've observed that students are spectators who struggle with apathy, inattention, poor attendance, discomfort with approaching the instructor, failure to prepare for class, and failure to take responsibility in learning when large classes are taught passively.' Breaking down student passivity involves a myriad of teaching strategies including, but not limited to, problem-based case studies, think-pair-share activities, role-play, simulations, discussion software, evocative multimedia, associational brainstorming, hypothetical or 'hypo' cases, team learning, and academic controversies. Many professors find it an asset to 'share the enterprise' by melding their educational philosophy with their teaching methodology.

Myth 2:
It Is Impossible To Build Rapport In Large Classes

An overwhelming theme discussed by large class instructors is their relationships with students to decrease anonymity. An instructor needs to select 'a get to know the students method' compatible with large class enrolments and with their own teaching goals, philosophy, and style. Choosing not to engage with students is not an alternative. Laurie Jaeger and Deborah Kochevar, Professors of Veterinary Medicine at Texas A&M University, work to 'develop a professional bond' with students. Other professors use classroom space to their advantage by making sure that they are assigned to a room that is conducive to active learning. Rapport is built through humour, asking students for feedback on their learning, effective listening skills, use of icebreakers on the first day of class, and developing attitudes and behaviours that demonstrate concern

for learning. Through learning activities that respect the value of student social and cultural differences, instructors are able to create and sustain excitement for learning in large classes.

Myth 3:
Anybody Can Teach A Large Class

Effective teaching and learning in large classes is hard work. The faculty who teach large classes are chosen carefully for teaching excellence, supported by their departments, and rewarded for their contribution and motivation. They develop, reflect on, and refine their teaching skills. In the May 9, 2003 cover story issue of *The Chronicle of Higher Education,* on 'The best teaching doesn't always happen around a seminar table', Richard Halgin, Professor of Psychology at the University of Massachusetts, Amherst, indicates, 'I don't want them to come to class for tests. I want to make them want to come to class by making the class interesting.' Halgin creates a 'teaching team' comprised of staff such as experienced graduate and undergraduate teaching assistants. Working together on course design and management, he is able to maximize the learning experience for students in the classroom. Often the most effective instructors of large classes have a well-deserved reputation and formidable talent with large audiences; this is often called 'star quality'.

Myth 4:
It Is Easy To Manage A Large Class

Many instructors agree that one of the most immediate differences in teaching a large class versus a small one is the planning and the time that course preparation requires. Decisions about context, course design, evaluation of student learning outcomes, grading, learning resources, assignments, and classroom decorum are magnified when preparing to teach and manage a large class. Instructional methodology changes incrementally in size from 100 to 250 to 500 students. Steven Tomlinson, Lecturer in Finance at the University of Texas, Austin, emphasizes the importance of 'naming the truth in the room'. 'I asked each student to look around. This course is more than an economics class. It's a management challenge. Look at you: 200 people – diverse people, representing a variety of interests, a wide range of skills, and a host of competing objectives.' Classroom management and civility can be enhanced by developing what Linda Nilson at Clemson University terms a 'social engineering' approach to planning which is (1) the

decision-making process involved to bring out the best performance in people, and (2) the systems in place to encourage and reward such behaviours. Through the development of clear expectations and positive learning outcomes, instructors and students are able to demonstrate a sense of achievement in teaching and learning.

Conclusion

A key question that prompted research on class size in the early twentieth century (Edmondson & Mulder, 1924) which still remains in the minds of many stakeholders in the new millennium is, 'Does an increase in class size lead to a loss of quality of education?' This question is even more important as college and university finances change on a regular basis. While results of earlier research are conflicting, there is evidence that the variables involved in teaching large classes are complex and they are affected by numerous instructional dimensions (Wulff, Nyquist, & Abbott, 1987). More recent research (Gilbert, 1995) reveals that class size is not the major determining factor of successful learning or teaching. We have found from experience and observation of large classes that it is time to refocus research on what the instructor does in the classroom to engage student learning.

References

Bartlett, T. (2003, May 9). 'Big, not bad: The best teaching does not always happen around a seminar table.' *Chronicle of Higher Education,* pp. A12-A14.

Edmondson, J. B., & Mulder, F. J. (1924). 'Size of a class as a factor in university instruction.' *Journal of Educational Research*, 9, 1-12.

Gilbert, S. (1995, Winter). *Quality education: Does class size matter?* CSSHE Professional Profile, 14, pp. 1-6. Association of Universities and Colleges of Canada.

Stanley, C. A., & Porter, M. E. (2002). (Eds.). *Engaging large classes: Strategies and techniques for college faculty.* Bolton, MA: Anker Publishers.

Wulff, D., Nyquist, N., & Abbott, R. D. (1987, Winter). 'Students' perceptions of large classes' (pps. 17-31) in M. Weimer (Ed.), *Teaching large classes well. New Directions for Teaching and Learning,* No. 32. San Francisco, CA: Jossey-Bass.

What makes good university teaching?

Associate Professor
Lynne Hunt

Associate Dean
(Teaching and Learning)
Faculty of Computing, Health
and Science
Edith Cowan University

Joint winner of the Prime Minister's Award for Australian University Teacher of the Year, 2002.

Good university teaching and good business practice have much in common. Both are based on a reflective 'plan, do and review' continuous, quality improvement cycle. Both have identifiable philosophies and strategies focused on outcomes. In brief, there's no point teaching unless learning takes place, just as there's no point producing goods that nobody wants to buy. Both are shaped by political and social contexts. Finally, both contribute to present and future social capital. At this point resemblance ends because the contribution of education to Australian society cannot be understood solely in terms of profit, loss and consumerism. Personal development, civil society and the social good are the qualitative outcomes of the Australian education system.

Some of my students have joked that they would like to wear a badge that declares, 'We are not customers'. In these few words they challenge the whole notion of education as a product that is consumed. Rather, they see education as a caring profession. When I became joint winner of the Prime Minister's Award for Australian University Teacher of the Year, I received a letter of congratulation from a student I had taught in the 1970s. She wrote, 'Lynne, I've been wondering what it is that made you such a good teacher for me. I remember you as very supportive and affirming of me as an individual and as a young student teacher. That relationship you fostered affirmed me and supported my learning and my growth'. Not one memorable teaching strategy in sight! What was remembered was the quality of the teaching and learning relationship. I recently invited a group of tertiary teachers to reflect on their school life and their tertiary studies to identify stories that illustrated good teaching. To my surprise not one teaching strategy was revealed. Instead, the stories were about teachers who cared for their students. They recalled charismatic teachers with passion for their subjects who had influenced their lives. But this is nebulous fuzzy stuff to offer in reply to the question posed for this article: 'What makes good university teaching?'

The aim of good university teaching is good university learning. It's a small shift in thinking to stop talking about good university teaching and to start talking about good university learning, but it has significant implications for how university curricula and teaching strategies are developed. If you want to learn to ride a bike you have to get on it and ride. In other words, quality learning is learning by doing. It is also problem-centred and experiential learning. These related approaches all require the active involvement of students in constructing their own knowledge. As a consequence, good university teachers are the 'guide on the side', not the 'sage on the stage'. Good lecturers resource students and facilitate the skills needed to complete their assignments - the vehicle for student learning.

New technologies offer increased scope for students to collaborate online in the preparation of assignments that engage them with the global community. These opportunities have internationalized university curricula in a manner suited to the workplace demands of the future. They have also decreased the tyranny of distance by providing improved access to tertiary studies for rural and remote students. This has implications for equity that I responded to in a program called Click Around ECU – a competition to develop a web-site about university life. This transition to university competition aims to introduce tertiary studies to students with little experience of post-secondary education.

The transition out of university into employment is equally important. For this reason I have contributed to the development of work-based learning at Edith Cowan University to prepare students for the workforce. Work-based learning

develops partnerships between universities and industry by providing student placements of varying length, known in the UK as thick or thin sandwich degrees. Some British universities have gone further and are experimenting with self-negotiated degrees at both undergraduate and postgraduate level. The title of such programs – for example, Learning at Work – indicates that these degrees are individually tailored to the needs of people in the workforce. When companies arrange with universities for the inclusion of in-house training in industry-university degree programs, these are known as corporate degrees.

Whatever the style of a degree and whatever the mode of learning, the principle of good university teaching is based on one clear principle: it is important to be learner-centred. It's about designing the learning experience to accord with students' needs. That could mean developing work-based learning programs, creating interactive, online learning opportunities, or simply responding to students' work and family commitments by offering weekend workshops or by teaching in a five-day block, when students might be able to take leave from work. The important point is to start from the position of the student. This is recognized and valued by students.

Developing critical thinking skills through Information Technology

Dr Richard Wraith

Director, Learning
Innovation Centre
Trinity College
The University of Melbourne

Associate Professor Tim van Gelder

Department of Philosophy
The University of Melbourne

"Certainly everyday observation shows that the average college course produces no visible augmentation in the intellectual equipment and capacity of the student. Not long ago, in fact, an actual demonstration in Pennsylvania demonstrated that students often regress so much during their four years that the average senior is less intelligent, by all known tests, than the average freshman..." (H. L. Mencken, *Minority Report: H. L. Mencken's notebooks,* New York: Knopf, 1956, p. 98).

Mencken's hyperbole, while amusing, points to some quite serious issues. To what extent does university education in fact augment 'the intellectual equipment and capacity of the student'? And how can education be improved in this regard?

One good way to approach these issues is to focus on particular 'success stories' – that is, clear cases of university education being transformed so as to greatly accelerate gains. What such case studies lack in generality, they make up for in the richness and authenticity of the insights they provide.

One success case, at the University of Melbourne, is Critical Thinking, a first-year one-semester subject in the Faculty of Arts. This subject aims quite deliberately to augment intellectual equipment and

capacities – specifically, the 'capacity for independent critical thought [and] rational inquiry', which appears high on the University's official list of the Attributes of a Melbourne Graduate.

There is considerable evidence, in the research literature, for the disturbing proposition that conventional critical thinking instruction makes little difference to critical thinking skills. We found this when we first studied Critical Thinking at Melbourne; testing before and after revealed virtually no difference in average ability. Over a number of years, a group known as the Reason Project has developed a new software-based way of teaching the subject. Students now reliably show substantial gains; over a twelve-week semester, their core skills improve about as much as is normally found over an entire undergraduate education. Over 100 institutions in Australia and internationally now use part or all of the new approach.

Key factors underpinning the Reason Project's success include:

Testing for Gains

Every time Critical Thinking was taught during the redevelopment process, students were tested before and after the semester with at least one, and sometimes more than one, objective test of critical thinking skills. This produced detailed, reliable information about the extent of gains, information which drove the next round of development. Without this information, it would have been impossible to say, with any rigour and objectivity, how effective the method was and whether a new version was more effective than its predecessor.

International Comparisons

Gains were continually compared with those found in studies of other critical thinking subjects from around the world. This was one way to assess the significance of gains of the magnitude achieved in Critical Thinking – that is, to judge whether they were negligible, typical, or outstanding. It also provided a strong incentive to continue improving the course. A healthy competitive instinct led to the goal of developing an approach which is, provably, much superior to any other.

Evidence-Based Design

Throughout, development of the Reason Approach was guided by evidence from education research and cognitive science. Current theories of cognitive skill acquisition shaped the overall design of the Reason approach; considerations from cognitive psychology and even the philosophy of mind influenced the design of the educational software, which was further refined in numerous rounds of usability testing.

Combining Research and Teaching

In the Reason Project, there was an unusually close relationship between research and teaching. The lead instructor's main research interest was critical thinking instruction in general, and the effectiveness of his own teaching in particular. In a virtuous cycle, this research fed directly into the design of the Reason Approach, which was itself a test bed and stimulus for further research. The melding of research and teaching overcame the tension often experienced by university instructors, in which research and teaching activities are largely separate and time spent on one comes at the expense of the other.

Information Technology

The Reason Approach makes heavy use of the latest information technologies. These include, of course, generic technologies of the sort now commonly deployed throughout higher education, such as personal computers, word processors and the internet. However they also included technologies custom-built for, or particularly well-suited for, the new mode of learning. The Reason Project developed a new software package, Reason!Able, which guides and scaffolds students through the complex processes involved in general reasoning and argument. Reason!Able-based instruction took place in a special 'Multimedia Classroom' equipped with technologies such as a touch-sensitive interactive whiteboard and high-resolution monitors embedded in learning 'pods'. The instructional design, the software, and the physical facilities constituted a harmonious whole, an integrated environment in which students and instructors became immersed in the business of learning.

Institutional support

The Reason Project benefited from especially high levels of institutional support. The University of Melbourne and the Australian Research Council partially funded development of the software, and the Trinity College Learning Innovation Centre provided work and teaching space and support for Reason Project activities.

In each of the respects just described, and in a number of others, Critical Thinking was quite unlike a typical university subject. This suggests that there is plenty of room for improvement in the typical undergraduate university subject, improvement which may come from adopting similar strategies.

The redesign of Critical Thinking has been governed by certain broad philosophical assumptions. The most central of these is that instructional design ought to be based, as far as possible, on scientific evidence and rigorous empirical evaluation. The idea is that the same sorts of techniques which have been so successful elsewhere in science, including in particular in medical science, ought to work in education as well. In Critical Thinking this approach succeeded, at least as measured in its own terms.

Many educational theorists reject the broad approach as ill-conceived or even ideologically illegitimate. Such theorists, by rejecting scientific methods, render themselves unable to rigorously demonstrate that their own teaching methods and innovations are substantial improvements over what went before. In this sense, they are part of the problem, not part of the solution. Scientific thinking is just critical thinking, systematised and institutionalised. If we hope to substantially improve education, such critical thinking is the best foundation.

Student-focused versus teacher-focused teaching: the key to improvement
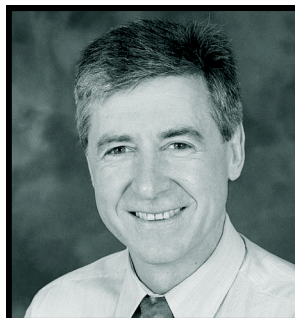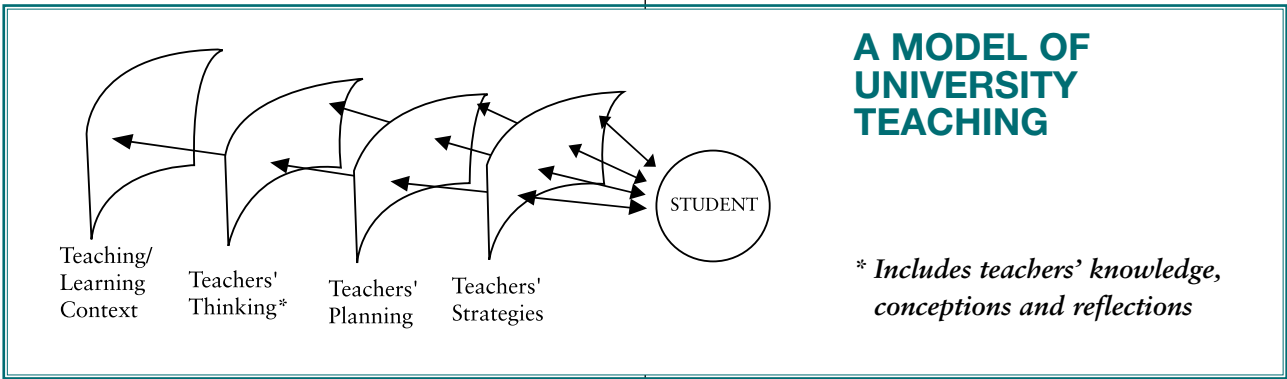
Dr Keith Trigwell

Institute for the Advancement of University Learning University of Oxford

Many of the academic staff teaching in universities are there because of the high quality of the teaching they experienced as students. But there are few of them, not to mention the students who did not go on to become academics, who would say that university teaching cannot be improved. The question is how can it be improved?

Most immediate responses to this question suggest that teachers give clearer explanations, are available for consultation with students, make it clear what students need to do, and so on. The focus here is on the teacher and the strategies the teacher uses. Most university teaching improvement literature is also addressed at teaching strategies. The conceptions-based research described below suggests that in many cases this may not be sufficient to improve teaching.

Teaching involves much more than what happens in a classroom or online: It is oriented towards, and is related to, high quality student learning, and includes planning, compatibility with the context, content knowledge, being a learner, and above all, a way of thinking about teaching and learning. Improving teaching involves all these elements.

A model of teaching which relates the central position of the student in teaching to these elements is shown below as a section through a set of concentric spheres (equivalent to a section through an onion) representing aspects of the teaching/learning situation. The student is at the centre or core, with the layer closest to the student (and the one experienced most strongly) being what the teacher does (teachers' strategies). The next layers involve planning and thinking, and all are

A MODEL OF UNIVERSITY TEACHING

Teaching/Learning Context

Teachers' Thinking*

Teachers' Planning

Teachers' Strategies

STUDENT

Includes teachers' knowledge, conceptions and reflections

surrounded by the outer layer which is the particular teaching/learning context. In this model all five elements are logically aligned – teacher thinking informs planning and strategy selection, and the context influences teacher thinking.

Recent higher education research studies suggest that there is a way of conceiving of university teaching which is more strongly associated with higher quality student learning than other ways of thinking (Prosser and Trigwell, 1999, *Understanding Learning and Teaching,* Open University Press: Buckingham).

Some teachers keep more of a focus on their students in their planning and their activities. These teachers tend to be teaching students who describe a higher quality approach to their learning. Teachers adopting this approach see their role as helping their students develop and change their conceptions or world views. As a result of this thinking their focus is on the bigger picture – an overview of the topic or how the components of the information are related to each other, and on students' prior knowledge – what students bring to the situation. Their planning and teaching methods are in alignment with this conception.

This thinking is in contrast to the teachers who work with a view where the focus is on what they do as teachers, or on the detail – individual concepts in the syllabus or textbook, or the teachers' own knowledge structure – without acknowledgment of what students may bring to the situation or

> Teaching involves much more than what happens in a classroom or online: It is oriented towards, and is related to, high quality student learning, and includes planning, compatibility with the context, content knowledge, being a learner, and above all, a way of thinking about teaching and learning. Improving teaching involves all these elements.

experience in the situation. They see their role as transmitting information based upon that knowledge to their students.

With respect to the concept of alignment, a teacher who holds the former conception is more likely to adopt an approach which has the student as the focus of activities. It matters more to this teacher what the student is doing and learning and experiencing than what the teacher is doing or covering. This teacher is one who encourages self directed learning, who makes time (in formal 'teaching' time) for students to interact and to discuss the problems they encounter, who assesses to reveal transformed knowledge (not only to judge and rank students), who provokes debate (and raises and addresses the taken-for-granted issues), who uses a lot of 'lecture' time to question students' ideas, and to develop a 'conversation' with students.

These strategies may differ from those used by a teacher with a teacher-focused approach, but this is not always so. For example two teachers can use the same strategy (say, buzz groups during a lecture). It is the teachers' intention (aligned with their conception) that constitutes the main difference in this case. Using a student-focused approach, a teacher may see the buzz groups as a means by which students can compare their understandings of the lecture topic, and give feedback to the teacher on that understanding. In a teacher-focused approach, the teacher may see buzz groups as a way of giving her or himself a break from talking and students a break from note-taking in a one-hour lecture. The

differences in student learning, from the use of the same strategy, may be substantial.

Most teaching improvement literature is focused on teaching strategies, such as buzz groups or online discussion groups, or collections of teaching tips. The conceptions-based research described above suggests that unless the teacher is using a student-focused conception, the emphasis on strategies may be misplaced. Take, for example, advice about using an online teaching strategy for a component of a course. From a student-focused conception a teacher might ask the following two questions: (a) is this strategy likely to achieve the student learning aims? and (b) what type of learning is likely to be encouraged using this strategy? From a teacher-focused perspective, the questions raised are more likely to include (a) is this strategy likely to be the most efficient method of dissemination? and (b) what amount of coverage is likely to be achieved using this approach?

It is this variation in thinking that must be at the centre of teaching improvements. It needs to focus beyond how well the teacher is conducting teaching activities, and how well those activities are received by students. There is a need to consider the nature of those activities and how they align with variation in student learning. Activities that are student-focused are more likely to align with higher quality outcomes of learning.

Federal Government reforms to promote excellence in teaching and learning

Dr Brendan Nelson

Federal Minister for Education, Science and Training

The strength of the Australian higher education sector will depend on fostering an environment of excellence in the full range of activities undertaken by institutions. Although teaching is recognised as a core activity of all higher education institutions, current Commonwealth funding, internal staff promotion practices and institutional prestige tend to reinforce the importance of research performance rather than teaching performance.

Rewards and incentives for excellence in learning and teaching will promote the overall quality of the sector. Excellence in learning and teaching will be placed alongside the delivery of research excellence as a valued contribution to Australia's knowledge systems. There is no intention for any Australian university to become 'teaching-only'. An increased focus on learning and teaching will foster diversity and help to ensure the ongoing high quality of the Australian higher education sector.

National Institute for Learning and Teaching in Higher Education

A National Institute for Learning and Teaching in Higher Education will be established to provide a national focus for the enhancement of learning and teaching in Australian higher education institutions and will be a flagship for acknowledging excellence in learning and teaching. The Institute's responsibilities will include:

- management of a competitive grants scheme for innovation in learning and teaching;

- liaison with the sector about options for articulating and monitoring academic standards; improvement of assessment practices throughout the sector, including investigation of the feasibility of a national portfolio assessment scheme;

- facilitation of benchmarking of effective teaching and learning processes at national and international levels;

- development of mechanisms for the dissemination of good practice and professional development in learning and teaching;

- management of a programme for international experts in learning and teaching to visit Australian institutions and the development of reciprocal relationships with international jurisdictions;

- coordination of a revised version of the Australian Awards for University Teaching, including the Awards presentation event; and

- secretariat functions to the Australian Universities Teaching Committee.

The Institute will be overseen by the Australian Universities Teaching Committee (AUTC) and be run by professional staff with expertise in learning and teaching in higher education. The AUTC will continue to advise the Minister on the allocation, management and outcomes of any grants scheme and activities administered through the Institute, including the revised Australian Awards for University Teaching.

The Institute will receive $21.9 million per year from 2006, which will comprise $2.5 million for administration and $19.4 million for grants and other activities. Funding will be allocated from existing programme funds to establish the Institute in 2004.

New Australian Awards for University Teaching

The Australian Awards for University Teaching will be enhanced to heighten the status of teaching and support the centrality of teaching in institutional missions.

The number of rewards to teachers who demonstrate excellence in teaching will be increased,

at a cost of $2.7 million per year from 2006. The new annual awards will include:

- 210 awards valued at $10,000 each;

- 40 awards valued at $25,000 each; and

- The Prime Minister's award for 'Teacher of the Year' valued at $50,000.

Teachers in public higher education institutions will be eligible for these awards.

Learning and Teaching Performance Fund

A Learning and Teaching Performance Fund of $54.7 million in 2006, increasing to $83.8 million in 2007 will be established to reward those institutions that best demonstrate excellence in learning and teaching. The Fund signals the Commonwealth's commitment to learning and teaching and will support institutions that choose to focus on excellence in learning and teaching for undergraduates.

Learning and Teaching Performance Fund allocations will be determined in two stages. In the first stage, institutions will be required to demonstrate a strong strategic commitment to learning and teaching. Institutions must have a current institutional learning and teaching plan or strategy. Evidence of systematic support for professional development in learning and teaching for sessional and full-time academic staff must be provided. Evidence must be provided [that] probation and promotion practices and policies that include effectiveness as a teacher as a criterion for those academics with a teaching load, are in place. There should also be systematic student evaluation of teaching and subjects that informs probation and promotion decisions for academic positions where the academic has a teaching load or expectation of a teaching load. These strategies, practices, policies and student evaluation results would be made publicly available on an institution's website.

Once eligibility for funds is established through the first stage, institutional performance in learning and teaching will be assessed using a range of indicators, including student progress and graduate employment outcomes. These indicators will be developed in negotiation with the sector.

Awards for Teaching Excellence: what the teachers say

Dr Catherine Robinson

Centre for the Advancement of University Teaching
The University of Hong Kong

My recent study (Robinson 2003) focussed on the systems for selecting the winners of teaching excellence awards in four Hong Kong universities and I interviewed nominees, winners, selection panel members and administrators. In this article, I discuss the criteria for teaching excellence, and the nominees'/winners' reaction to it.

The criteria for excellence originated from the Australian National University, and were adapted by the Quality Assurance Committee of University A when awards were first instigated there. Two universities adapted University A's criteria, with minor modifications, whilst University D developed its criteria through discussions amongst senior staff. The universities did not involve staff in debates or consult them about what 'teaching excellence' might be. No-one debated the appropriateness of using Australian criteria to measure excellence in Chinese academics.

During the interviews, the 19 nominees/winners did not remember the criteria. I found that individuals constructed themselves as excellent teachers using language that was much richer than their university's criteria (See Table 1). They drew on metaphors to describe themselves as a writer, a coach, an artist or, in one case, a Chinese opera singer. This teacher loved singing (teaching) so much, was so deeply involved with her music (subject), that she was totally unaware of the audience (students), until the applause (student evaluation). This goes against the student-centred approach. A number discussed teaching only in terms of their personal needs and for them, teaching is a totally satisfying experience. In contrast, others led interesting lives outside the university and were passionate about sport, art, literature, travel or their families. I came to believe that a passion for

The Criteria* for Teaching Excellence. Teachers provide evidence in their (generally) 15 page teaching portfolio, under the following headings:

A	B	C	D
◆ High level of competency in a wide range of teaching skills ◆ Commitment to integrity of subject matter ◆ Deep appreciation of the importance of various stakeholders' needs and concerns in the teaching/learning process ◆ Genuine interest in the continual improvement of teaching and development of teaching innovations ◆ Constructive contribution to curriculum development of programmes/courses	◆ High level of competence in a wide range of teaching skills ◆ Commitment to integrity of subject matter ◆ Concern for student learning ◆ Genuine interest in the continual improvement of teaching and development of teaching innovations ◆ Contribution for formulation/administration of courses/modules	◆ Excellence in wide range of teaching skills ◆ Commitment to the advancement of the discipline ◆ Deep appreciation of the importance of various stakeholders' needs and concerns in the teaching/learning process ◆ Genuine interest in the continual improvement of teaching and the development of teaching innovations ◆ Constructive contribution to the curriculum development/administration of courses/modules	◆ Preparation (of courses and classes) ◆ Implementation in different settings ◆ Assessment of outcomes ◆ Innovation ◆ Research and Development ◆ Leadership ◆ University wide activities/recognition ◆ Beyond the university: visiting teacher at other university

* These are the *headings* of each section. Each section has a list of competencies which extends the criterion in the heading. There are up to 4 pages of criteria and competencies.

something - anything - was what prompted students to nominate them.

Excellent teachers, I was assured, are never confined to the classroom or the university, and they continue to influence students for the rest of their lives. The sure sign of an excellent teacher is that students keep in touch long after they graduate. The former students of one teacher regularly invite him to lunch to sound him out on their ideas even though they are now successful professionals. Teachers used these informal ways to keep abreast of changes in their professions.

Some teachers tried to develop 'wisdom' grounded in past experiences that they had critically reflected upon, that could not be written about in a portfolio without being trivialised. Insights developed over many years, through lying awake at night and worrying; they were not developed through describing yesterday's critical incident in a journal. Many discussed their role as modern Chinese university teachers, caught between the east/west divide, who were required to move fluently between English and Cantonese. They wanted to develop a sense of morality and appreciation of the unique culture of Hong Kong in their students, even though this was not specified in the courses they taught.

Currently, there are no procedures in the case-study universities for challenging or changing criteria, except to sharpen up the wording. If universities value teaching excellence, perhaps they can invite staff to contribute their ideas. As teachers talked to me, they engaged enthusiastically with the concept of 'teaching excellence'. As they searched for words to describe the complexities of what they thought and how they turned thoughts into actions, they actively formed and reformed their concept during the interview. Teaching excellence is not out there waiting to be discovered. It is brought to life through intellectual engagement with the concept and is enacted through the physical bodies of those who engage in practices they believe can be described (at least by them) as excellent.

Reference

Robinson CG (2003), *A Foucauldian Perspective on the Construction of Excellence in University Teaching,* unpublished PhD dissertation, The University of Hong Kong.

Teaching quality matters in higher education: instigating cultural change

Associate Professor
Peter O'Donoghue

Department of Microbiology
and Parasitology
The University of Queensland

Joint winner of the Prime Minister's Award for Australian University Teacher of the Year, 2002.

Higher Education in Australia is once again facing a period of reform, this time addressing buzzword criteria of quality, equity, diversity and sustainability. Since winning a national teaching award in 2002, I have been asked to comment on various aspects of academic life. I have had to deliberate on my teaching practices and provide objective measures of their quality. In this paper, I make subjective comment on teaching quality from my experiences as a preclinical scientist teaching foundational biology and vocational microbiology. Obviously, my musings are biased and should not be taken as consensus opinion.

Both teachers and students yearn for quality educational experiences and outcomes. But what constitutes quality? How do we measure it? What criteria and standards apply? Who measures it? What are the consequences for good or bad performance? Will good quality be rewarded? Will poor quality be punished or remediated? Addressing these concerns will be difficult because governments, unions, university management and academic staff have disparate views on many work issues, such as academic freedom, independence, money, resources, workloads, appraisal mechanisms, performance criteria, etc.

Most universities have been progressive in their pursuit of teaching and learning quality and have established annual award schemes recognizing individual and team performance. Academics nominated by students and peers are asked to reflect

on their teaching and learning activities in accordance with prescribed criteria. For example, the Australian Awards for University Teaching require nominees to address the following ten selection criteria.

---

1. Interest and enthusiasm for teaching and promoting student learning
2. Ability to arouse curiosity, stimulate independent learning and develop critical thought
3. Ability to organize course material and to present it cogently and imaginatively
4. Command of subject matter, including incorporation of recent developments
5. Innovation in design and delivery of content and course materials
6. Participation in effective and sympathetic guidance and advising of students
7. Provision of appropriate assessment, including worthwhile feedback
8. Ability to assist students from equity groups to participate and achieve success
9. Professional and systematic approach to teaching development
10. Participation in professional activities and research related to teaching

---

These criteria give an indication of the breadth of teaching and learning activities expected from modern academics. However, academics do more than just teach. Universities are professed to fulfil three main functions: to act as living repositories of accumulated knowledge; to pass on this knowledge to the younger generation; and to add to the sum total of knowledge through research. Indeed, academic staff are appraised on the basis of their teaching, research and service, although it is often difficult to discriminate between these activities.

Teaching

Teaching activities vary considerably and practitioners know they involve as much planning and preparation as presentation and delivery. Scientists tend to be dominated by course content rather than teaching and learning processes. However, stating fact after fact in didactic lectures does not guarantee student learning or understanding. Tertiary teachers need to be flexible and experiment with different techniques to get students to learn. Every educational experience is unique so teaching must be tailored to facilitate appropriate student outcomes. We must accommodate the changing face of science. Biology has progressed over two decades from organismal to cellular to molecular biology. Technological advances have allowed us to go from studying whole animals or plants to examining their tissues and cells and now their proteins and DNA. Teachers need to be utilitarian, sometimes being generalists knowing whole programs, and sometimes specialists with expertise in defined fields. It is advantageous if they are involved in curriculum development to ensure appropriate coverage, align objectives with outcomes, and promote best practice. They must consult with all stakeholders, including employers, industry, government, schools, fellow teachers and students themselves.

While teachers are dominated by content, students are certainly dominated by assessment. 'What's examinable' dictates their study habits, learning and understanding. Assessment practices are undergoing considerable change. Criterion-referenced assessment is becoming widely adopted where students address defined criteria with performance standards. Universities and society have come to value generic graduate attributes (such as critical thinking, problem-solving, communication) as much as specific knowledge. Science students are generally not well versed in educational paradigms so it is important they realize teaching is not whimsical but rather an orchestrated series of interactions designed for learning in cognitive, affective and psychomotor domains. We need to translate educational jargon and explain teaching and learning models so they understand and appreciate program and course design. When students understand educational processes, they participate and become active learners rather than passive recipients. Engagement empowers students, facilitates self-determination, engenders ownership, generates enthusiasm and stimulates feedback on process, content and delivery.

Research

Academics are expected to engage in scholarly research. Indeed, two key parameters used to quantify research are grants-in and papers-out. Objective measures of quality (such as journal

impact factors and citation indices) are now being used to complement traditional subjective peer review processes used by granting agencies, publishing houses and employers. The funding climate currently favours collaborative programs with the formal creation of industry linkages, research networks, centres and institutes. Despite the logistic advantages of collaborative groups, the work itself is still done by individuals who must be valued above all else. Regrettably, people do not always interact profitably with anecdotal evidence suggesting that only one in four collaborations will be fruitful. Network approaches to science usually involve workload intensification through management by committee which requires greater bureaucratic support. Most scientists now effectively perform their own secretarial duties as a consequence of the IT revolution. When was the last time you had the time to sit back and engage in creative thought, lateral thinking, deductive logic, hypothesis formulation?

Into this dynamic environment, we apprentice research students for careers as scientists. Training postgraduate students requires superior communication and negotiation skills so they can undergo professional and social induction in a progressive and cooperative environment. This is generally not the experience of many research students who suffer too much or receive too little supervision. Peer support networks and counselling services are required to assist students with many issues, such as project development, resource utilization, multi-skilling, interdisciplinary liaison and personal development. I believe research should also be embedded in all undergraduate teaching programs to provide vocational context, technical skills, problem-based and self-directed learning experiences.

Service

Academic staff are asked to provide service to their universities, profession and community. Committee membership is part of our corporate culture and we serve on a variety of departmental, school, faculty and university committees. We also serve to champion our disciplines through involvement with professional societies and journals, advising industry and government, and contributing to public education campaigns. There are a growing number of science promotion programs operating at local,

state and national levels, such as Science in the Pub and Science meets Parliament. Participation in these diverse service roles supports teaching through curriculum review, resource provision, discipline recognition and community awareness.

Context

Public perceptions of science and technology are changing and scientists play a greater role in society than ever before. I therefore believe science is best taught in context. Teachers must show course relevance to contemporary science and technology, vocations, employers and communities. This involves changing teaching paradigms to better model workplace practices. Increasingly, students are involved in problem-based or case-based learning, industry projects and even industry placement. Such changes involve reverting to small-group teaching, contextual learning and fostering SDL (self-directed learning) through a process of DSL (directed self-learning). We have experienced a shift from transmissivism models (where teachers transmit content to students) to social constructivist models (where students construct meaning). In a society where universities are at the apex of the education pyramid, I find it paradoxical that teaching models are better understood by primary and secondary school teachers than by most university teachers. School teachers must have essential qualifications to teach, these days being a dual degree (B.Ed. slowly replacing Dip.Ed. in most States). However, in most university faculties, tertiary teachers do not need any formal qualifications to teach. It seems to me that we are denying academics the most elementary tools of the trade. How do we then aspire to quality?

Quality assessment

Most universities conduct annual staff appraisals which are generally linked to applications for salary increments, continuing appointment/tenure or promotion. Staff summarize their activities and achievements to line managers who make subjective judgments of their scope, quality and impact. Various teaching parameters are considered, the foremost being feedback from students using various instruments of evaluation. However, student perceptions of teaching do not always mean that effective learning has occurred. We need to develop better mechanisms to assess teaching quality other

than to run popularity contests. Courses must undergo periodic review to remain contemporary and relevant, clients need to be identified and consulted, graduate satisfaction and career outcomes need to be determined, and managers need realistic (not idealistic) data to allocate resources. Academics do not experience equity in teaching workloads as research and service commitments vary between staff. Many faculties conduct teaching quality audits where a percentage of their budget depends on successfully addressing certain criteria. National and international benchmarking programs now consider quality outcomes besides quantitative data on graduands and grants. All universities are not equal and they cater to different markets. Some have elected to remain comprehensive while others have specialized. Quality issues will therefore differ.

Irrespective, our objective should be to improve teaching quality. Unfortunately, training programs are resisted and often resented by staff, particularly those most in need. Without being unduly critical, many academics are apathetic or antagonistic to teaching reform. Many are paternalistic and always know best. Any attempt to change allegedly impinges on their expertise or academic freedom. Many are insular and simply lack vocational experience. Collegiality is not widespread as many staff consider others as political or economic rivals. This is not meant as a gloomy scenario but rather a realistic assessment of many workplaces. Petty issues dominate. How do you then institute change?

Quality improvement

Methods to improve quality must progress beyond reward and punishment. There are various local and national awards for teaching excellence. While such rewards acknowledge effort and performance, they are regarded as elitist without tangible benefits for everyone. Punishment and penalties are counter-productive and are contrary to workplace agreements except where breaches of law and professional conduct occur. Withholding increments and erecting barriers to career advancement are inappropriate and open to abuse by hostile managers. There is a growing trend to abolish tenure and introduce contractual employment where renewed appointment is dependent on satisfactory performance. The problem arises as to what constitutes satisfactory performance and who decides?

Surely it is better to support staff and instigate cultural change where teaching is valued. Many universities promise to 'spend the money as it's earned' but not all teaching income finds it way back to teaching activities. Universities do fund staff development initiatives involving action learning projects, teaching induction programs, IT and multimedia training, and teaching and learning conferences. Various mechanisms for providing informal training are being explored including the concepts of mentoring junior staff, peer feedback through buddy systems, forming teaching teams and running specialty workshops. The major problem encountered has been poor staff motivation and participation. Voluntary attendance does not access the staff who would benefit most from training programs. Perhaps it is time we seriously consider formal qualifications for tertiary teachers at the certificate, diploma or degree level. Quality could only improve as we teach teachers how to teach. Because many academic staff are recruited primarily on the basis of their research endeavours, they would profit by undertaking training in educational theory and practice. Sadly, most suggestions to institutionalize teacher training are met with alarm and undue concerns about workloads and restrictive work practices. Improving teaching quality will necessitate workplace reform.

Change is normal and inevitable. It should not be regarded as onerous or insoluble. We employ various educational models within our undergraduate and postgraduate courses; why not give the same consideration to continuing education for academics? For example, I frequently use the SACK model to differentiate between educational domains (Skills, Attitudes, Concepts and Knowledge). We need to provide academics with essential teaching skills, change their attitudes from teacher-centred to student-centred to facilitate deep rather than rote learning, establish fundamental educational conceptions and provide knowledge of best practice. Small-group teaching in context does lead to better learning outcomes but it does have heavy resource implications in terms of staff numbers and class rooms. Governments and universities must be progressive to afford and facilitate quality higher education in Australia if we are ever to meet our own 'smart-state' and 'clever-country' rhetoric. This begs the question, what price quality?

Educating in a global village: the challenge of cultural diversity

Dr Tamar Lewit

Lecturer in Charge of
History of Ideas
Trinity College Foundation
Studies
Trinity College
The University of Melbourne

The most vital challenge facing those who teach in the 21st century is the impact of cultural diversity. As never before, cultural diversity has become characteristic of the general community, the workplace, and both student and staff university communities. Cultural diversity has a profound impact on education, and responding positively to this impact is fundamental to good 21st century education.

The term 'cultural diversity' embraces differences of ethnicity, religion, language, and heritage; differences in national origin (including both the dichotomy between 'local' and 'overseas' students, and the manifold diversities within such student groups); and differences in experience (such as previous education). The result is that students approach education from different starting points. Yet, passionate and rigorous teaching must have defined goals, and thus the diverse body of students should share in an educational process aiming at a common outcome.

Two key challenges for educators in the modern university are:

- to generate a meaningful exchange of ideas and interrelationships between students of different cultural backgrounds;
- to meet the educational needs of all students effectively, and achieve unified goals, regardless of cultural background.

The exchange of ideas

The exchange of ideas and debate of competing viewpoints is fundamental to the academic process. These goals take on a new meaning in the context of cultural diversity. The range of viewpoints to be debated is expanded. In world terms, the necessity to encounter, understand and reconcile competing cultural viewpoints becomes ever more pressing. It could be argued that inter-cultural communication is the new literacy: in education, work, and life, it is no longer sufficient merely to read and write ideas from within one's own culture, or merely to surf the waves of international information-gathering, without ever plunging into deeper waters.

The University of Melbourne (1998) identifies internationalization, including 'genuinely international student communities', as an overriding imperative of contemporary education. When does a diverse student group become a 'genuinely international' community? The concept of 'international' implies not only that students are drawn from different countries, but that the form and content of education itself in some way engages with the world beyond Australia. The concept of community entails not merely the sharing of space and facilities, but intercommunication, trust, interdependence, and mutual support. A genuine community will also face gritty encounters with conflict and dissent, and work towards their resolution. It is the responsibility of educators to generate such exchanges within the educational context.

Effectively meeting the educational needs of all students

In a recent survey of international students at the University of Melbourne, more than 40% of respondents agreed that 'at the start, I had difficulty adjusting to the styles of teaching/learning in Australia' and 'assessment procedures were confusing at first'. Nearly 30% felt unsure about 'what was expected of me' (James and Devlin 2001: 2-3). Unquestionably, students who come from a different educational background (for example, overseas) will face, in addition to the normal transition issues of students moving into higher study, a variety of linguistic, personal, and intellectual challenges. Above all, they face new academic expectations.

Particular styles and expectations of education have deep historical and cultural roots. These may affect Australian students from diverse cultural backgrounds as well as international students (although the effect is greatly modified by a

common educational experience). The educational tradition dominant in Australian universities, drawn from Europe, has its origin in a 2500 year-old Socratic tradition. Scepticism is seen as the heart of intellectual enquiry. Dialectic and critical questioning are regarded as essential to learning. Yet such public challenges to received wisdom, embodied in the teacher and the written text, are frowned upon in other cultural traditions. The Confucian tradition dominant among many world communities encompasses a very different attitude to education, in which humility and respect are viewed as essential precursors to learning (see box).

Diverse cultural traditions:

'Man's wisdom is worth little or nothing… I go about searching and testing every man whom I think is wise… and whenever I find that he is not wise, I point that out to him…' (Plato, *The Apology of Socrates*)

'You should not become disobedient but remain reverent. You should not complain, even if in doing so you wear yourself out' . . . 'speak with self-effacing diffidence' *(Confucius, Analects)*

The later historical evolution of Europe led to the formulation of a powerful tradition of rebellion, anti-authoritarianism, and individualism. In other cultural traditions, humility, cooperation and social harmony are given higher value. Direct or public disagreement may be seen as destructive (see box).

Diverse cultural traditions:

'… citizens… may never permit themselves to be oppressed and degraded by tyranny… The right of manifesting ideas and opinions… may not be forbidden' (*Declaration of the Rights of Man and Citizen*, France 1793)

'human liberty… comprises… absolute freedom of opinion and sentiment on all subjects… the peculiar evil of silencing the expression of an opinion is that it is robbing the human race, posterity as well as the existing generation…' (J.S. Mill, *On Liberty*)

'Respect each other and refrain from disputes; you should not, like water and oil, repel each other, but should, like milk and water, mingle together' (Buddha, *Parinibbana-sutta*).

Such differences of cultural tradition result in different expectations of education, teachers and students. The Australian university tradition is fundamentally individualistic: the 'ideal' student is independent, critical, and able to express an individual viewpoint and engage in vigorous verbal debate. Students are expected to be active and control their own learning. If they do not understand, it is seen as their responsibility to seek help and information. Other cultural traditions may envisage the 'ideal' student as attentive, diligent and respectful. In such traditions, a good student does not speak without invitation or contradict others. It is even disrespectful to ask questions as it implies that the teacher does not know best how to teach. The students of the Trinity College Foundation Studies Program have, since 1990, come from over 50 countries. Our experience with these students suggests that in spite of globalisation and the renovation of many overseas education systems, such deep cultural values still influence modern students' experiences, expectations and skills (see box).

Trinity College Foundation Studies student comments:

'[In Australia], questioning things that your teachers say is not disrespectful' (anonymous evaluation)

'In my home country, I was taught to obey my teacher, listen to their ideas and just follow' (Indonesian student)

'[In Australian tutorials] we have group discussions where we can express our opinions freely, instead of waiting for the teacher to ask. It is very different from Indonesia. We even sit in circles in class rather than in rows.' (Indonesian student)

'Singapore is very different. I was used to teachers talking, but not talking myself…' (Singapore student)

If teaching staff are effectively to meet the educational needs of all students in a culturally diverse environment, it is imperative that they are themselves 'inter-cultural' in outlook. They must have some knowledge and sensitive understanding of different traditions, a willingness to genuinely engage with students of diverse backgrounds, and the required skills and approach to achieve educational goals with all students, regardless of background. Teaching staff, as well as students, need to develop self-awareness and openness to different assumptions and values.

Effective teaching approaches which build common outcomes within a diverse student body include:

- dedicated support classes focussed on academic expectations, providing a safe forum for questions;

- detailed written guides explaining expectations, requirements and marking criteria;

- face-to-face feedback during and after the assignment writing process;

- explicitly encouraging the asking of questions;

- a willingness to make questioning safer by offering small group and structured segments in tutorials and scheduling individual consultations;

- the use of technical and formal language in preference to colloquialisms or abbreviations, as LOTE speakers find these easier to understand and to find in dictionaries;

- the thoughtful selection of examples, case studies and humorous references in order to minimise (or explain) local references and maximise international content.

Such techniques are not only vital to the success of students from diverse cultural backgrounds, but are educationally valuable to all students. Thus thoughtful teaching for cultural diversity does not mean a lowering of standards or diminution of teaching quality but rather can benefit all equally.

More broadly, good higher education in a culturally diverse environment should search for values which are universal across time and cultures: both the Socratic and Confucian traditions, for example, emphasise moral and social responsibility as fundamental to true education. There has never been a more urgent need for higher education to embody such universal principles.

Student adaptation or educational change?

The kind of teaching approaches outlined above assume that in seeking to achieve common goals, teaching staff need to help students to adapt to the teaching environment. A bolder approach would be to consider whether cultural diversity demands a change in the educational environment itself. Could education in the 21st century be enriched, not only by the presence of students from diverse cultural backgrounds, but also by a genuine exchange of educational ideas? A number of countries around the world are currently remodelling their education systems on a more 'western' basis. We should ask ourselves whether the best education for a global village would encompass a mutual exchange of ideas, and whether Australian universities in particular could learn, from other traditions, to place a higher priority on values such as diligence, humility, and the pursuit of harmony.

References

James, R. and Devlin, M. *Evaluation of the international student experience 2000*, Centre for the Study of Higher Education and International Student Support Services, the University of Melbourne, 2001.

The University of Melbourne, *Cultural Diversity Policy*, 1998

Recent B-HERT Publications

As a unique group of leaders in Australian business, professional firms, higher education and research organisations, the Business/Higher Education Round Table (B-HERT) sees as part of its responsibility the need to articulate its views on matters of importance germane to its Mission. From time to time B-HERT issues Papers in this context – copies of which are available from the B-HERT Secretariat at a cost of $9.90 (GST incl.) per copy.

B-HERT Paper No. 6 (February 2003) – Research Issues for the Service Sector, particularly for Community Service Professions and Export Services.
This paper attempts to define the service sector, particularly on two important areas, the community services sector and the export industries sector.

Position Paper No. 10 (September 2002) – The Importance of the Social Sciences to Government
Social policy is concerned with a range of human needs and the social institutions created to meet these needs. The social sciences cover a wide array of complex issues and disciplines. Government activities are now centrally related to social policy and the boundaries between social, economic and science policy are blurred. Commonwealth Government expenditure on social security and welfare, health and education amounts to some 65% of total expenditure and indicates the importance and persuasiveness of social policies. The social sciences and policies are important in ensuring the maintenance and functioning of a stable society by attempting to provide a more equitable distribution of wealth and income and ensuring an understanding of governance and institutions of civil society. Universities play a key role in providing social science courses which educate graduates in a philosophy, knowledge and the new developments of social science. The enables government agencies to access skilled social scientists who are capable of developing and implementing new social science policies appropriate to meet the needs of an ever changing world.

Position Paper No. 9 (August 2002) – Enhancing the Learning and Employability of Graduates: The Role of Generic Skills
In an era when various new kinds of partnerships and relationships are developing between industry and higher education, and between the different sectors in education, a paper on generic skills is timely.

This paper outlines the nature and scope of generic skills before discussing the reasons why they have become a focus of policy interest. The benefits of paying attention to generic skills for learning and employability purposes are considered in relation to relevant research findings. The holism, contextuality and relational level of generic skills as well as the links to lifelong learning are highlighted. Examples of the incorporation of generic skills into higher education structures and courses are also described.

There is also discussion of ways to close the 'employability' gap.

The paper then suggests a learning framework for generic skills at different levels.

Finally the paper makes some recommendations in respect of further work that would be valuable in pursuit of the agenda to enhance the learning capability of employability of graduates.

Position Paper No. 8 (July 2002) – Higher Education in Australia – the Global Imperative
This paper is B-HERT's submission to the Nelson Review of Higher Education.

B-HERT Paper No. 5 (June 2002) – THE FACTS (Higher Education in Australia – today compared with yesterday and the rest of the world)
A compendium of statistics on higher education.
($19.95 per copy)

B-HERT Paper No. 4 (February 2002) – The Knowledge-Based Economy: - some Facts and Figures
An update to B-HERT Paper No. 2 which provides some useful and interesting comparative data on Australia's relative global position within the context of the knowledge-based economy.

Position Paper No. 7 (January 2002) – Greater Involvement and Interaction between Industry and Higher Education
This paper looks at the need for a more enhanced partnership between the business community and higher education.

Position Paper No. 6 (August 2001) – Sharing Administrative Functions at Lower Costs
This paper highlights an innovative approach to achieving savings in administrative activities.

Discussion Papers:

- *How Should Diversity in the Higher Education System be Encouraged?*

- *The Role of Universities in the Regions*
  (Refer B-HERT website: www.bhert.com)

Diploma in Business Principles

Who should attend?

This is a course designed to be user friendly and practical in its content. The Diploma in Business Principles is suitable for new starters to the world of business, recent graduates (particularly but not exclusively) from non-business disciplines such as law, engineering, the arts or the health sciences, and small to medium business operators.

What is the Program?

The Program has been carefully structured to address the most common area of activity in business where, irrespective of the level at which an employee is working, there is every likelihood that person will need to understand what constitutes sound business practice. The list of topics covered is comprehensive and it is difficult to dismiss any one of them as not basic to business activity.

The subjects covered include:

➢ Financial Management – this module introduces participants to the principles and practice of basic accounting and finance. The emphasis is on accrual accounting and the transactions most likely to be encountered by the participants.

➢ People Management – participants are introduced to the systems for people management in organisations, including recruitment, training, and performance management including coaching.

➢ Working in Teams – participants will understand the importance of effective teams in the business environment of today and are introduced to team dynamics and preferences within teams.

➢ Leadership – this module provides participants with an understanding of the similarities and differences between management and leadership; the need for leaders to be able to vary their style; and the challenges facing leaders in the business world.

➢ Financial Institutions and Markets – an overview of Australian financial institutions and markets is provided, including the banking system, stock market and associated financial markets. Included in this module is a session on superannuation.

➢ Contract Administration – this module is aimed at providing participants with a basic knowledge of contract law and the processes associated with the efficient administration of contracts.

➢ Sales and Marketing – Participants will understand the difference between sales andmarketing and the development of marketing, from strategy to earning customer loyalty.

➢ Corporate Ethics and Values – issues of corporate ethics are considered, together with the importance of clearly defined values in creating successful corporate cultures.

➢ From Data to Knowledge – participants will understand the importance of knowledge management as a key competitive edge in today's business world and the relationships between data, information and knowledge. The role of IT as a business enabler is also dealt with.

➢ Communication – participants are introduced to the practice of effective business communication, including presentation skills and managing meetings.

➢ Corporate Law – Participants are given an overview of the principles of corporate law, legal structures, and the roles and responsibilities of Board of Directors.

➢ Innovation, Creativity & Entrepreneurship – this module deals with the mindsets and skills associated with creativity and innovation as well as the qualities and practices associated with successful entrepreneurship. Participants consider how to apply these mindsets and skills in their organisation/business.

➢ Practical Taxation – participants develop a basic understanding of the Australian taxation system, including company tax, PAYG and GST. The role of the Australian Taxation Office is considered, including its regulatory and audit functions.

➢ Personal Effectiveness – participants are introduced to techniques such as time management, project planning and career planning to enable them to maximise their personal effectiveness in the workplace. Their role in the delegation process is also considered, and participants are encouraged to set personal and professional goals.

➢ Workplace Health and Safety – this module deals with a range of issues which participants need to be aware of in fulfilling their responsibilities, including OH&S legislation, Equal Opportunities, stress management and maintaining a balance between work and social life. Participants consider practical issues within their own workplaces.

What is the Need?

A number of research studies have been conducted in recent years relating to the attributes and quality of graduates/new starters entering the workforce. A consistent theme that emerges in each study is the lack of practical business skills and the surprising lack of understanding of day-to-day business practices.

The purpose of the DIPLOMA in BUSINESS PRINCIPLES is to provide to new graduates, particularly (but not exclusively) from non-business disciplines, others entering business for the first time, and small to medium business operators with a basic introduction to practical business. New graduates and new starters enter the workforce often with little or no understanding of the day-to-day operation of business and face the daunting task of learning on the job, often with embarrassing or even serious consequences. Small to medium business operators face a similar task of 'learning on the go' often diverting them from more immediate matters.

The need for this sort of program has been identified on a number of occasions, but little action has been taken to address the need.

B-HERT sees this as an important educational and training initiative in enhancing, in a very practical and user friendly way, the knowledge and skills of graduates, business operators and others entering the workforce for the first time.

What are the Benefits of the Program?

To the participant

To most people entering the workforce for the first time there are numerous aspects of business and the workplace which are completely foreign or unknown. Their productivity is obviously adversely affected by this, as is their personal sense of well-being and job satisfaction. In many instances it may take years before an employee comes across some of the aspects covered in these topics.

The aim of the program overall, is to provide graduates, new starters and business operators with the basic knowledge and skills necessary for them to be effective in the professional world of today. In a program of this nature, it is not possible to deal with topics in depth. Where participants wish to pursue topics in greater depth, we shall provide them with links to business schools and other providers as well as reference material.

The benefits to participants include:

➢ A convenient and quick way to acquire a wide range of basic business skills to immediately enhance their performance and motivation at work;

➢ Access to highly qualified and experienced consultants with whom they can discuss their real life issues as they make the transition from study to the world of professional work;

➢ Access to leaders from their own organisation to whom they may look for advice on an on-going basis;

➢ Access to advice and material which supports their on-going learning, including contacts with business schools and other providers of management education and development.

To the employer/business owner

This program fast-tracks the employee to a level of understanding of the way business operates which would otherwise take months or even years. Many large organisations conduct similar induction programs for their own employees, which are usually spread over a period of months or in some cases a couple of years. For those employers who do not have the resources or the inclination to do the training themselves this program provides the ideal solution at a reasonable cost. As the program is conducted out of hours the employer does not lose out on employee productivity.

Given the importance of service delivery it is now employee skills that can provide the differentiating value between businesses. Such a program also complements the change in organisational structures and flexible work patterns that have developed over the last decade. THE DIPLOMA in BUSINESS PRINCIPLES is a cost effective and practical way of endorsing and supporting employee empowerment.

Course Schedule
Centres and course dates – to be advised

Course Enrolment Form
Contact B-HERT Secretariat at bhert@bhert.com
or ph: 61 3 9419 8068
or download from website: www.bhert.com

Students In Free Enterprise

B-HERT's Free Enterprise Emissaries to take on the World's best in Mainz

From l-r: Mr Walter Bugno - President Asia-Pacific of Campbell/Arnott's; Jeannine Thwaite; Anthony Goh; Ms Emma O'Connell - SIFE Australia Fellow; Vanessa Vincent; Ruth Snelleman-Smith; Mr Roger Corbett - CEO & Group MD of Woolworths; Christopher Kong; John Doumani - President International of Campbell Soup Co; Mr Ken Ryan - Regional GM Vic/Tas of Qantas.

The Students in Free Enterprise (SIFE) program, which is supported by B-HERT, held its 2003 National Competition at the Hilton On the Park, Melbourne over the weekend 19-20 July. From a field of 22 university teams in competition, with a further five observer teams, students from The University of Melbourne won through for the second time in three years to be named as the Qantas SIFE Australia National Champions.

The team of ten undergraduate students, mentored by their SIFE Australia Fellow, Ms Emma O'Connell, from Careers & Employment, won the first prize of $5,000 in cash, the Qantas Travel Award and the right to hold the Woolworths Perpetual Shield for one year. They will travel to Mainz in Germany in October to represent Australia in the Third SIFE World Cup.

In competition against teams from 30 other countries, the SIFE UniMelb students will present a portfolio of ten projects that comprise teaching the basics of the market economy to primary and secondary school students, learning facilitation activities and some 'hands on' business incubators.

Their efforts will be judged by panels of chief and senior executives drawn from many of the largest multinational corporations. Among the CEOs will be Brambles chief executive Sir Cee Kee Chow and the President International of Campbell Soup Co, Australia's John Doumani.

More than 300 students, representing the 15,000 world wide from 1,400 universities with SIFE clubs, will take part. In 2003 alone, it is estimated that SIFE students' projects have touched the lives of 3.9 million individuals and gives credibility to the SIFE motto of 'Changing the World'.

"PUTTING REFORMS INTO PRACTICE" SYMPOSIUM

25 and 26 November 2003
Melbourne

B-HERT is hosting a symposium where all stakeholders will have the opportunity to influence the outcome of the higher education reforms. 21 speakers including two senators, the secretary of DEST, six vice-chancellors, industry related executive directors, presidents and CEOs and distinguished experts in their field will contribute to a broad and inclusive program.

More information / to register:
www.bhert.com
B-HERT Secretariat: 03 9419 8068
email: bhert@bhert.com

B-HERT Meeting Dates for 2003

Please note the following date for the remaining B-HERT meeting for 2003:

**Tuesday, 25 November 2003 –
Sheraton Towers Southgate, Melbourne
3.00pm – 5.30pm
(inclusive of Annual General Meeting),**

followed by Awards dinner at which the Hon Peter McGauran MP, Minister for Science, will deliver the after-dinner address and present the Awards for Outstanding Achievement in Collaboration in Education and Training and the Best Entrepreneurial Educator of the Year.

2003 Awards
for Outstanding Achievement
in Collaboration
in Education and Training
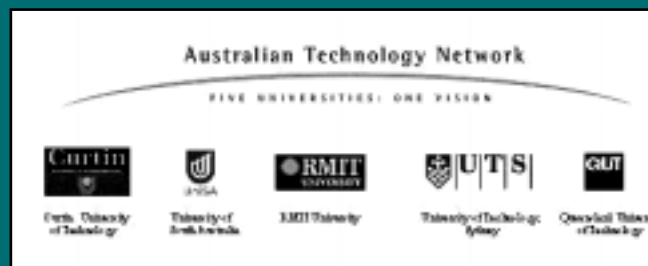
Sponsored by

Australian Government
Department of Education, Science and Training

The Awards will be presented by the Hon Peter McGauran MP, Minister for Science,
at a gala dinner in Melbourne on 25 November, 2003.

In the next issue of B-HERT NEWS (March 2004) there will be a full report of the winners.

2003 Award

for the Best Entrepreneurial Educator
of the Year

Sponsored by

To recognise the importance of education in the process of developing and nurturing entrepreneurs;
and to showcase best practice in entrepreneurial education.

This award will be presented by the Hon Peter McGauran MP, Minister for Science,
at a gala dinner in Melbourne on 25 November 2003,
and the winner will be featured in the next issue of B-HERT NEWS (March 2004).

MISSION STATEMENT

The purpose of the Business/Higher Education Round Table (B-HERT) is to pursue initiatives that will advance the goals and improve the performance of both business and higher education for the benefit of Australian society.

It is a forum where leaders of Australia's business, research and academic communities can examine important issues of common interest, to improve the interaction between Australian business and higher education institutions, and to guide the future directions of higher education.

In pursuing this mission BHERT aims to influence public opinion and government policy on selected issues of importance.

B-HERT believes that a prerequisite for a more prosperous and equitable society in Australia is a more highly-educated community. In material terms it fosters economic growth and improved living standards - through improved productivity and competitiveness with other countries. In terms of equity, individual Australians should have the opportunity to realise their full social, cultural, political and economic potential.

The membership of B-HERT comprises, by invitation, the chief executives of leading Australian businesses, professional firms, public research organisations, the Australian National Training Authority, and the vice-chancellors of Australian universities.

B-HERT pursues a number of activities through its Working Groups and active alliances with relevant organisations both domestically and internationally. It publishes a regular newsletter (B-HERT NEWS), reporting on its activities and current issues of concern relevant to its Mission.

Business/Higher Education Round Table
A.C.N. 050 207 942

1st Floor, 24 Brunswick Street

Fitzroy Vic 3065

Ph: 61 3 9419 8068

Fax: 61 3 9419 8276

Email: bhert@bhert.com

Website: www.bhert.com