



UNIVERSITY OF TECHNOLOGY, SYDNEY

REVIEW OF AUSTRALIAN HIGHER EDUCATION

SUBMISSION

INTRODUCTION

The achievement of a high quality, internationally competitive education system must be the primary goal of the Bradley Review and its implementation. Australia looks to its universities, and therefore primarily its public universities, to provide a set of core outcomes including high quality teaching and learning, a high value-added skill base to meet our cultural and economic needs, and knowledge creation and transfer.

TEACHING QUALITY

In recent years many policy initiatives have focused on improving the quality of teaching and learning. These initiatives included Quality Portfolios and AUQA audits; Government bodies, including the current Australian Learning and Teaching Council, to oversee teaching and learning quality and distribute improvement grants; and the introduction of the Course Experience Questionnaire (CEQ) to assess outcomes.

In addition, the quality of teaching and learning has been improved through greater use of information and communication technologies which have increased student satisfaction, facilitated increased access to education, and increased the quality of learning and learning productivity¹.

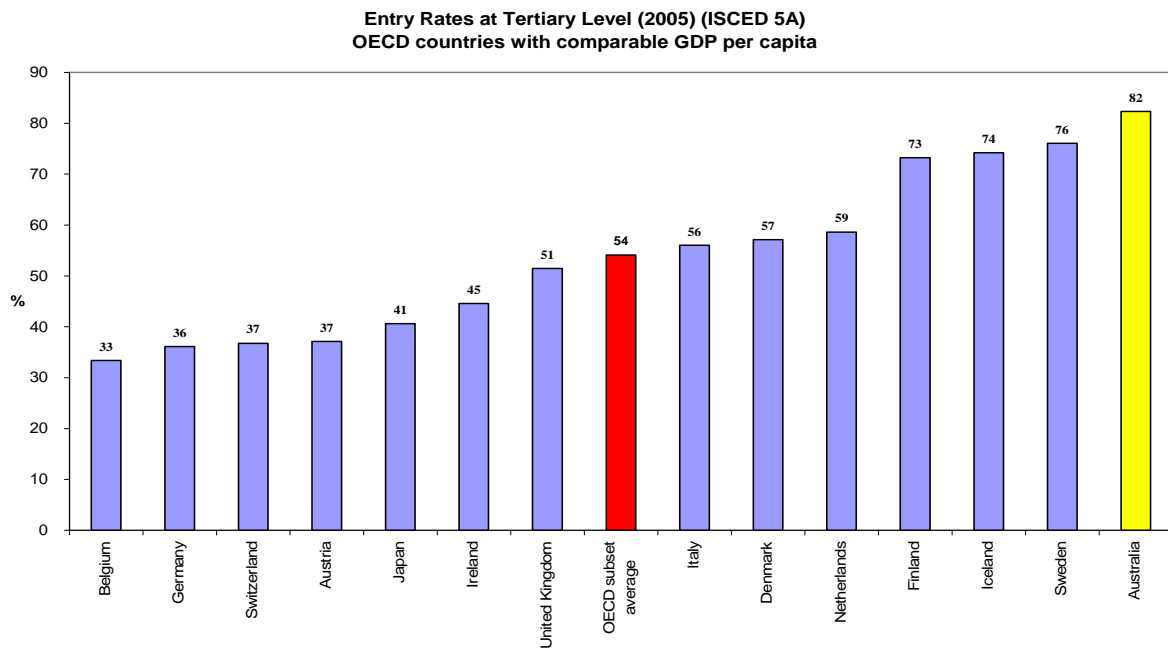
Despite this focus and technological advance, **the quality of teaching and learning in Australia has not improved across the board, and has gone backwards against the rest of the world over the last decade.**

Because of a student load distribution policy which encourages universities to fill their quotas irrespective of quality or risk penalty, Australia has a very high entry rate into university, as benchmarked against our OECD competitors² (yellow represents Australia and red the OECD average):

¹ Alexander & McKenzie, 1998

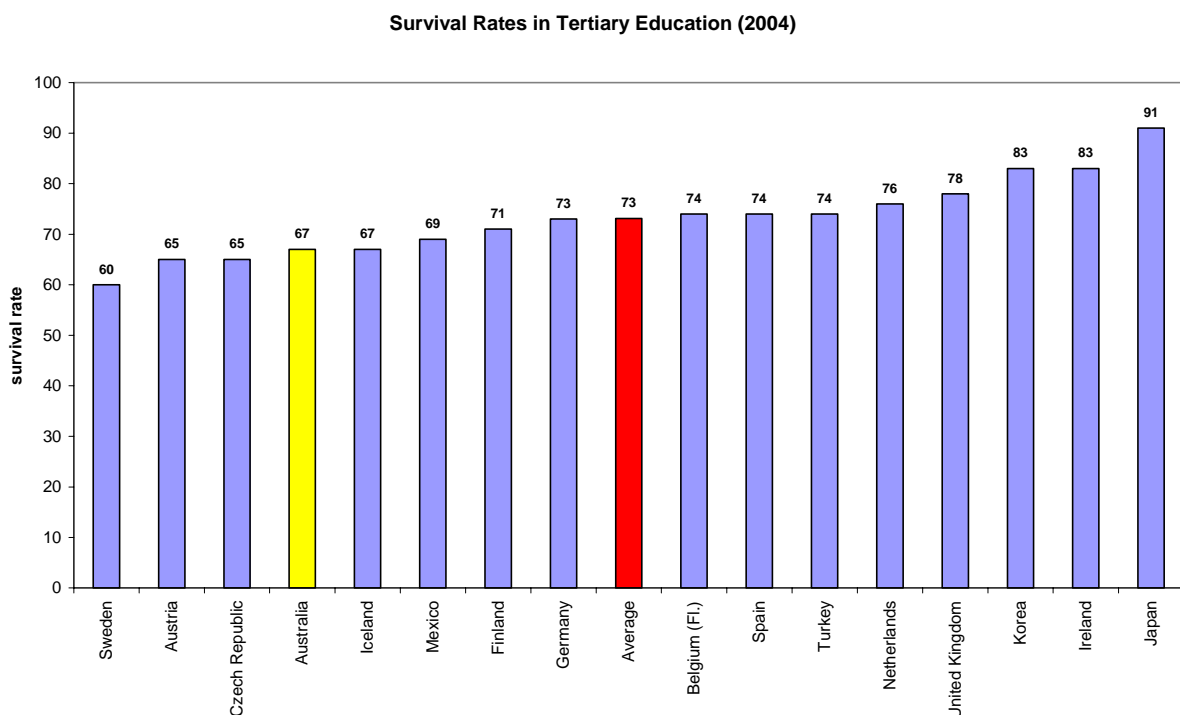
² The entry rates used are the proportion of people who enter into tertiary-type A education for the first time. Net entry rates are shown i.e. the proportion of people of a synthetic age-cohort who enter the tertiary level of education, irrespective of changes in the population sizes and of differences between OECD countries in the typical starting age of tertiary education. The net entry rate of a specific age is obtained by dividing the number of first-time entrants to each type of tertiary education of that age by the total population in the corresponding age group (multiplied by 100). The sum of net entry rates is calculated by adding the net entry rates for each single year of age.

Graph 1: OECD Entry Rates at Tertiary Level 2005



However, in terms of outcomes, Australia performs poorly with completion rates well below of the OECD average.

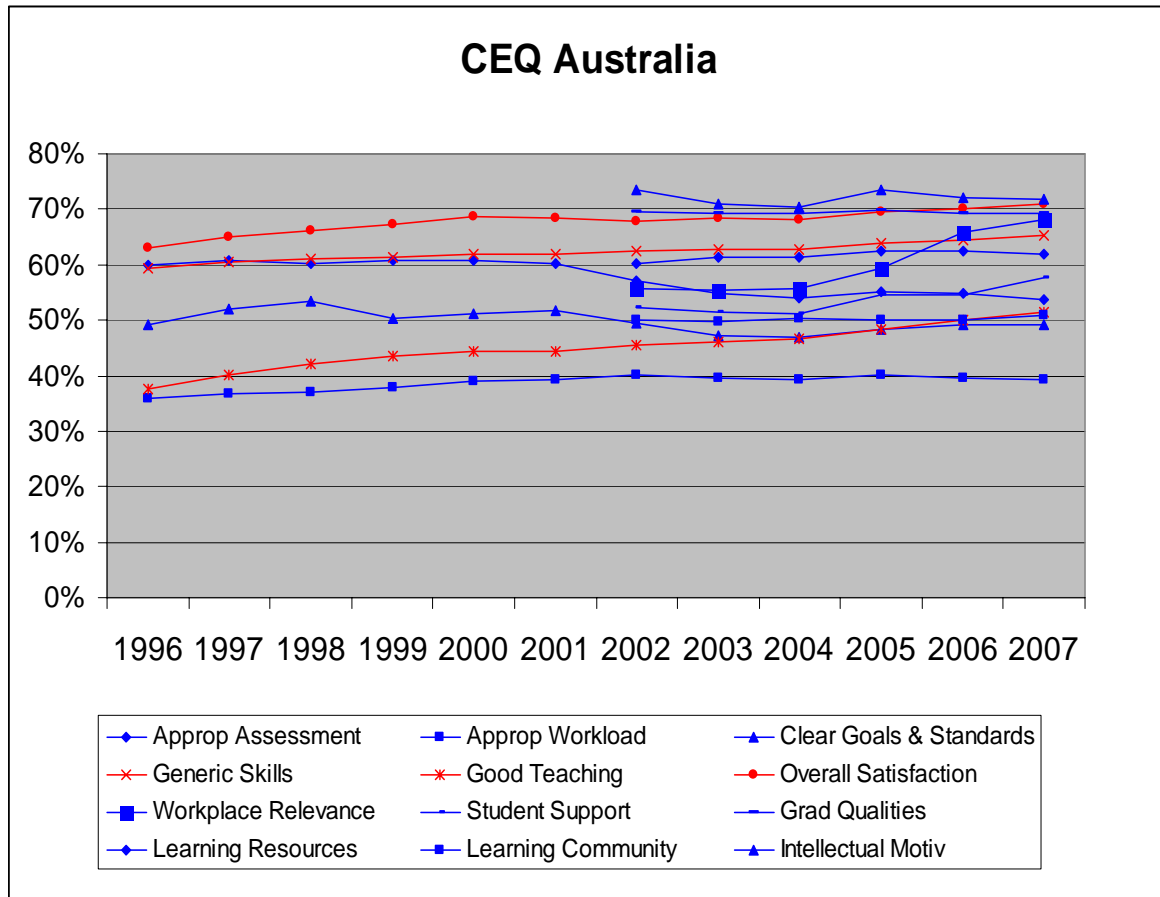
Graph 2: OECD Success Rates at Tertiary Level 2004



This represents a waste of investment. The poor completion rates are a function of encouraging students with poor preparation (low UAI scores) to enrol in university to meet quotas, high student-staff ratios, and staff workloads which impact upon the quality of teaching and pastoral care, and a regulated student load model which frustrates student demand and funnels them into courses they don't want to do. Despite a belief to the contrary, and despite all of the attention it has received, Australia's learning and teaching quality has

not improved across the board. The graph below shows a time series of various measures of student quality from CEQ data.

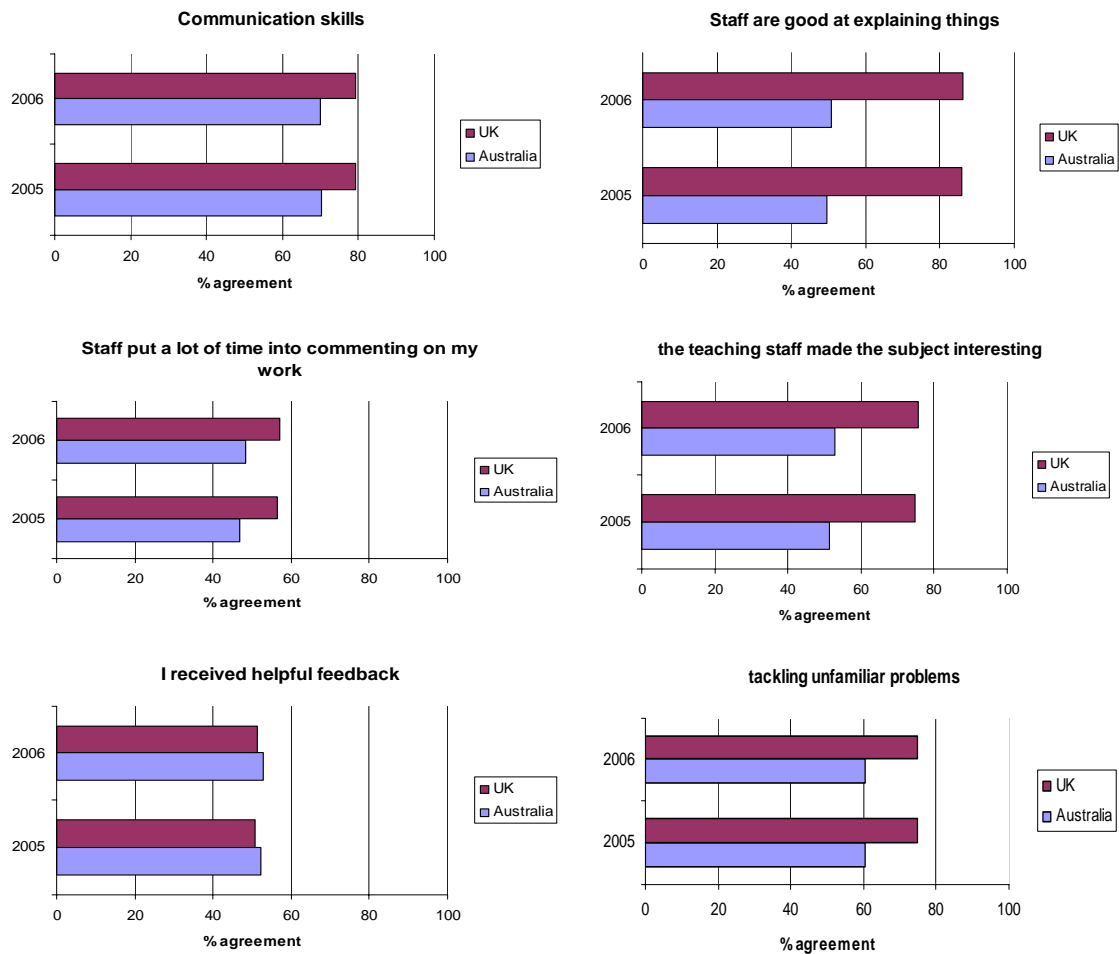
Graph 3: CEQ Australia 1996-2007



Three of the 11 current CEQ scales, Overall Satisfaction (OSI), Good Teaching (GTS), and Generic Skills (GSS), are used as part of the determination of the Learning and Teaching Performance Fund (LTPF) scores for each university. As indicated in the graph above, these make up three of the five scales which have improved in recent years, showing a clear link between investment and improved teaching and learning quality. **However, the other six measures have not improved or have gone backwards despite major advances in technology.**

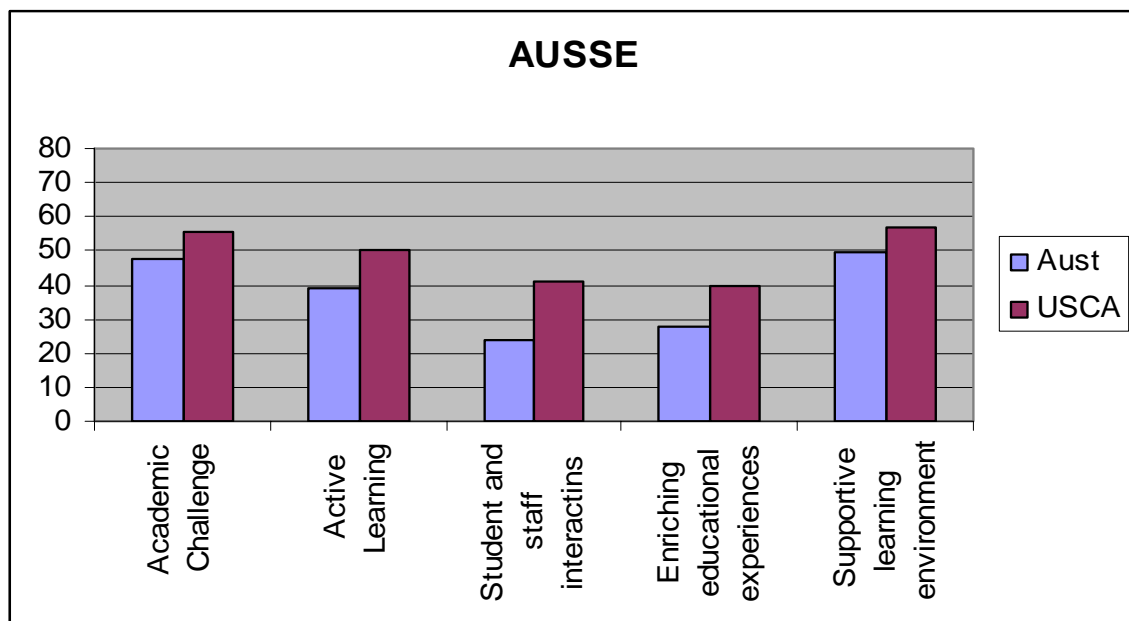
By international standards, the quality of Australian teaching and learning, while at a sound level, has fallen behind our major competitors over the last decade. Comparable data to Australia is only available for UK, USA and Canada. Comparing the UK and Australia:

Table 1: CEQ results for Australia and the UK for individual items



As can be seen above, for all but one of the key quality criteria, the UK scores are significantly higher than those for Australia. The comparison with the USA and Canada is similar:

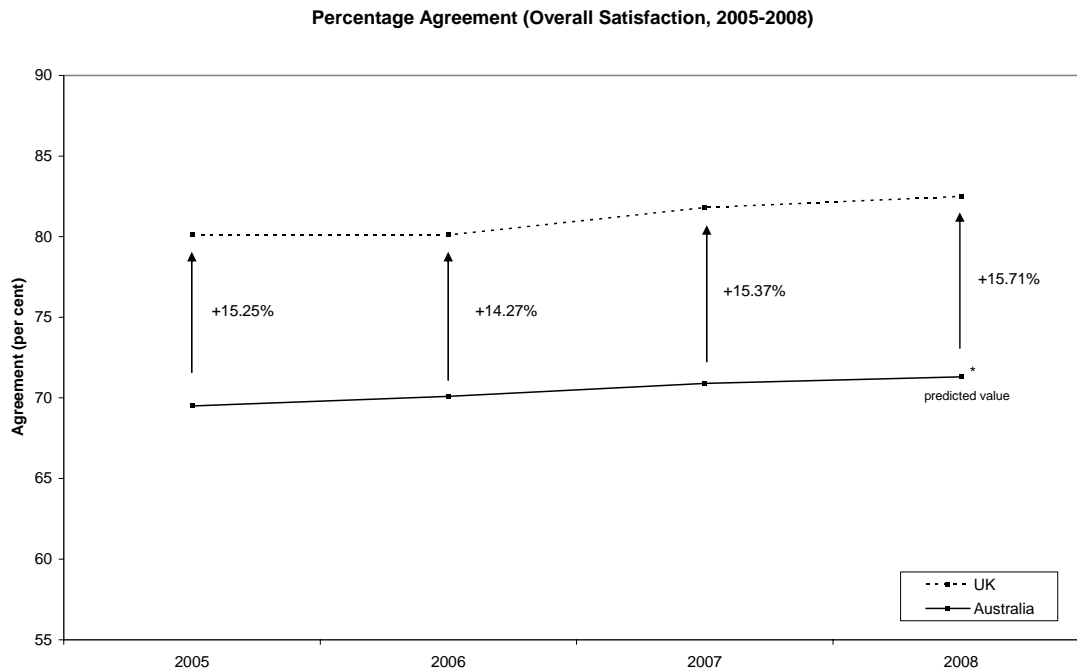
Graph 5: Australasian Survey of Student Engagement (AUSSE) 2007



Once again, the results for Australian universities fall significantly short of those for the USA and Canada with two of the teaching quality indicators at the medium effect size level, and three at the large. The most significant difference is for the scale labelled “student and staff interaction” where, for Australian students, the weighted mean is 21.3, which for USA and Canada it is 37.1. The effect size is reported as 0.8 which is considered a large difference.

Moreover, where we have longitudinal data to compare, the gap in quality of teaching and learning is shown to be a step function above Australia and widening.

Graph 6: CEQ Overall Satisfaction Australia and UK 2005-2008



The data should be a wake up call, and matches the growing perception that the quality and esteem of Australia’s university system is in decline in competitive terms. The data is confirmed by the fall in the proportion of international students listing Australia as a first preference.

A more complete analysis is provided in *The Quality of Teaching and Learning in Australia: An Analysis*, attached as an appendix.

FINANCE

The quality of Australia’s higher education experience is directly related to the quality of staff, the student-staff ratios, and the resources available for educational support. For the last decade, public funding per student, in nominal dollars, has risen by between 1-2% p.a., whereas salaries to attract and retain staff, and costs of infrastructure have risen by 4-5% p.a. This means that, other things being equal, every year universities have had to say goodbye to 3% of their staff; a cumulative effect per student of over 30%. As a result, student-staff ratios have risen from 14 to 21, and the pipeline of graduate research students has fallen because of a lack of interest in an academic career given the relative remuneration and workloads.

In some circles there is a view that Australia has found a way to deliver an education system as good as its international competitors (not true) at lower cost. Rising student-staff ratios are referred to as indicators of increased productivity. However, this view ignores the clear compromise in quality which has been required for the Australian higher education sector to survive when compared to our international competitors (noted above).

The financing problem for many Australian universities has been partially ameliorated by international full-fee students. The fees received from these students are substantially greater than those received for the same Australian students, by an average of 40%. This premium is used to subsidise the teaching of Australian students.

Whereas Australia prided itself on the international aid it provided to its neighbours via the Colombo Plan, the reverse is now true: **the quality of teaching and learning in Australian universities is now heavily subsidised by the hard-working middle class of our poorer Asian neighbours.** In addition, the current financing policy has exposed Australian universities to great financial risk: international students comprise 25% of non-research student load and almost 40% of that income.

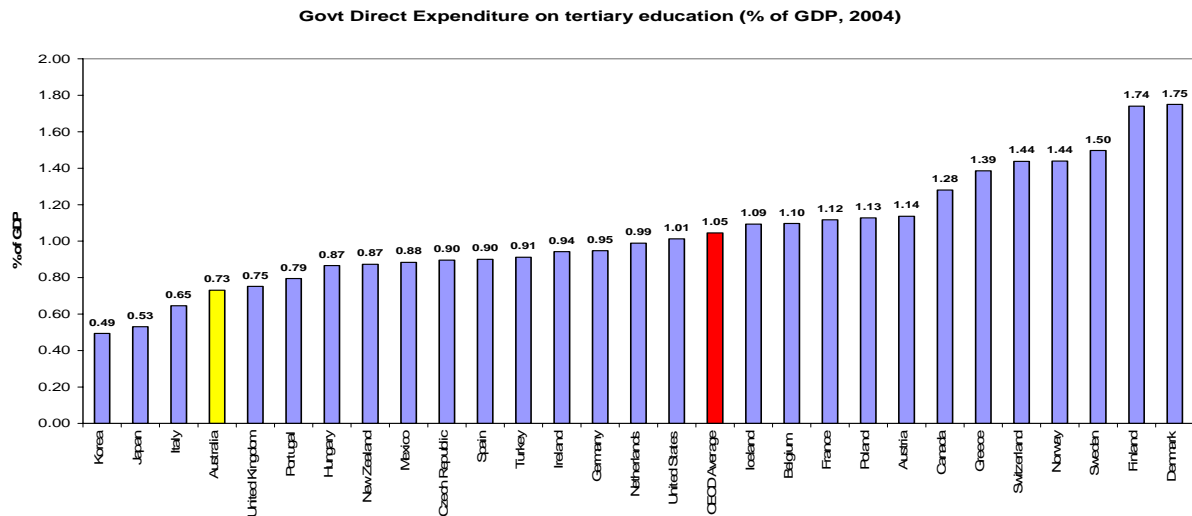
This risk is exacerbated because this income source and source of cross-subsidy is coming to an end: the Australian dollar is making us less competitive; major investment by other countries is reversing the study flow; and an increase in English language provision by our (much better resourced) competitors will further reduce the number of quality international students.

The current trends in international education paint a picture for the future decade which is very different from the past. **The single biggest issue for the next decade will be the attraction and retention of quality staff.** This is already an issue in many disciplines, but will become worse for the following reasons:

1. There is an explosion in worldwide demand for English language academics in both Europe and Asia to bolster their export markets;
2. The baby-boomer retirements in the next few years are huge and it is a worldwide phenomenon;
3. The low production of Australian postgraduate students, the traditional feeder into academic staff;
4. The much higher investment levels and resources available to higher education in our competitor countries.

To be competitive and to have equivalent quality and other outcomes in the production of skilled graduates and ideas, Australia must invest equivalent proportional amounts in higher education to that of our competitors; there is no other way we can compete. Currently we are way behind in this regard as the following graph on the percentage of investment as a percentage of GDP makes clear (Australia in yellow, OECD average in red).

Graph 7: OECD Government Direct Expenditure on Tertiary Education 2004



This graph actually overstates public investment in higher education because of a much higher participation (although not success) rate meaning that investment per student in Australia is even further from the OECD average. This investment gap is currently \$3.5 billion p.a.

Allowing for the Education Investment Fund additional investment of approximately \$0.5 billion to which the Government has already committed, this makes clear that **Australia currently under-invests in higher education by \$3 billion relative to our competitor countries**. How this can be funded is spelt out in *Funding Higher Education at Competitive Levels* which can be accessed at <http://www.uts.edu.au/about/executive/projects/index.html>.

REGULATION AND GOVERNANCE

Public universities currently suffer under enormous red-tape which includes dual reporting to Federal and State Governments, often in different formats, and application to and reporting on a range of small funding schemes. However, the set of regulations which cause the greatest effect on (lack of) outcomes relate to the current allocation of student load and funding; it does not meet the needs of students, universities or industry, it stifles innovation and exacerbates the skill shortage problem.

The current regulatory control, which fixes both student load (quantity) and government plus fee revenue received (price), was a feature of Stalinist Russia and copied by Cuba, North Korea, and higher education policy in Australia. Below in Table 2, on the left are the regulations as they apply to student load issues in higher education; on the right are the same regulations if they were applied to an industry (the airline industry for example).

Table 2: Australian Higher Education Regulation; and if applied to the Airline Industry

<i>Universities current regulatory control:</i>	<i>The same regulation applied to the airline industry would mean control of:</i>
The number of universities	The number of companies
The location of universities' operations (campuses)	The routes of each airline
Allowed student load by course / cluster	The number of seats on each flight by class of travel
Price of courses	Price of tickets

Seen in that light, it is easy to see that the current method cannot satisfy the needs of stakeholders nor lead to innovation.

Ironically, the one major regulation missing from that table that you would really want, to protect the interests of stakeholders in the airline industry, is safety / quality assurance. And that, rather than the other set of regulations, has to be the key to regulation of the Higher Education sector, especially since there is a growing private sector.

Rather than the current student regulation, what is required is a quality assurance system which accredits different activities, for both public and private providers, on the basis of a set of criteria. Quality assurance should also include a set of minimum entry standards and criteria including minimum UAI entrance scores or equivalent, and minimum English language competence for direct entry to a university, whether it be public or private. Combined with this recommendation should be a set of recommendations for an active pathways sector with strong articulation arrangements including HECS eligibility for Australian students.

The *Review* will need to make recommendations in relation to governance and regulation of what is emerging as a (hopefully integrated) post secondary sector. This includes TAFE and private providers, other pathway programs, public universities, private universities, and public university “shopfronts” in major cities. These vary enormously in quality and this is a major issue for the reputation of the Australian Higher Education sector. A decision needs to be made about whether regulations (including compacts and accreditation) cover only publicly funded activities of these institutions or all activities.

UTS believes that the same standards of accreditation and quality assurance should be applied to all institutions and activities whether public or private to protect the reputation of the sector.

Further, the panel needs to make a recommendation on the outrageous anomaly that has arisen whereby private institutions can access public funding and additional private full fee domestic load whereas public institutions cannot. **Either the playing field should be levelled with the restoration of domestic fee paying load in public universities, or Commonwealth load should be funded at a higher rate for public, as opposed to private, institutions.**

FUNDING AND STUDENT LOAD

The core outcome of the *Review* and its implementation revolves around the level of financing and the relative public / private contributions; and the student load allocation model which aligns student preferences, university capacity, and the skill needs of the nation.

The resources available to Australian Universities for their teaching and learning programs are, both currently and in the foreseeable future, primarily from two sources: government investment, and student contributions through fees. International student fees are at full capacity for many universities, as well as making some very vulnerable to relatively small, and increasingly likely, variations in this one income source. Other sources of funding such as philanthropy and industry funding do not have capacity to build to a significant level within the next 20 years and are not likely to be a source of funding student load.

Australia's current model has significant constraints on both major funding sources. The current model is:

- (i) a **capped fee, capped-public investment model** where the (capped) public investment level is extremely low by international standards.

We have seen the effects of this: a growing quality gap with the rest of the world; an increasing inability to attract and retain staff; growing student frustration; and a skills gap.

For Australia's public universities to obtain the resources necessary to attract and retain staff for the next decade and beyond in the face of increasing international competition, there is only one of two recommendations that can be made; either

- (ii) a student **fee deregulated model** in which the government sets the level of investment it is prepared to make and allows universities to set the fee gap to attract and retain staff; or
- (iii) a **fully funded government investment model** that caps and sets government investment at a competitive international level.

No other model is sustainable in the long run.

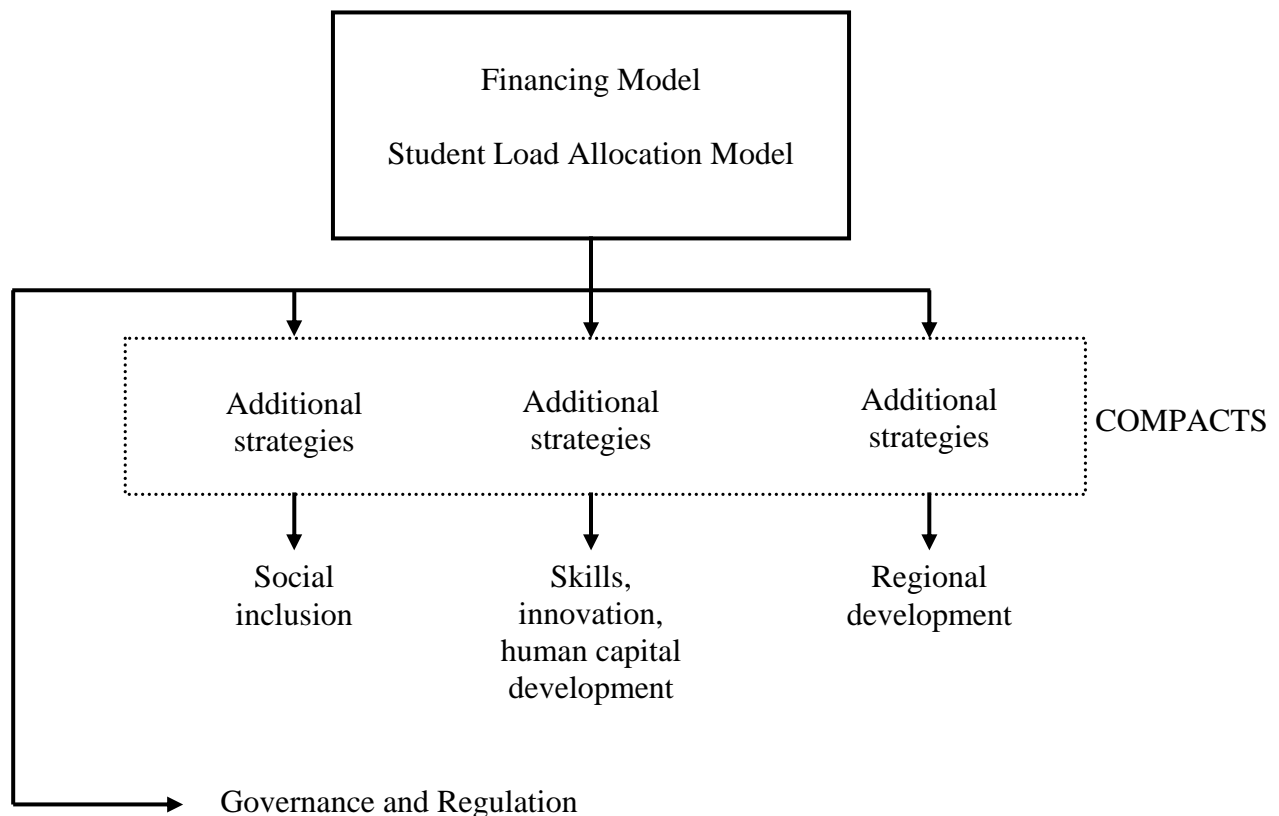
UTS supports the second of these options. This means that the full cost of teaching should be funded, symmetric with the unanimous recommendations to the *Review of the National Innovation System* that the full cost of research be funded. The funding principle for research and teaching must be the same to ensure a level playing field for all universities, and to encourage diversity in the sector.

FINANCING AND LOAD OPTIONS AND THE ROLE OF COMPACTS

The key resource drivers for the achievement of the goals of the Australian higher education system are the financing and pricing arrangements and the student load model (how to align student preferences, institutional capacity, and Australia's skill needs).

Core funding must be available to support the achievement of core outcomes. It must be available to all Australian universities. Beyond funding for core university missions there will need to be a set of additional or mitigating strategies to achieve specific policy objectives in each university's context. If the financing and student load models are simple and transparent, the compacts model can concentrate on additional and/or mitigating strategies. If not the compacts model will have to work very hard at all levels. Figure 1 provides a conceptual framework.

Figure 1: Conceptual Framework for Recommendations



The two possible financing models (a fee deregulated model, and a fully public sector funded model), may produce different demand patterns for universities. However, the outcomes will be strongly influenced by the method of determining the distribution of undergraduate student load between universities, campuses and disciplines.

Government determination of student load attempts to ensure: geographical accessibility to higher education, satisfaction of profession / industry / economy demand in specific discipline areas, and support for regional development.

There are at least 3 types of student load models:

- (a) centrally planned load;
- (b) student entitlement;
- (c) flexible student demand.

The current student load model can be thought of as a **centrally planned load** model. In this model each University is assigned, via negotiation, a given load profile determined by discipline cluster. The advantages of this allocation model is that it ensures the survivability of particular campuses by driving student load to them which otherwise might not occur if it was simply left to student preferences. The disadvantages of this approach are:

- it frustrates student preferences for courses and campuses, which also contributes to a high dropout rate among first year students;
- by guaranteeing student load irrespective of performance it stifles innovation; and
- it makes adaptation of the system to shifting industry demand patterns very difficult to achieve through complex sets of pair wise negotiations which have no guarantee of achieving the desired aggregate load shifts.

At the other end is a completely deregulated student load model where instead of load entitlements being given to universities and campuses they are given directly to students and students decide which Universities they attend.

This model can be thought of as a **student entitlement** model. Some commentators refer to this as a voucher model; but it is important not to use this terminology because a voucher model has become associated in many people’s minds with a particular subset of this model (discussed below). This model allows policy makers to choose the allocation of student entitlements to meet national needs, by determining on an annual basis, the number of entitlements in each discipline area to be offered, without having to negotiate with each university. This model has the potential for load shifts between universities and campuses, depending upon student preferences and the willingness of universities to increase load in particular areas. It will also more flexibly meet student preferences and can lead to a concentration of load in some disciplines in particular universities and promote economies of scale. The downside is that it will make certain campuses unviable from a student load perspective. This will have major benefits in terms of economic efficiencies but it would require mitigating regional policy strategies.

There is also a third approach, a **flexible student demand** model. One version of this would give an indicative total load to each university/campus but allow in any given year under or over enrolment without penalty. In this model there would be no requirement to meet cluster targets, i.e. within campus load shifts are fully at the discretion of each university/campus. Each year initial load would be redistributed according to student demand characteristics. This is more of a transitional model between the inflexibility of the centrally planned model, and the student entitlement model. The disadvantage for the policy makers is that while load is matched to student demand it is not necessarily matched to skill shortages.

The combination of financing models (i) – (iii) and student load models (a) – (c) gives nine potential models for the Australian Higher Education sector. These are illustrated in Table 3 below:

Table 3: Typology of Financing / Student Load Models

1.1 Under-funded Public Sector + centrally Planned	1.2 Under-funded Public Sector + demand driven	1.3 Under-funded Public sector + student entitlement
2.1 Fully funded Public Sector + centrally planned	2.2 Fully funded Public Sector + demand driven	2.3 Fully funded Public Sector + student entitlement
3.1 Fee deregulated + centrally planned	3.2 Fee deregulated + demand driven	3.3 Fee deregulated + student entitlement

DISCUSSION OF MODELS

The under-funded Public sector models 1.1 – 1.3, are not worth discussing because they do not give any long term sustainability. Moreover, there are no mitigating strategies. Table 4 lists the likely outcomes from the 6 remaining models, concentrating on human capital acquisition, social inclusion, and regional development. Potential mitigating / additional strategies are also given. Issues for compacts are highlighted in blue. Note that the commonly used “voucher” model is a combination of student entitlement **and** fee deregulation.

The model which leads to the highest levels of human capital acquisition is the fully funded / student entitlement model. However, it is also the model which is most costly to the government. The model which leads to lowest human capital acquisition is the Fee Deregulation / Centrally planned load model. It is also likely to be the least costly for the government because the additional resources come from the private sector, and there is no load-shift compensation necessary. These are the extremes of policy choice.

Table 4: Public Sector Investment Model

	Centrally Planned Load	Flexible Load	Student entitlement
Human capital acquisition	frustrated student demand; high dropout rates	load matched to student preferences but no link to aggregate skill needs	highest human capital acquisition of all models (lower fees; entitlements matched to skill needs)
Social inclusion	No further impact on low SES	No further impact on low SES	No further impact on low SES
Regional Development	Equitable spread of resources; status quo for regional campuses	Equitable spread of resources; regional campuses lose load	Potentially large load shifts; some campuses become unviable
Mitigating / additional strategies	Few in relation to human capital	Business would have to sponsor / offer scholarships in skill shortage areas	Regional / small campus support through compacts
		Regional / small campus support through compacts	

Table 5: Fee Deregulated Model

	Centrally Planned Load	Flexible Load	Student entitlement (Voucher Model)
Human capital acquisition	Lowest of all models; higher fees; frustrated student demand; high dropout rates	Load matched to student preferences but no link to aggregate skill needs	Load matched to skill needs
Social inclusion	Adverse impact on low SES	Adverse impact on low SES	Adverse impact on low SES
Regional Development	Greater resources but not shared equally across sector – relative loss of competitiveness for regional campuses, but still viable and no loss of load	Moderate load shifts Regional campuses lose load; many become unviable without additional support	Potentially large load shifts. Some campuses become completely unviable; others need additional support; biggest effect on regional campuses
Mitigating / additional strategies	Few in relation to human capital	Business would have to sponsor / offer scholarships in skill shortage areas	
	Government fee scholarships for low SES, or 25% of fee increase set aside for low SES fee scholarships	Government fee scholarships for low SES, or 25% of fee increase set aside for low SES fee scholarships	Government fee scholarships for low SES, or 25% of fee increase set aside for low SES fee scholarships
		Regional / small campus support through compacts	Regional / small campus support through compacts

USING COMPACTS FOR MITIGATING STRATEGIES

The encouraging news is that for any model chosen there are a set of mitigating strategies which can achieve or correct policy outcomes. Any move from a centrally planned load model will likely involve load shifts which will make some campuses unviable in terms of student load. By itself, this is not a bad thing. By international comparisons, Australia does not have too many Universities. At an average EFTSL of 15,000 it is roughly lineball with Canada and has far fewer Universities per student population than most of Asia. However, Australia does have far too many campuses, some with student load as low as 25 EFTSL. While there needs to be a rationalisation, it is clear that some campuses in regional and outer metropolitan areas will need to be supported for regional development. But not all existing campuses can or should survive.

There clearly has to be a rationalisation of campuses with clear criteria established and clear exit strategies.

CONNECTION TO INDUSTRY

UTS and the Australian Technology Network (ATN) are renowned for their strong links with industry and the professions. For many years UTS has used a model of Industry Advisory Networks in all its disciplines to facilitate engagement with industry and the professions. Key industry and professional leaders are actively engaged in UTS's assessment and planning for future requirements.

While industry engagement is critical at many levels it is important to recognise that demand for university places is not set by industry and the professions, but by students. While industry and the professions must identify and communicate their needs and gaps, other strategies are required to attract students to those areas, that is, demand must be created in the potential student population through the use of additional incentives.

Focusing only on current economic needs will also stifle innovation in teaching and learning. Universities must operate beyond current economic needs to prepare graduates for jobs that do not yet exist, and are not even foreseen.

The relationship of universities, industry and the professions, and Government is critical, but it must be an equal relationship where each party brings its expertise. If industry and the professions primarily drive the content of higher education for current needs, their future needs will not be foreseen or met.

UTS runs industry placement programs in which students, as part of their degrees, spend a year working in their chosen fields. This has produced extraordinary employment results in key industry shortage areas (engineering, information technology and accounting). In the last few years, Government policy has worked actively against university / industry interaction by removing the funding for these programs and thus driving universities to conformity and a lack of diversity.

UTS recommends that funding for industry integrated programs be restored.

INTERNATIONALISATION OF AUSTRALIAN HIGHER EDUCATION

The dominant mode of internationalisation in the Australian higher education sector has been and remains the recruitment of international students (both onshore and offshore). It has provided Australian universities with a significant additional income stream, usually highly concentrated in a small number of disciplines.

So pervasive has reliance on international income been, that around the world Australian universities and academics have come to be seen as more interested in making money from student recruitment than in either teaching and learning or research.

As noted above, it is useful to compare the current perceptions to the Colombo Plan which, although not proportionally significant any more, was once Australia's de facto international student program. The Colombo Plan signalled Australia's global engagement, particularly with the Asia-Pacific region. Many Colombo Plan participants have filled significant business and government positions in their countries. The Plan's legacy continues to positively contribute to Australia's relations in the region. This is no longer the case. The perception that the Australian higher education sector is primarily interested in income rather

than engagement, does not lend itself to the positive ongoing connections which are arguably of much greater value to Australia in the long run.

In short, current approaches to internationalisation have delivered a system:

1. That focuses almost to the exclusion of all other internationalising activities on the recruitment of international students;
2. Where international students are not distributed evenly across the disciplines;
3. Where many universities are at significant risk through their dependence on international student fees;
4. Where a variety of offshore programs are neither financially sustainable nor academically respectable;
5. That does little to facilitate the socialisation of international students;
6. That provides Australian universities with an undesirable international reputation of being more interested in money making activities than in academic endeavours;
7. That diverts attention from the need to incorporate the international in curriculum and classroom practice; and from the need to encourage international linkages in research.

Leaving aside questions related to international student recruitment, Australian higher education has a number of other challenges in internationalisation:

- Encouraging students to study the languages and cultures of other societies. Australia has become one of the world's most open economies in the last two decades. Graduates are as likely to work overseas as in Australia, and overseas economic penetration of Australia is high. Global professional practices of work and even of study are on the increase. Knowledge of other societies, their languages, cultures, economics and politics are necessary life skills for the graduates of the 21st Century;
- Meeting the needs and requirements of the various different cultures resident in Australia. Australia is a migrant society and well-internationalised. For social as well as educational reasons it is important both that there is a cultural mix, and that the cultural mix is well socialised;
- Ensuring staff operate within the international communities of practice relevant to their professions and disciplines.

Language learning is a central road to understanding other cultures and other societies. Apart from general symbolic encouragements from governments and government agencies to students to learn languages other than English, there is also a need for supra university planning and government funding to support some language programs. Any Australian university should be able to support programs of teaching and learning in Chinese, Japanese, French, German, Italian and Spanish. Australia needs programs of teaching and learning in other languages, not least in order to support future research efforts.

AUSTRALIAN STUDENTS' INTERNATIONAL EXPERIENCE

Australia performs poorly in sending students overseas for part of their study programs compared to universities in other countries. High transport costs to the rest of the world and student concerns about leaving the workforce even temporarily are significant reasons for this.

The UTS BA in International Studies is internationally recognized as good practice in sending students to study in other countries. Each year it sends 200 students to study for a whole year at (usually) about 62 different universities in China, Japan, Indonesia, Malaysia, Thailand, France, Germany, Italy, Spain, Switzerland, Chile and Mexico.

The BA in International Studies, which must be combined with another UTS undergraduate degree, was started in 1995 with the specific intent of ensuring Australian students have the opportunity of spending two full academic semesters at an overseas university in the non-English speaking world. In addition to spending a year of study at a university in a specific country, students need to study its language and culture, and to learn about its history, society and economy.

UTS supports students' participation in the program in many ways including:

- Highlighting employers' positive perceptions of students who have international study experience;
- Assisting students to apply for and obtain scholarships from their chosen country of study;
- Paying for all displacement costs including travel, and providing travel and medical insurance;
- Extensive relationship management with host universities;
- Providing \$1 million p.a. (\$5,000 per student) for staff support and direct student participation costs.

UTS places great value on the international experience students receive in this program. However, the significant cost to the university severely limits the number of students who can participate.

UTS recommends that new funding be provided to encourage Australian students to study overseas.

SOCIAL INCLUSION

Despite the best efforts of Government policy over a considerable time, there has been no advance on improving participation rates of low socio-economic (low SES) students in higher education. Neither changes to student fee levels, nor equity funding initiatives has made the slightest difference to participation rates with the exception of Indigenous student participation which declined significantly following changes to ABSTUDY.

The reason for this stagnation has been a failure to understand the difference between “disadvantage” and “poverty”. Which one should be the definition of low SES, and which one should be targeted as part of higher education policy?

A low SES student is defined as being one who resides in a postcode based upon the Australian Bureau of Statistics (ABS) ranking in the bottom 25% of formal occupations and qualifications (usually of the parents of current and prospective students). The problem is that a higher proportion of low SES students, as currently defined, either do not complete high school, or obtain UAI scores well below entry requirements to university. There is nothing that higher education policy can do about this.

Instead, a policy of greater social inclusion needs to be multi-pronged: it consists of pre-primary intervention and funding, additional support through primary and secondary school, and support for pathway programs as an alternative entry point to higher education.

Such a support package should also include financial support for those who qualify for university. Once a “disadvantaged” student enters university, the problem is no longer “disadvantage” but becomes one of poverty – this is what higher education policy should be tackling as part of its contribution to social inclusion policy. Thus equity funding should be allocated on the basis of poverty not disadvantage.

Currently, equity funding is allocated to universities on the basis of proximity to “disadvantaged” postcodes. The ABS has an alternative “poverty” indicator based on the bottom 25% of resources. These two ABS methods give quite different results – there is less than 50% coherence. As a result, equity funding is substantially mis-allocated on the current arrangements. Allocating funding via the current method makes it impossible for universities that receive low equity funding on the basis of disadvantage to significantly raise their low SES participation, and makes minimum low SES targets impossible to enforce. Moreover, it makes it very difficult for students in low SES areas who qualify, to do a course of their choice at a university of their choice. This does not solve the low SES problem.

A more complete analysis of this issue is given in *Encouraging Social Inclusion in Higher Education* which can be accessed at <http://www.uts.edu.au/about/executive/projects/index.html>.

UTS recommends incorporating equity funding into a more widespread poverty relief strategy which targets individual students and is linked to other social inclusion programs, possibly through Centrelink and other bodies.

THE QUALITY OF TEACHING AND LEARNING IN AUSTRALIA: AN ANALYSIS

The student experience of higher education

Shirley Alexander
Deputy Vice-Chancellor (Teaching, Learning and Equity)
University of Technology, Sydney

Chris Bajada
Faculty of Business
University of Technology, Sydney

This paper explores the quality of the student experience in Australia. It begins with an examination of trends in national data on the student experience of higher education, and then reviews the findings in light of comparable international data, thus providing an international dimension to the question.

The Bradley Review's discussion paper notes (p.35) the existence of evidence to support the view that "Australian higher education is well regarded, and that it provides good outcomes for graduates". It also notes the high levels of student satisfaction suggested by student surveys. Neither of these are correct when assessed against international benchmarks.

A. The student experience of Higher Education in Australia

Much of the evidence relating to student satisfaction in Australia is derived from data from the Course Experience Questionnaire (CEQ), the development of which was underpinned by research on student learning (Ramsden, 1991 and others), within the classroom settings that existed at that time. This research demonstrated associations between inputs to learning: student characteristics such as previous learning experiences; course context such as assessment and curriculum design; and students' perceptions of the learning context. The latter in turn has been demonstrated to influence students' approaches to learning (intention to reproduce information versus intention to transform and understand), which in turn has a strong influence on the quantity and quality of learning outcomes.

Thus the CEQ has been designed to measure students' perceptions of the learning context, perceptions that have been demonstrated to be associated with the quality of learning outcomes. For example, where students perceive their assessment tasks to require only a good memory for facts, the research has demonstrated the strong likelihood of those students adopting a surface approach to learning (eg rote learning for examinations). Hence, in responding to the CEQ, students are reporting on their **perception of their experiences of teaching**, experiences which are "*a complex interaction between their previous experiences of teaching and learning, their present life experiences, and the way we design and teach our courses*" (Prosser, 2005).

The fact that student satisfaction, as measured by the CEQ, is reported to have been rising in Australia may be the result of a range of factors which contribute to those perceptions, and these are discussed below.

1. Increased use of Information and Communication Technologies over the past 10 years have increased student satisfaction and facilitated increased access to education,

increased quality of learning, and increased learning productivity (Alexander & McKenzie, 1998). For example, at UTS, students recently rated their experience of the use of UTSONline as number 1 (out of 89 satisfaction items). Note that most of these technologies were developed in the previous 10 years.

2. Increased attention to good teaching because of the emergence of interest in teaching quality by Governments. For example, in the early 1990s the development of “Quality Portfolios” included sections on the quality of teaching and more recently the AUQA visits have seen a similar focus. This interest contributed to the emergence of specialist “Academic Development Units” whose role is to promote improved quality of learning and teaching.
3. A succession of Australian Government committees related to improvements in teaching and learning: CAUT (1993 – 1996); CUTSD (1997- 1999); AUTC (2000 – 2004); and now Carrick/ALTC oversaw programs and distributed grants to promote good teaching and learning.
4. The initiatives described above have led to an increase level of activity in research on teaching, resulting in a higher degree of scholarship of teaching.
5. Australian academics appear to be working longer hours than counterparts in other parts of the world. The increased student to staff ratio in Australia, as noted in Figure 15 (p.36) of the review, illustrated the increased teaching load of staff. Despite this, staff are providing the same or better levels of student experience, but at a significant personal cost.

As noted earlier in this report, the CEQ was developed in the late 1980s and was based on work done a decade earlier. In recognition of the limitations of the original CEQ which had six scales (with the original ‘Emphasis on Student Independence’ scale replaced by ‘Generic Skills’), Griffin, Coates et al, (2003) added a further five scales to reflect the contextual influences on students that occur outside of the classroom settings.

Figure 1. below illustrates the CEQ scores (expressed as % agreement) for the original six scales (1993 – 2007) as well as the additional five introduced (2002 – 2007). Collection of data for the scales displayed in red is compulsory for all Universities, and these data are used in the calculation of the Learning and Teaching Performance Fund data.

Given the Review’s assertion that “Australian higher education is well regarded, and that it provides good outcomes for graduates” it is important to note from the figure below that:

- the percentage agreement on the Good Teaching Scale has been, prior to 2006, below 50%. In 2006 and 2007 this percentage agreement increased marginally to 50% and 52% respectively;
- the scales for “appropriate workload”, “clear goals and standards”, and “learning community” are at or below 50%;
- the scale for appropriate assessment” is marginally over 50% agreement and has been (marginally) declining;
- the “intellectual motivation” scale has also experienced a marginal decline in percentage agreement.

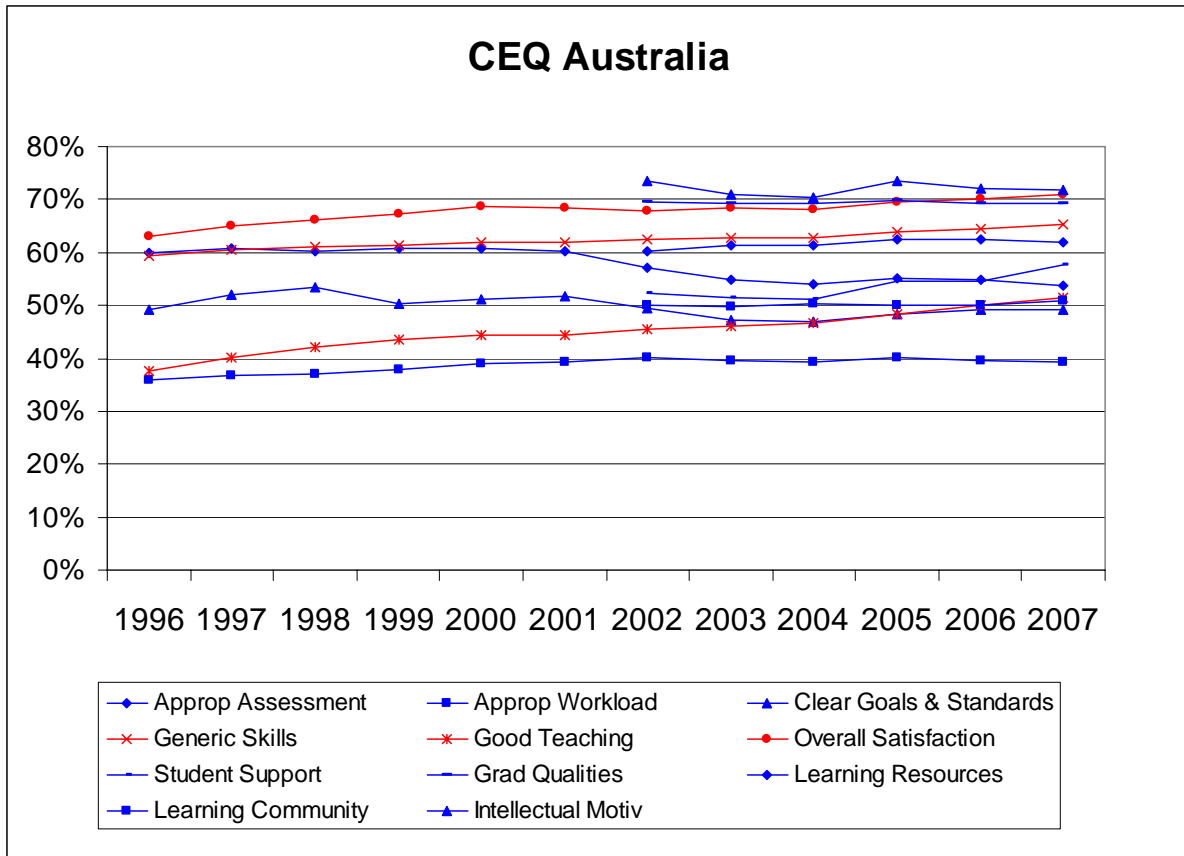


Figure 1: CEQ Scores for Australia (1996-2007)

CEQ scales used in the LTPF calculations

In its current form the CEQ is made of 11 scales comprising 49 individual items. Of these, three of the scales, Overall Satisfaction (OSI); Good Teaching (GTS); and Generic Skills (GSS) have been compulsory since 2002, and are used as part of the determination of the Learning and Teaching Performance Fund (LTPF) scores for each university. As indicated in the diagram above, all three of these scales are included in the five scales which have shown an upward growth over the past several years, leading to questions about the degree to which the existence of the LTPF has influenced the focus of attention in universities – are universities now “teaching to the test”?

Figure 2. below shows the data for the CEQ scales used in the LTPF only, and a linear trend line has been added to demonstrate the growth in those scales over time.

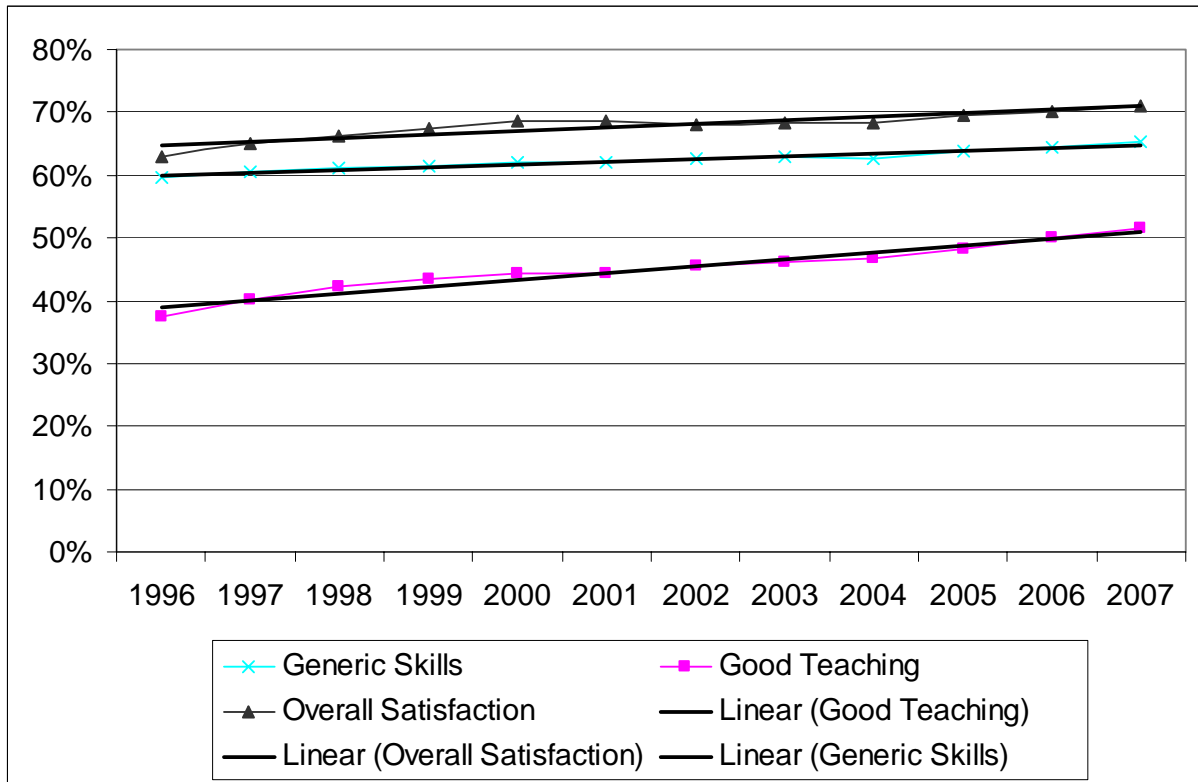


Figure 2: CEQ scores for LTPF items (1996-2007)

In summary, there has been a marginal increase in some of the CEQ scales over the past ten years. Of the five scales which have increased, three are used in calculation of the data for the Learning and Teaching Performance Fund. There are a number of contextual factors which may have influenced these results, including the increased use of Information and Communication Technologies.

B. The student experience of Higher Education internationally

In seeking to monitor the quality of the student experience in Australia in comparison to that of students in other countries, comparable longitudinal data was sought. In the absence of publicly available ‘direct measures’ of student learning, proxy indicators have been used in the analysis below.

Table 1 below provides a comparison of measures of student satisfaction/ engagement between Australia, the UK and the USA. As can be noted below, Australia has consistent data spanning almost 15 years, while other countries have only recently begun to use such instruments over the previous five years.

Table 1. Similarities and differences in measures of student satisfaction/ engagement

	Australia (CEQ)	UK (NSS)	USA (NSSE)
Instrument in use since	1993	2005	2000
Based on	CEQ	CEQ	
Survey administered	Mailed to all students after graduation. From 2008, survey is done through Graduate Careers Australia (GCA).	Distributed to all students during final year of study via i) email sent with a link to online survey ii) paper questionnaire to non-respondents to previous message iii) telephone follow-up with non-respondents	Distributed annually to a random sample of first and senior level students undertaking both under- and post-graduate degrees. Institutions determine whether survey is administered online or paper-based.
Response Rates (RR)			
2005	N=85,944 RR 44.8% (institution range 5.5 – 72.4%). - paper	N= 171,319 RR 60.3% (institution range 20.3 – 84.2%). - Email 31.2% - Paper 23.4% - telephone 45.5%	N=245,000 ^{&} RR 39% - 14% paper - 86% online
2006	N=91,327 RR 46.0% (institution range 13.7 – 80.4%).	N=157,371 RR 56.5% - Email 44.2% - Paper 21.3% - telephone 34.5%	N=331,601 RR 39% - 5% paper - 95% online
2007	N=96,773 RR 48.6% (institution range 6.2 – 76.4%).	N=Not available RR 64.8%	N=323,147 RR 36% - 4% paper - 96% online
Participation of HE institutions	Compulsory	Compulsory	Voluntary
Focus	Students' perceptions of aspects of their learning experience	Students' perceptions of aspects of their learning experience	Students' engagement with their studies
Theoretical/empirical base	Student learning in higher education (Ramsden & Entwistle, 1981; Ramsden, 1991)	Student learning in higher education (Ramsden & Entwistle, 1981; Ramsden, 1991)	Seven Principles for Good Practice in Undergraduate Education (Chickering & Gamson, 1987), Pace's (1984) concept of quality of student effort, Astin's (1984) theory of student involvement (Kuh et al., 2001)
Aim	Performance indicator of teaching quality	1. help inform choices of prospective students 2. Contribute to public accountability 3. provide useful data to institutions for enhancement activities	1. enhance undergraduate education 2. provide data on effective educational practices 3. provide information about the quality of undergraduate education at national and sector levels.

	Australia (CEQ)	UK (NSS)	USA (NSSE)
Scales	Good Teaching*	Quality of teaching	
	Generic Skills*		
	Clear Goals and Standards		
	Appropriate Assessment	Assessment and feedback	
	Student Support	Academic Support	
	Learning Resources	Learning Resources	
	Learning Community	Learning community +	Supportive Campus Environment
	Graduate Qualities		
	Intellectual Motivation	Intellectual Motivation +	Level of Academic Challenge
	Overall Satisfaction*	Overall Satisfaction	
		Personal development	
			Active and Collaborative learning
			Student-Faculty interaction
			Enriching Educational Experiences

* Scales used to determine LTPF

+ from 2006

^ Not yet available

& <http://www.web.virginia.edu/IAAS/reports/subject/nsse/methodology.htm>

Australia and the UK

As noted above, the UK adopted the CEQ in 2005 as an established instrument. Notwithstanding the differences in its administration as highlighted in the table above, a number of questions have a sufficient degree of similarity of focus to enable some comparison between results. Both countries use a five point Likert scale, and % agreement includes only positive responses and does not include middle/ neutral responses.

Overall satisfaction

For both countries, the scale of Overall Satisfaction (OSI), consists of a single question. Australian students are invited to respond to “*Overall I was satisfied with the quality of this course*” whilst students from the UK respond to “*Overall, I am satisfied with the quality of the course*”.

The graph below plots the known data for 2005 – 2008 for both countries, and a predicted value for Australia in 2008 is based on average annual growth of 2002-03 through to 2006-07. The graph demonstrates not only the fact that overall satisfaction for the UK is consistently higher than for Australia, but also that measures of overall satisfaction are rising in both countries. However, equally importantly, the graph also demonstrates the fact that **the gap in overall satisfaction between the two countries is widening** (*the growth affect*).

Percentage Agreement (Overall Satisfaction, 2005-2008)

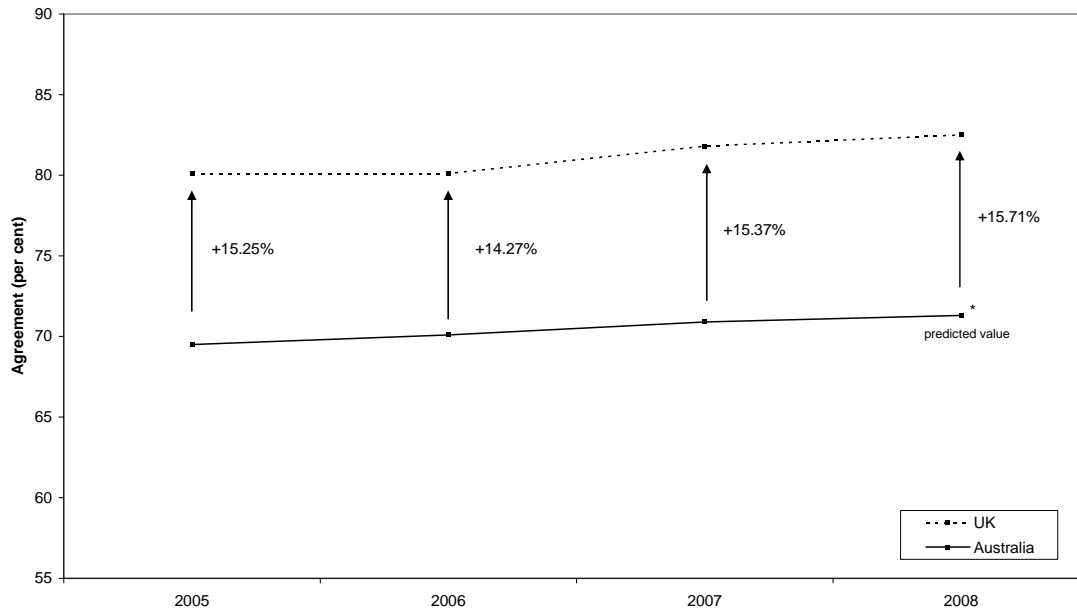


Figure 3: Overall Satisfaction for UK and Australia (2005-2008)

Other scales

Of the six individual items making up the Good Teaching Scale in Australia, there are four items which are comparable with items in the NSS. For the Generic Skills Scale, of a possible six items, there are two that may be compared and these are detailed below.

Australia	UK
Good Teaching Scale	
The staff put a lot of time into commenting on my work	I have received detailed comments on my work
The teaching staff normally gave me helpful feedback on how I was going	Feedback on my work has helped me clarify things when I did not understand
My lecturers were extremely good at explaining things	Staff are good at explaining things
The teaching staff worked hard to make their subjects interesting	Staff have made the subject interesting
Generic Skills	
The course improved my skills in written communications.	My communication skills have improved
As a result of my course, I feel confident about tackling unfamiliar problems.	As a result of my course, I feel confident in tackling unfamiliar problems

The graphs of these responses are reproduced below.

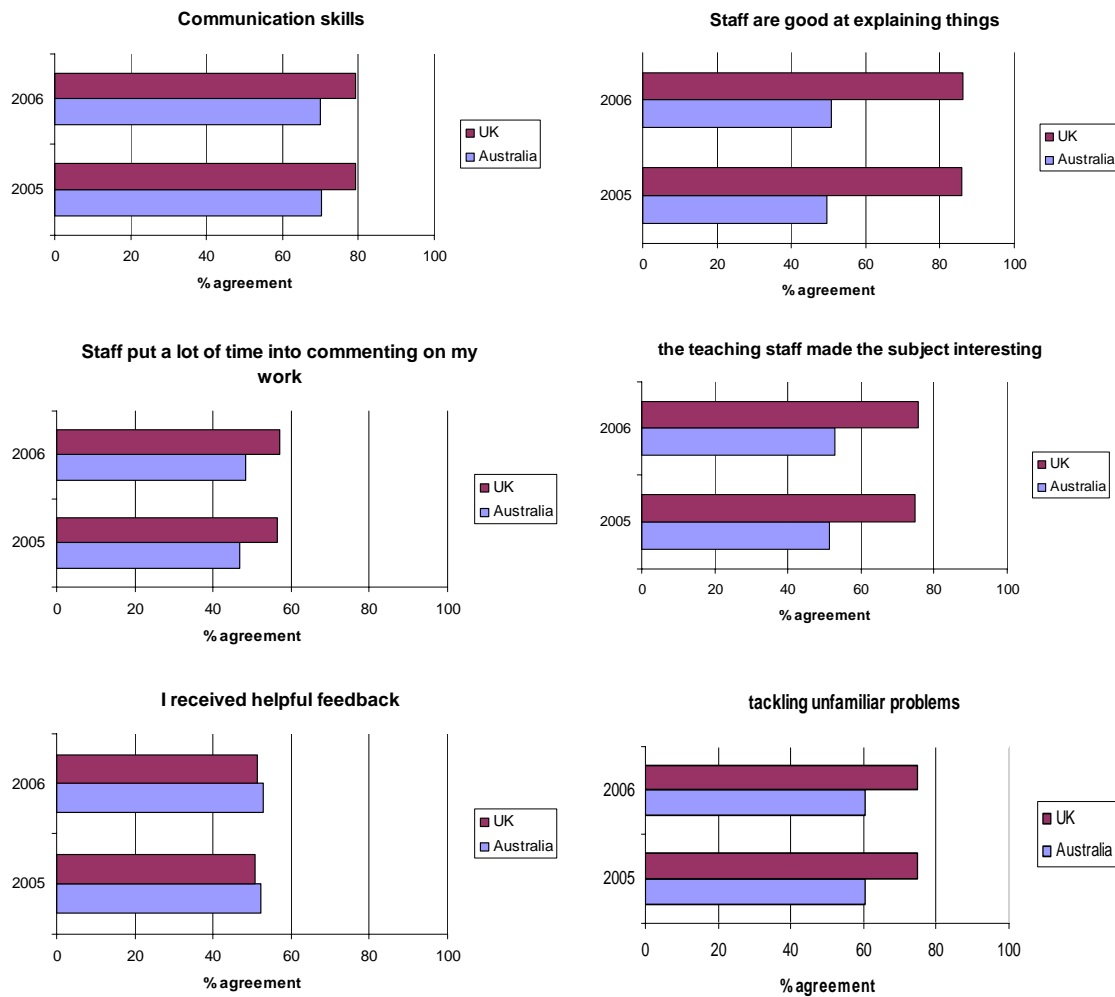


Figure 4. CEQ results for Australia and the UK for comparable individual items

As can be seen above, the "percentage agreement" scores for Australia are substantially lower than those for the UK (*the levels effect*) for all but one of the above items. The greatest difference is for the question relating to the degree to which staff are perceived to be "good at explaining things" where the UK's score is 35 percentage points higher than that for Australia.

Thus, although Australia's CEQ scores are noted to be trending upwards (only slightly), those scores are far below the level of satisfaction in the UK for similar items. On the current annual growth pattern, it will take many years to reach the UK levels.

Funding differences

It should be noted that there are significant differences in Government funding for teaching and learning initiatives between the UK and Australia, as illustrated by the following table which contains examples of government funding sources for teaching and learning innovations, recognition and further development of excellence in practice.

	2004-5	2005-6	2006-7
Australia			
Carrick-revenue (from annual reports)	\$3,799,260	\$26,903,776	\$14,944,003
UK			
Higher Education Academy		£24,710,000	£27,118,000
Fund for the Development of Teaching and Learning phase 5		£2,300,000	£2,300,000
Centres for Excellence in Teaching and Learning (74) - 5 year recurrent funding		£34,450,000	£34,450,000
Centres for Excellence in Teaching and Learning - capital funding over 2 yrs		£59,537,500	£59,537,500
JISC (ICT HE and FE) learning and teaching and e-learning initiatives only			£13,780,000

The ratio of higher education students in the UK to Australia is approximately 3:1, but the level of funding taken from the above examples is more of the order of 17:1 if the JISC funding is excluded (as it also includes Further Education).

In addition to the figures quoted above, there are a number of other recent, significant government funding initiatives in the UK targeted at teaching and learning such as:

- 'widening participation project'³ which had £284 million funding in 2005-06 and £332 million in 06-07;
- distribution of £6,706 million by the Higher Education Funding Council (HEFCE)⁴ for the academic year 2006-07 including £4,228 million for teaching.

In summary, Australian students' perceptions of their learning context is significantly below that of their UK counterparts. For the overall satisfaction scale the gap appears to be widening, while for other scales it is predicted that it would take 10 years or more to bridge. One possible explanation is that there is significantly less funding available in Australia for innovations in teaching and learning.

³ <http://www.hefce.ac.uk/widen/fund/>

⁴ <http://www.hefce.ac.uk/news/hefce/2006/grant/>

United States / Canada

Whilst the data from the CEQ used in Australia and the UK focuses on student perceptions of teaching, the USA and Canada have taken a different approach, using an instrument that focuses on student engagement with their learning. Underpinning the development of this instrument was a set of seven principles of good practice in undergraduate education (Chickering & Gamson, 1987). The basic premise is that “the time and energy students devote to educationally purposeful activities is the single best predictor of their learning and personal development” (Kuh, 2003).

The National Survey of Student Engagement (NSSE) has been administered on a voluntary basis in the US and Canada since 2000. An Australianised version of the NSSE, the Australasian Survey of Student Engagement (AUSSE) was introduced in 2007, enabling comparison between Australia and the US and Canada for that year only

A summary of results for the five scales appears below.

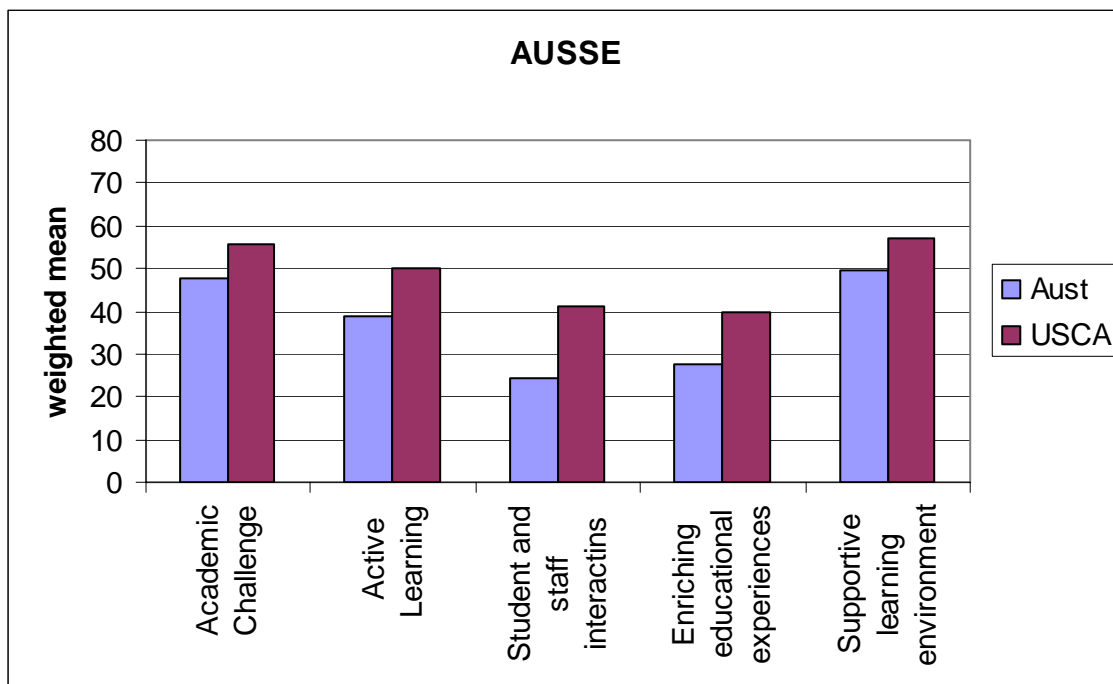


Figure 5. AUSSE result for Australia and US & Canada (2007)

Once again, the results for Australian universities fall significantly short of those for the US and Canada with two of the indicators at the medium effect size level, and three at the large. The most significant difference is for the scale labeled “student and staff interaction” where, for Australian students, the weighted mean is 21.3, while for the US and Canada is 37.1. The effect size is reported (ACER, 2008) as 0.8 which is considered a large difference.

Other proxy indicators

A comprehensive review of Australian and international instruments and measures of learning and teaching and student engagement was carried out by the Carrick Institute, and reported by Chalmers (2007). This review identified a range of approaches across countries, the majority of which are relatively recent. This report acknowledges Australia as a leader in the sector-wide use of an instrument (p.42).

In the absence of direct measures of student learning, some proxy indicators were reviewed as follows.

Tertiary Entry Rates

The following graphs show the proportion of people who enter into tertiary-type A education for the first time. Entry rates measure the inflow to education at a particular time rather than the stock of students who are already enrolled.

The OECD has expressed entry rates as “net entry rates, which represent the proportion of people of a synthetic age-cohort who enter the tertiary level of education, irrespective of changes in the population sizes and of differences between OECD countries in the typical starting age of tertiary education. The net entry rate of a specific age is obtained by dividing the number of first-time entrants to each type of tertiary education of that age by the total population in the corresponding age group (multiplied by 100). The sum of net entry rates is calculated by adding the net entry rates for each single year of age” (OECD, 2005).

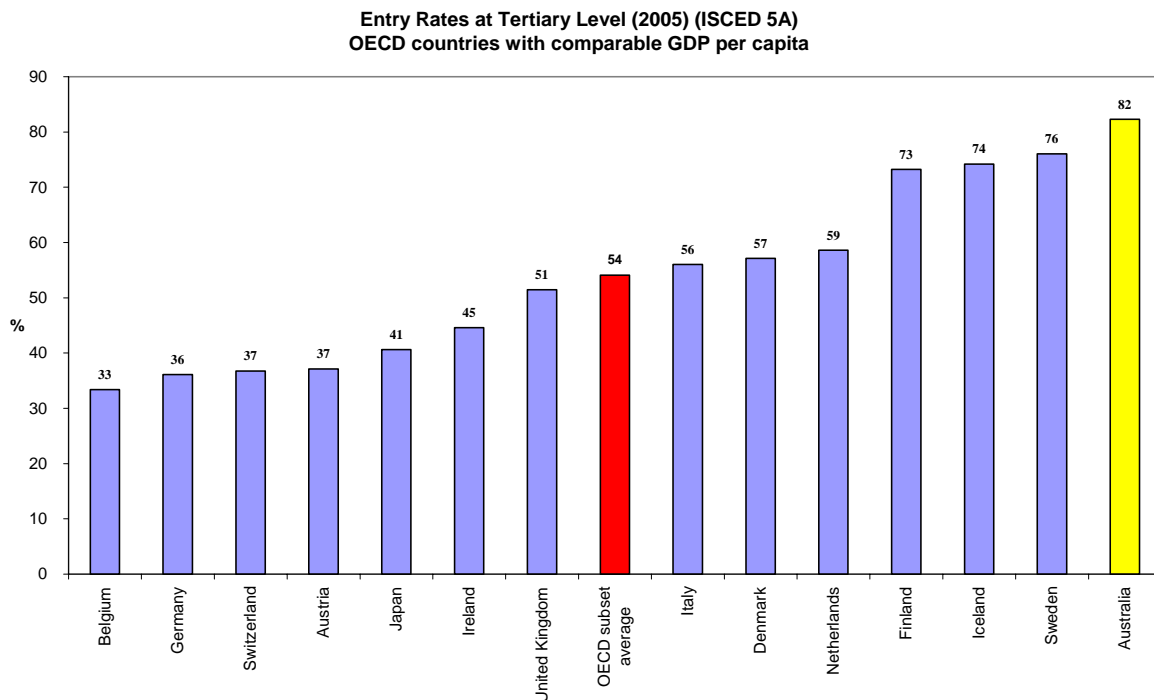


Figure 6: Tertiary Entry rates for comparable OECD countries (2005)

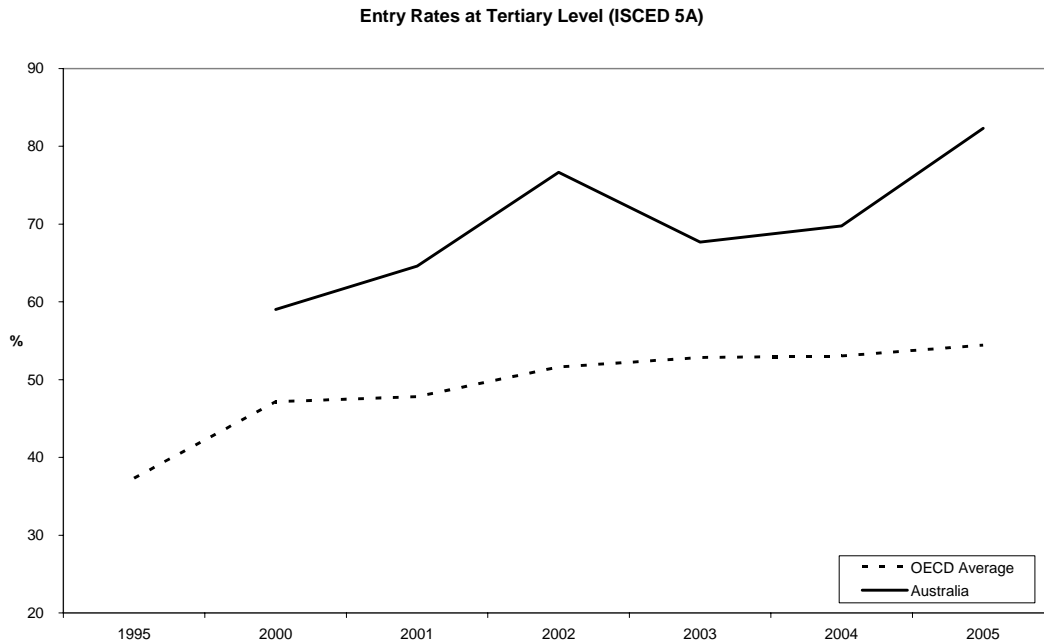


Figure 7: Time Series Analysis for Entry Rates for OECD average and Australia (1996-2005)

Whilst Australia has the highest entry rate, its survival rate falls below the OECD average as illustrated below.

2. Survival Rate in Tertiary Education

The OECD has defined survival rate at the tertiary level as “the proportion of new entrants to the specified level of education who successfully complete a first qualification. It is calculated as the ratio of the number of students who are awarded an initial degree to the number of new entrants to the level n years before, n being the number of years of full-time study required to complete the degree” (OECD, 2005).

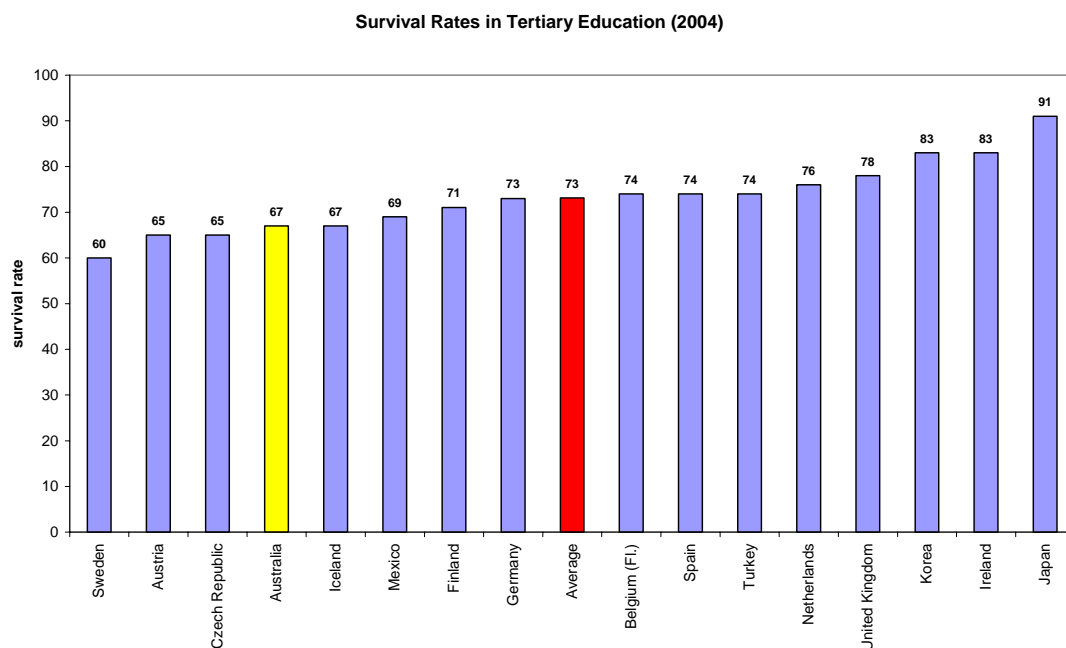


Figure 8: Survival Rates in tertiary Education, 2004

Conclusions

There has been a marginal increase in Australian students' perceptions of their learning context, as evidenced by data from the CEQ. Despite that increase, satisfaction levels for items such as the Good teaching Scale are around 50% agreement.

The levels of satisfaction of Australian students, whether measured through their perceptions of learning context or their engagement with learning, are significantly below the levels of both their UK or US and Canadian counterparts on the majority of indicators. For one scale, Overall Satisfaction, the gap between Australia and the UK appears to be widening. Thus, despite the apparent increase in satisfaction, the increase is not as great as it is for the UK.

References

ACER, (2008). Item Statistics Report.

Chalmers, D. (2007). A review of Australian and international quality systems and indicators of learning and teaching. V 1.2. (Retrieved 14th July 2008 from http://www.altc.edu.au/carrick/webdav/users/siteadmin/public/t&lindicatorsreport_1.2_aug07.pdf)

Chickering, A.W., & Gamson, Z.F. (1987). Seven principles for good practice in undergraduate education. *AAHE Bulletin*, 39(7), 3-7.

Griffin, P., Coates, H., McInnis, C. James, R. (2003). The Development of an Extended Course Experience Questionnaire. *Quality in Higher Education*, 9(3), 259-266.

Kuh, G. (2003). The National Survey of Student Engagement: Conceptual Framework and Overview of Psychometric Properties. (Retrieved 14th July from http://nsse.iub.edu/pdf/conceptual_framework_2003.pdf)

OECD (2005), *Education at a Glance: OECD Indicators 2005*: file: <http://www.oecd.org/dataoecd/36/7/35325710.pdf>

Prosser, M. (2005) *Why we shouldn't use student surveys of teaching as satisfaction ratings*. The Higher Education Academy. (Retrieved 14th July 2008 from http://www.heacademy.ac.uk/assets/York/documents/ourwork/research/Interpretingstudentsurveys_Nov_2005.doc)

Ramsden, P. (1991) A performance indicator of teaching quality in higher education: The Course Experience Questionnaire. *Studies in Higher Education*, 16 (2), 129-150.

Ramsden, P. & Entwistle, N.J. (1981) Effects of academic departments on students' approaches to studying, *British Journal of Educational Psychology*, 51, 368-383.