Envisioning the future global positioning of Australia in education, training and research

Written by Mr Michael Gallagher for AEI supported International Education Research-Policy Symposium, 8 April 2011

Introduction
This is an exploratory piece (see Slide 2 which attempts to depict the range of education policy interactions at a national level and within a globalising world). It is designed to foster discussion about new possibilities. It seeks to draw out the major implications for strategy and policy of the changes underway and currently expected in the global operating environment, particularly for higher education and university research. It recognises the volatility and unpredictability of change in the world. Hence, it is not intended as a set of strategic directions or policy recommendations.

Definitions and purposes
The topic identified for this paper is problematic in its own formulation. What does it mean for Australia to be globally positioned, as distinct from some of its institutions? How can education, training and research function as a means (as distinct from an effect) of positioning Australia in the world? To what extent are there distinctive Australian characteristics of education, training and research?

The notion of ‘global positioning’ in relation to education, training and research is taken to mean three things: purpose, place and mode – or why, where and how.

First, it is about a clear view of advantage to Australian institutions, whether acting independently or in alliance with others. Why does Australia seek global positioning through education? Is it to exercise ‘soft power’ to underpin cooperation in the Asia-Pacific region or elsewhere? Is it to attract talent to Australia from other parts of the world? Is it to access world knowledge, facilities and know-how? Is it to attract foreign direct investment? Is it to form networks in other countries as a platform for Australia’s trade or investment abroad? Is it to grow and diversify Australia’s exports? Is it to help fund Australia’s education institutions? Is it to do all of the above, and if so is that clear enough by way of purpose to guide strategy?

Second, it is about where in the world Australia’s institutions can best give and get value – whether operating from Australia or in other nations or through partner and virtual networks. It is also about place in markets. Different Australian institutions will be able to take varying positions: some may play among the world’s leaders in their field and command premium prices; some may find more common ground; others may develop niche areas; and some may be absorbed or disappear.

Third, it is about how Australian institutions can be contributive and competitive. Some institutions may offer comprehensive or, at least, integrated service packages. Others may offer components of packages put together with or by others, including collaborators, competitors and customers.

In this paper the terms ‘global’ and ‘international’ are distinguished. International refers to nation-to-nation interactions. It involves national (and sub-national) government authorisations of the
institutions and practices of other nations. In contrast, global interactions cross any number of nations. They may involve supply from a number of entities in different nations, and they may serve customers in multiple parts of the world. They may not be authorised by all the nations where the customers reside. They may involve entities whose participation in a global alliance is not authorised by the home country of a contributing partner.

Australia’s education, training and research institutions may serve concurrently at local, national, international and global levels. Australia’s gain is the sum of the positive outcomes of its institutions.

1. Australia’s international engagement through education, training and research

The two dimensions of Australia’s positioning

In the twentieth century, Australia’s engagement internationally through education and training had two dimensions: a ‘cultural-strategic cooperation’ dimension (with colonialist vestiges) and, after 1986, a ‘commercial services–export’ dimension (see Slide 3). The latter has come to dominate and, to some extent, absorb, the former. Fee-paying international students, for instance, returning home as graduates with Australian qualifications and skills for building the capacity of their home countries, with some taking up positions of influence in the business and public sectors of their countries, may be emissaries of positive attitudes towards Australia.

However, it is not evident that Australians are widening their outlooks through the growth in international education. For Australians it is mostly one-way traffic, and there are few if any pressures to be culturally accommodating, and learn the histories, cultures and languages of other peoples. Australia’s growth in international education has not demonstrably made Australian graduates more ready to function as global citizens.

Arguably, the benefits of internationalisation, in terms of building Australian capacity, are more evident in the research community, especially in university and other centres dedicated to the study of particular countries or regions, and in the diplomatic and trade communities, including trading enterprises and consulting firms. Box 1 indicates the value of embedded services in Australia’s trade.

Box 1. The importance of embodied services in trade

This report addresses two aspects of Australia's trade in services. First, different ways Australian firms sell services to foreign nationals, with an emphasis on the export role of intermediate services inputs (‘embodied services’). Second, the report examines different means of delivering services and areas for increased services trade and investment activity.

Much is known about Australia’s recorded services exports: their value, key categories and key markets. Something is also known of the nature and value of services sold by foreign affiliates of Australian firms, though this is based on old data (a 2002-03 ABS survey). This area warrants further measuring to lift Australia to world’s best practice. Less is known about another category of services exports: embodied services.

These intermediate services are used in the production of goods and services. For example, manufacturing steel requires services such as electricity, transport, and typically business services such as accountants. These inputs are said to be embodied in the final output or product that is exported.

This study finds services industries are 1.7 times as important to the Australian economy in terms of export performance as the level of cross-border services exports would suggest.
ITS Global estimates the value of services that are embodied in Australia's merchandise exports as about $35 billion, growing to around $50 billion by 2014-15. Together with reported cross-border exports of services, this means total services exports were around $89 billion in 2008-09 prices and may rise to around $120 billion by 2014-15.

Embodied services are primarily found to be in categories such as Property and business services, Transport and storage, Wholesale trade and Services to mining (These categories together account for over 10 per cent of total embodied services exports). Key 'carrier' exports (i.e. exports that contain embodied services) are in mineral categories. Given the growth of and positive 'spillovers' associated with this sector, further services activity can be expected here.

The case studies illustrate the surprising extent to which Australian firms deliver services overseas through subsidiaries. Acquisition is their key to increased services sales. Indeed, Australia's foreign affiliate sales are estimated as already worth over $100 billion annually, rising to around $135 billion by 2014-15.

There is also a notable demand for services sourced from Australian head offices and either exported to subsidiary and joint venture foreign affiliates throughout Asia and other regions, or sourced through overseas offices of these Australian based service providers.

[Source: International Trade Strategies Pty Ltd, trading as ITS Global. November 2010]

The Australian paradigm of trade in education services since 1986

Australia is one of the world’s five leading (English language based) exporters of education services. In 2009-10, education services ranked third (after coal, and iron ore and concentrates) among Australia’s exports (ABS 5302.0. September 2010.) Slide 4 shows Australia increasing its share of the mobile student market.

The OECD estimates that there were 3.3 million international higher education students in 2008 (OECD, 2010). In 2008, there were 294,163 international students studying in Australian higher education institutions, representing some 7% of the world market. Of these, 93,596 or 32% studied offshore. This figure includes 22,941 students studying by distance mode in another country. The majority of offshore international students in 2008 were aged between 19 and 22. Onshore international students tended to be slightly older, with the majority aged between 20 and 23.

The top five nationalities for offshore higher education provision were Singapore, Malaysia, China, Hong Kong and Vietnam. This is quite different to the top five nationalities (China, India, Malaysia, Hong Kong and Indonesia) represented in enrolments onshore in Australia. Students studying offshore were more diverse in their type of attendance (64% studying full-time, 36% studying part-time). In comparison, as a condition of student visa status, the majority of onshore students studied full-time (90%) (AEI, 2010).

In 2009, there were 185 institutions in Australia approved by the Australian Government to deliver higher education courses. There were 44 self-accrediting institutions, including 37 public universities, 2 private universities (Bond and Notre Dame), 2 foreign universities (Carnegie Mellon and Herriot-Watt), and 1 private self-accrediting institution (Melbourne College of Divinity). There were 141 non self-accrediting institutions, including 4 private arms of public universities, 18 governmental instrumentalities (e.g. TAFE institutions or State TAFE systems), 14 institutions of professional associations, 34 faith-based institutions, and 71 private entities (Heaney et al, 2010).

The non self-accrediting institutions have some significance in the Australian system of higher education supply: 79 (56%) are approved to offer FEE-HELP loans to their enrolled students; 83 (59%) are registered training organisations (RTOs) delivering vocational education and training programs as
well as higher education courses; 81 (57%) offer postgraduate awards, 16 (11%) offer research degrees, and 94 (67%) are approved to provide courses for international students (Heaney et al, 2010).

Overall, the private higher education sector accounts for around 10% of international student enrolments. In the ELCOS sector, private providers enrol around 75% of international students.

The paradigm of international education in Australian universities has been described in the following terms:

“the recruitment to home campuses of international students via differentiated regional and country strategies, conventional marketing techniques and commission agents” (Walters & Adams, 2009).

This paradigm, based on the World Trade Organisation’s (WTO) ‘Mode 2, consumption abroad’ has underpinned a successful services export industry. It has also established a platform for a broader development, including “internationalisation of the curriculum, offshore programs, staff and student mobility, and the formation of cooperative links between institutions” (Walters & Adams, 2009). That is, Mode 2 has enabled the development of ‘Mode 3, commercial presence’ of Australian providers offshore, as well as growth in ‘Mode 4, cross border supply’ through on-line and distance education (See Box 2). The balance of Australia’s reliance on Mode 2 may well change in the future as Mode 3 and Mode 4 forms expand. Importantly, Australia itself is likely to become a more attractive site for the Mode 3 and Mode 4 activities of foreign providers serving both Australian and non-Australian clients.

Australia, as a Member of the WTO, whose mission is to liberalise trade in Free Trade Agreements (FTAs), has made formal commitments relating to education:

“With regard to education, our commitments relate only to private tertiary and secondary schooling and English language teaching services. We have made no commitments in primary education. We do not have any national treatment obligations for services supplied through commercial presence (i.e., foreign private universities and language schools establishing in Australia). This means that the Government is not restricted in its ability to treat Australian and foreign private education service providers differently (e.g. in relation to access to subsidies)” (DFAT, 2003).

The exclusion of national treatment obligations for commercial presence means that domestic private providers, as well as other foreign private providers, cannot, for instance, claim right of access to the support given by the South Australian Government to Carnegie Mellon in the form of funding for capital works and student places. This arrangement permits a degree of inter-state competition in terms of government support for private education providers.

Australia’s bilateral trade agreements have the potential to widen arrangements for trade in education services. Currently Australia has FTAs with ASEAN, NZ, Thailand, USA, and Chile. Of particular importance are those under negotiation with China, Gulf States, Japan, Korea, Malaysia, and the Trans-Pacific, along with those under consideration with India, Indonesia, and a Pacific Agreement on Closer Economic Relations.

Box 2. Forms of Australia’s participation in international education

Twinning programmes which characterized Australian universities early involvement in offshore education. Students may study for a period of time offshore and then at the onshore campus of an
Australian university, or exclusively offshore, also known as a 3+0 programme (i.e. 3 years offshore, no time spent at an on-campus Australian university). The trend is now for students to complete their entire Australian degree offshore. Students generally have the same material, lectures and examinations as those on the onshore campus. Academic staff in these programmes are usually hired locally but selected by the Australian university according to established selection criteria. Australian staff may also teach for periods of time in the offshore programme and for a specified portion of the programme.

- **Franchised programmes**: A local offshore institution delivers an Australian university programme with quality assurance and control by the Australian university. The Australian university is not directly involved in having its staff teach the programme.
- **Moderated programmes**: A local offshore institution teaches its own programmes with quality assurance from an Australian university which then offers advanced standing in an Australian university to graduates of the local programme.
- **Offshore campuses**: An Australian university establishes a campus of the institution offshore where local and Australian staff members are hired to deliver programmes and onshore staff also may teach for periods of time. For example, Monash University has established offshore campuses in Malaysia and South Africa, RMIT has a campus in Vietnam.
- **Online programmes**: Programmes are delivered through the Internet, with support from Australian onshore staff.

[Source: Pyris & Chapman, 2005]

**Challenges to the sustainability of the 1986 paradigm**

Australia’s universities, with a few exceptions, have become dependent on international student fee income to sustain their operations. (See Slide 5, indicating that international student fee income has risen to more than 15% of total university income). This is partly a consequence of institutional decisions and a result of government incentives, viz. an inadequate and falling funding rate per domestic student, and immigration policy drivers encouraging overseas students to study in Australia.

With demographically-driven domestic student demand rising and the Australian Government committed to funding further growth in higher education participation, from 2012 on the basis of student demand, an absolute increase in higher education expenditure can be expected. However, there is unlikely to be much if any improvement in the funding rate per student, as the scale of enrolment growth will stretch fiscal capacity and the flexibility for universities to vary tuition prices may remain limited. For quality not to deteriorate, fee income from international students will continue to be a necessary supplement to domestic student and government funding.

Australia’s pattern of international education by field of study (see Slide 6) is more heavily skewed to the Humanities and Social Sciences (notably Accounting and Commerce) than in other countries offering educational services to overseas students. This is not a sustainable pattern of international engagement. For international students it creates crowding in the dominant fields (e.g. commerce) and reduces the ‘Australian experience’. For Australia, it fails to access talent in fields of low domestic graduate output (e.g. mathematics, engineering) and help support the continuity of scholarship in fields of low domestic student interest (e.g. classics).

The main pillars of support for growth over the past 25 years have been: an English-speaking environment; an attractive lifestyle; a welcoming Australia; the comparatively low cost of tuition and living package; the opportunity of paid employment while studying; the possibility of permanent residency in Australia; a reasonably good quality of education and internationally reputable qualifications.

In recent years, some of these pillars have collapsed and others have begun to wobble. The price advantage of Australia as a study destination has declined with the appreciation of the Australian
dollar alongside rising costs of accommodation and other living costs. Incidents of violence against
foreign students, and expressions of community unease with a rapid expansion of immigrants
alongside policy signals, from both sides of mainstream politics, that immigration flows are excessive,
have pulled away the welcoming mat. The nexus between education and migration, which became
almost automatic in the mid 2000s, has been severed. Pre-entry requirements for students wishing
to obtain study visas have been tightened. Meanwhile, other countries are becoming more
competitive (e.g. Canada, Germany, Singapore) and the in-country educational capacity of several
traditional student source countries is expanding (e.g. Malaysia), although in many cases (e.g. China,
India and Vietnam) not yet at a sufficient rate to absorb local demand.

The weaker arm: cultural-strategic relationships through education
With an inbound mobility rate of 19.52%, (the number of students from abroad as a proportion of
total students in a country) Australia ranks among the top countries, just below Honk Kong (20.74%)
and just above Switzerland (17.98%). However, with an outbound mobility rate of 0.93% (the
number of students from a given country studying abroad as a proportion of the country’s total
enrolments), Australia is at the bottom, just below the UK. However, these comparisons are derived
from UNESCO Statistics (2007) which do not include periods of study abroad shorter than one year.
Australian students spending shorter periods overseas for study represent almost 9% of total
enrolments. According to the available statistics, comparing short and long periods of study abroad,
Australia’s outbound mobility is not far behind that of the US. There is normally a better balance
between inbound and outbound students when countries are contiguous, except where there are
major cultural differences or hostilities. Interestingly, there are larger numbers of Australian
students enrolled in courses in Britain, North America and Europe than in the closer countries of Asia.
The imbalance in Australia’s international education participation is frequently noted by European
and Scandinavian observers as well as by Asian officials, and is perceived by some to represent a lack
of serious engagement on the part of Australia.

Even closer to home, the representation of Pacific Island students in Australian higher education
(and tertiary education more broadly) is minimal. Capacity building efforts in the Pacific countries
through educational investments appear to be patchy with little by way of enduring value. An
independent review of aid effectiveness was announced on 16 November 2010 by the Minister for
Foreign Affairs. The review, which will complete its work in April 2011, is examining the effectiveness
and efficiency of the Australian aid program, and will make recommendations to improve its
structure and delivery. Since 2007, implementation of the effectiveness agenda in the Australian aid
program has been influenced by five interrelated factors: the government’s commitment to
increasing the aid budget; Australia’s strong commitment to international development; the large
number of fragile states with which Australia has aid relationships (the fragility involving serious
environmental stress with several low-lying coastal populations facing dislocation, and social unrest,
including violence); the determination to identify new, more effective ways of doing business
(including the removal of funding tied to Australian consultancies); and the associated organisational
changes (Office of Development Effectiveness, 2010).

As discussed below, mounting global challenges create imperatives for more intensified
international cooperation. In this context, the cultural-strategic purposes of educational
internationalisation take on new and added meaning.

The absence of an international strategy for Australian research
In the mid 1980s the Australian Government articulated a policy of selectivity and concentration in
the funding of research within Australia, but since the mid 1990s has focussed on selectivity alone.
The Government’s Excellence for Research Australia (ERA) initiative may give rise to a renewed focus
on concentration, although current signs are that the probable approach will be at best weakly
concentrated. There are concurrent pulls for research funding to be spread across the full range of
Australia’s universities, perhaps irrespective of the quality of research performance. The policy of
selectivity is reflected in the dual system of domestic research funding, through competitive grants
for projects and personnel, on the one hand, and through formulaic block grants for research infrastructure on the other hand.

Additionally, there is some competitive funding available for international research scholarships and Australia’s participation in selective, collaborative international research infrastructure projects, such as in astronomy and marine science. However, the international policy approach is largely ad hoc rather than scientific or strategic. One consequence of this approach was Australia’s absence from the major world mapping of the human genome which commenced in 1989.

It may not be possible to develop an international strategy for Australian research. If one were to be developed, presumably it would identify key areas of research prioritisation, perhaps around global themes of particular interest to Australia, such as in energy, water, food and adaptation to climate change, and perhaps, around key places or networks of expertise and infrastructure, where Australia would seek to build particular relations. Such an approach would also seek to have in Australia certain centres that would attract international research activity, such as the Square Kilometre Array. Any such approach would necessarily involve long term commitments and opportunity cost trade-offs.

International research collaborations, especially in the university sector, are driven upwards by individual researchers and teams of researchers. Whereas cooperative research ventures, especially of a thematic as distinct from project nature, are rarely strategised by universities, more focussed research institutes may adopt corporate approaches. Even so, the main incentives for attracting and rewarding research in areas of national strategic priority are government and industry funding schemes. If Australia is to develop a more focussed international strategy for research it will need to be driven by the Government (see Box 3).

**Box 3. Australia-US scientific collaboration**

A Joint Commission Steering Committee Meeting (JCM) on Science and Technology was held in Washington DC on 14-15 February 2011. The aim of the JCM was to promote Australia as a technologically innovative country with research strengths in areas of particular interest to the US.

The JCM showcased Australian and US science and innovation systems, priorities and research strengths and explored thematic areas for future collaboration: shared health challenges in e-health and translational medicine; marine science; climate and earth observation; rare and critical minerals; agriculture, water and food security; enabling technologies; and research exchange.

The action plan arising from the meeting includes:

- developing shared facilities to study ocean acidification and coral bleaching forecasts from satellites;
- collaborating on developing rapid analysis and distribution of satellite imagery in response to floods and fires;
- collaborating on drought resistance in grains;
- facilitating the development and adoption of interoperable standards for telemedicine; and assessing and seeking to reduce barriers to cooperation in management of clinical research relating to translational medicine;
- engaging in future discussions to map locations of rare earths and critical minerals; and
- establishing researcher exchanges to maximise the value of research infrastructure supporting nanotechnology, biotechnology and sustainable green manufacturing

[Department of Innovation, Industry, Science and Research, March 2011]
Alternatively, Australia might consider a variant of the German Excellence Initiative, which concentrates investment in areas of research excellence, selected through internationally peer-review contests, without regard to government priorities, on the assumption that the best science is more likely to generate worthwhile results than fair to good science aimed at arbitrary targets. Such a view seems a long distance from the current mind-set of policy makers in Australia. Yet the Australian National University (ANU) was founded and resourced by the Australian Government in appreciation, post World War II, that Australia needed to understand and engage with its geo-political-economic region and take its place among the enlightened counties of the world. Subsequently, ASTEC provided high-level strategic direction for Australian research investment which stimulated bottom up researcher-driven initiatives. Australia will need to find a new mechanism for harnessing investment in talent and facilities in the more competitive global environment.

**Australia’s research capacity and performance relative to other nations**

There are mixed signals about Australia’s relative capacity and performance in research. If we look at the spurious world university rankings (see Slide 7) Australia appears to be punching a tad above its weight, with 7 in the top 200 on one measure and 2 or 3 in the top 100 on another measure. If we look at the results of the 2010 ERA assessments (see Slide 8) we find 9 universities with several fields rated 5 (well above world average) and 9 other universities each with one field rated 5. Of course there is a long tail with little to show by way of research quality, but perhaps we should take comfort in the findings of the top institutions.

However, those findings are no grounds for complacency. When we look at research citations impact analyses (see Slide 9), there is no field in which Australia outperforms the US, the UK, Canada or Germany. And when we look at growth in the ratio of researchers to the population, (see Slide 10) Australia’s trend is flat in contrast to China, Canada, Korea, Singapore and other countries which are steeply rising.

A reasonable reading from these various comparisons is that Australia is peaking or has peaked relative to the rising countries, and the rankings that show us in reasonably good light at present reflect some legacy factors built into the metrics used to construct the rankings. Of course, there are some rising stars in Australia, but they are being eclipsed by the waners and black holes.

Interestingly, whereas higher education has suffered significant funding reductions in the UK and the US, university research there has largely been protected and in some cases augmented (e.g. the Obama administration’s fiscal stimulus package has provided major investments in research infrastructure, and England has recently announced major investments in research facilities for astronomy and biosciences). As most of the comparable indicators in respect of research are lagged, it may well be too late when the hard evidence comes in for Australia to recover its place in the world. Meanwhile, no one is waiting for Australia to catch up.
2. Indications of the future world beyond 2015

Drawing upon a variety of sources, this part outlines several trends and possible future developments affecting the scale, shape and purpose of international engagement in education, training and research.

While it is important not to hype the future, it is just as important not to underestimate the profundity of the changes taking place. The implosion of the Soviet Union in 1989, the attack on New York’s Twin Towers in September 2001, and the 2008 collapse of Lehman Brothers which triggered a global financial crisis, have had enduring effects on a less secure world. Recent events in North Africa and the Middle East, and Japan, remind us of major unexpected events and discontinuities. Apple’s iPad, albeit a creative application of established technologies rather than a major breakthrough, has had rapid and extensive impacts on social and business processes, not least in education.

On present indications, the second decade of the twenty-first century is shaping up to be a watershed in world history, involving *inter alia*:

- a millennial transition in world economic and political power from West to East;
- a shift of population concentration from rural to urban and from North to South;
- decline and ageing of much of the developed world’s population alongside growth of young populations in developing countries;
- transformations in information access and communications on a global basis, including sophisticated global instrumentation and open data, and low-cost portable devices and social networks;
- serious environmental stresses affecting social and economic sustainability and necessitating new forms of social and economic adaptation;
- unprecedented urbanisation, increasing scarcity of basic resources and heightened risks of disease and conflict; and
- increasingly sophisticated understandings and research technologies for tackling complex problems.

Some of these shifts may well be multi-directional and uneven. The US will remain the major super power for some time but it will need to accommodate the rise of China. It is clearly not the case that all western countries are irreparably damaged and in decline, especially given that some (e.g. Britain, Germany and the US) are investing strategically in globally significant infrastructure to underpin their competitive advantages in knowledge and innovation, while cities and regions such as London, Palo Alto/Silicon Valley, Cambridge/Boston, Heidelberg, and others, continue to be global pace-setters. At the same time, it is not clear how governments and other ‘social actors’ (NGO’s, businesses, unions, churches, universities and other community organisations, along with anti-social and terrorist groups) will respond to, or seek to steer, various aspects of change. Several governments in the developed world (e.g. US, UK, European, Australian) are tightening regulatory regimes, restricting immigration, reigning in areas of public spending (albeit while protecting transfers to the ageing middle income classes) and spurning net additions to taxation. A reassertion of nationalism can be seen to arise from the global political and social confusion arising from the challenges and pressures of globalisation (Saul, 2005). Fear of change and unfamiliarity with some of the drivers appear to be fanning populist retreats to fortress, whether through resistance to liberal values, open trade and increasing immigration, or through rejection of the very bases that underpin informed debate. For instance, the ‘Tea Party’ phenomenon in the US has been seen as a deep-seated revival of Jacksonian sentiment:

“In times like the present, when a surge of populist political energy coincides with a significant loss of popular confidence in establishment institutions – ranging from the mainstream media and the foreign policy and intellectual establishments to the financial and corporate leadership and the government itself – Jacksonian sentiment diminishes the
ability of elite institutions and their members to shape national debates and policy. The rejection of scientific consensus on climate change is one of many examples of populist revolt against expert consensus in the United States today” (Mead, 2011).

Population size, composition and distribution

According to the 2008 revision of the official United Nations population estimates and projections, the world population will reach 7 billion in 2012 and surpass 9 billion by 2050. Most of the additional 2.3 billion people will enlarge the population of developing countries, which is projected to rise from 5.6 billion to in 2009 to 7.9 billion in 2050. The bulk of population growth will be in Asia, the Middle East and North Africa, Sub-Saharan Africa, and Latin America. The projections are sensitive to changes in fertility and mortality trends.

In contrast, the population of the more developed regions is expected to change minimally, passing from 1.23 billion to 1.28 billion. The developed world population would have been projected to decline to 1.15 billion, without an assumed increase in net migration from developing to developed countries of 2.4 million persons annually from 2009 to 2050 (United Nations Population Division, 11 March, 2009). The projections are sensitive to country-specific political accommodations of migration flows.

The population of the less developed regions is currently young, with children under age 15 accounting for 29% of the population and persons aged 15 to 25 accounting for a further 19%. The youth bulge in the least developed countries is even more pressing, where children under 15 years constitute 40% of the population and young people (less than 25 years) a further 20%. Major challenges arise for these countries in providing education and employment.

Table 1 shows estimates of the population of the world’s 20 largest countries by 2025 and 2050. China and India swamp the rest of the world in scale. However, there are other important features and shifts. If we focus on absolute population growth, the top ranked countries are India, Pakistan, Nigeria, China, the United States, Ethiopia, the Democratic Republic of the Congo, Bangladesh, the Philippines, Indonesia and Egypt. This is a broad canvas.

The youth proportion of the population is an important factor, not least for the focus of this paper, as the age group 18-25 is the major cohort participating in tertiary education and training worldwide (see Slide11: Elderly Support ratio, 2000-2050). With the general ageing of populations in developed economies, it becomes necessary to achieve higher rates of labour productivity within a smaller relative workforce base, and advanced human capital development is essential to that end.
Table 1. Estimated and Projected Populations in the 20 largest countries, 2000, 2025, 2050

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<thead>
<tr>
<th>Country</th>
<th>2000 (millions)</th>
<th>2025 (millions)</th>
<th>% aged below 25 years in 2025</th>
<th>2050 (millions)</th>
<th>Change 2000-2050 (millions)</th>
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<tbody>
<tr>
<td>India</td>
<td>1,014</td>
<td>1,431</td>
<td>42</td>
<td>1,614</td>
<td>600</td>
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<td>China</td>
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<td>-26</td>
</tr>
<tr>
<td>Iran</td>
<td>65</td>
<td>87</td>
<td>36</td>
<td>97</td>
<td>32</td>
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<tr>
<td>Saudi Arabia</td>
<td>22</td>
<td>34</td>
<td>43</td>
<td>44</td>
<td>22</td>
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<tr>
<td>Tanzania</td>
<td>35</td>
<td>70</td>
<td>65</td>
<td>88</td>
<td>53</td>
</tr>
<tr>
<td>Turkey</td>
<td>55</td>
<td>87</td>
<td>37</td>
<td>97</td>
<td>42</td>
</tr>
</tbody>
</table>

[Source: United Nations Population Division, 2009]

Australia, albeit much smaller in absolute numbers than the major countries, is projected to have a population of some 35 million by 2050, making it the world’s fastest growing industrialised country.

Growing populations of ‘middle class’ income

By 2030, two billion new people may join the world middle class (Wilson, & Dragusanu, 2008) [See Slide 12 Income per capita, selected countries, 2007 and 2050 (projected), and Slide 13 Distribution of world population by income class, 2000 and 2030].

The World Bank estimates that the numbers able to pursue a middle class lifestyle by 2030 in Indonesia could rise by more than 50 million, in Malaysia by 20 million, in Thailand by more than 25 million and in China alone by more than 800 million (World Bank, 2007). In the Russian Federation, those living a middle class lifestyle are projected by the World Bank to increase to around 56 million in 2030, up from 7.3 million in 2000.

Comparing the estimates of middle class populations in 2009, 2020 and 2030, it is the Asia-Pacific region that stands out as the main source of growth in absolute and relative terms (see Slide 14. Origins of the global middle class). As shown in Table 2, India is emerging as far and away the major source country of future middle class growth.
Table 2. Projected growth in middle class numbers and shares, 2009, 2020 and 2030

<table>
<thead>
<tr>
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<th>2009</th>
<th>2020</th>
<th>2030</th>
</tr>
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<tbody>
<tr>
<td>North America</td>
<td>338</td>
<td>333</td>
<td>322</td>
</tr>
<tr>
<td>Europe</td>
<td>664</td>
<td>703</td>
<td>680</td>
</tr>
<tr>
<td>Central and South America</td>
<td>181</td>
<td>251</td>
<td>313</td>
</tr>
<tr>
<td>Asia Pacific</td>
<td>525</td>
<td>1,740</td>
<td>3,228</td>
</tr>
<tr>
<td>Sub-Saharan Africa</td>
<td>32</td>
<td>57</td>
<td>107</td>
</tr>
<tr>
<td>Middle East and North Africa</td>
<td>105</td>
<td>165</td>
<td>234</td>
</tr>
<tr>
<td>World</td>
<td>1,845</td>
<td>3,249</td>
<td>4,884</td>
</tr>
</tbody>
</table>

[Source: Kharas, 2010]

The settlement and movement of people

In 2008, for the first time in history, more than half of the world’s population were living in towns and cities. By 2030 this number will swell to almost 5 billion, with urban growth concentrated in Africa and Asia. While mega-cities have captured much public attention, most of the new growth will occur in smaller towns and cities, which have fewer resources to respond to the magnitude of the change (UNFPA, 2007). Greater urban concentrations of populations, especially poor populations in large cities (slums), amplify the risks of health deterioration and the propagation of diseases. Greater mobility of people, movement of biological products, and international interdependencies create conditions for rapid proliferation of infectious diseases and toxicological threats (European Commission, 2009). These are global challenges and their solutions require new forms of international cooperation.

The movement of people is important for population balance. For instance, without a significant flow of immigrants the European population would start to decline from 2012. Population mobility or ‘brain circulation’ is also a source for the diffusion of innovation, and a means of redistributing incomes between richer and poorer regions. Whereas ‘brain drain’ may be seen as depriving developing countries of the human capital they need for their own development, the circular movement of talent may be seen as bringing to the home country intangible knowledge that is invaluable for its development (Kuznetsov, 2006).

Advances in transport enable greater and more frequent mobility. However, constraints on energy usage and rising risks associated with travel may limit movements in the future. Some redundancy of infrastructure in the developed world, exacerbated by changes in information and communications technology, may add to the incentives for established institutions to attract people from outside their own regions as a means of sustaining themselves:

“Today we see as serious imbalance between educational need and educational capacity. In a sense, many of our universities are in the wrong place, where populations are aging and perhaps even declining rather than young and growing, driving major population migration and all too frequently the clash of culture and ethnicity” (Duderstadt, 2009).

The use of languages

English has become the global language but is no longer the ‘only show in town’ (Graddol, 2007). Mandarin, Spanish and Arabic are challenging English in several regions and on the Internet. An important shift is that from English as a Foreign Language (EFL) to English as a Second language (ESL). In the latter, as distinct from the former, there is recognition of the role of English in the society in which it is taught, initially as part of colonial conditions and subsequently for immigration-based countries as part of plural social settlement. A more recent development, that of English as a lingua franca (ELF), focuses on pragmatic strategies for communicating in inter-cultural contexts: “the target model of English within the ELF framework is not a native speaker but fluent bilingual speaker,
who retains a national identity in terms of accent, and who has also the special skills required to negotiate understanding with another non-native speaker” (Graddol, 2007).

[See Slide 16: The slide shows trends in native speaker numbers for the world’s largest languages expressed as the proportion of the global population who speak them (source: Graddol, 2007).

In many countries, as English makes the transition from foreign language to basic skill, English is being learned in early childhood and in primary schooling. As this trend intensifies there will be less emphasis on traditional English language teaching in secondary and tertiary education. At its peak the demand for learning English could approximate 2 billion people globally. This peak could be reached around 2012, and thereafter demand will gradually decline (Graddol, 2007). The demand will not necessarily benefit traditional providers of English as a Foreign Language (ESL) from native English-speaking countries:

“In the new, rapidly emerging climate, native speakers may increasingly be identified as part of the problem rather than the source of a solution. They may be seen as bringing with them cultural baggage in which learners wanting to use English primarily as an international language are not interested... or as ‘gold plating’ the teaching process, making it more expensive and difficult to train teachers and equip classrooms. Native speaker accents may seem too remote from the people that learners expect to communicate with; and as teachers, native speakers may not posses some of the skills required by bilingual speakers, such as those of translation and interpreting. (Graddol, 2007).

Monolingual English speakers face a bleak economic future, and the barriers preventing them from learning other languages are rising rapidly. Monolingual countries like Australia will find it increasingly difficult to be competitive.

Changes in the politics of belief
New tensions derive from the rise of secularism in many countries in the developed world (the US being an exception) and indications of increasing religious fundamentalism in parts of the developing world, whether Christian, Jewish or Islamic dispositions. The latter appear to be the fastest growing (see Slide 17), but it would be a mistake to depict its development as common. Policy dialogue would benefit from an appreciation of the diversity within Islam, and among other religions, as well as a more nuanced appreciation of varying secularist views.

Scarcity of natural resources
Water is the most critical resource. Some 1 billion people do have access currently to clean water. In 2025 it is estimated that 3 billion people will lack water (European Commission, 2009). Policies can be expected to focus on safeguarding water quality and financing access to drinking water through new technologies for production, conservation and re-use.

Global energy demand is projected to increase by some 50% from 2005 to 2025. Oil production will have peaked by 2025. Coal and gas are expected to be the primary sources of energy over the ensuing period to 2050 (European Commission, 2009). The economic bases of a number of Middle Eastern countries will decline relative to Australia, China, Iran, Kazakhstan and Russia, and some other (Latin American) suppliers of world energy. There will be an accumulating imperative to find more fuel efficient modes of energy generation and transport.

The reduction of agricultural land resulting from increasing urbanisation, irrigation problems, production of bio-fuels and climate change is affecting the productive capacity of different regions. China, South Korea, India a and others have been buying or leasing farm-land abroad.
Given world population growth and related energy consumption, and the modest and variable commitments to carbon emissions reduction Post Kyoto, Copenhagen and Cancun, there is little prospect of the world acting in a sufficiently concerted way to arrest global temperature at less than 2°C above preindustrial averages. The impact of efforts to reduce CO₂ emissions will remain marginal, and adaptation to global warming will be essential.

Again, these considerations underline the importance of renewing cultural strategic cooperation through international education, training and research.

**Technologies affecting educational delivery and student learning**

Enlargement of higher education participation increases the diversity of demand for services in terms of curriculum content and orientation, study modes, places and times for learning, and trade-offs between convenience, quality and price. Sophisticated supply technologies, including powerful, ubiquitous computing and networking, allows for a university’s teaching and research functions to be distributed in space, and possibly in time (Wulf, 2008). Markets for higher education services can provide a premium for niche services that reflect customer segmentation and the tailoring of programs to meet the particular needs and circumstances of individual firms, public sector bodies, and groups of learners. The scale and diversity of demand, alongside the capacity of available technologies, allows for varying combinations of physical and virtual provision and, thereby, greater differentiation among providers in their value propositions. In mass higher education systems a significant differentiating feature is the quality of the student university experience that bonds graduate belonging locally even when they are globally dispersed, especially the capacity of some institutions to provide learning intimacy.

A 2008 (Economist Intelligence Unit, 2008) survey of 289 executives (189 from higher education and 100 from corporate settings) suggested the following views:

- Technology has had – and will continue to have – a significant impact on higher education. Nearly two-thirds (63%) of survey respondents from both the public and private sectors say that technological innovation will have a major influence on teaching methods over the next five years. In fact, technology will become a core differentiator in attracting students and corporate partners.
- Online learning is gaining a firm foothold in universities around the world. More than two-thirds of respondents from academia say that their institutions offer online courses. Many of them, especially those with a public service mandate, consider online learning key to advancing their mission, placing advanced education within reach of people who might otherwise not be able to access it.
- Corporate-academic partnerships will form an increasing part of the university experience, at a time when locating funding and controlling costs are key concerns, and when only one-quarter of university chief information officers (CIOs) have a place at the table when it comes to setting strategy. To attract corporate partnerships, institutions will need to demonstrate a commitment to advanced technologies.
- University respondents view technology as having a largely positive impact on their campuses, but acknowledge that operational challenges may hinder the full benefits from being realised (e.g. tenure, promotions and other organisational practices may need adjustment to encourage faculty members to adopt new technologies). In addition, technology may be disruptive in ways not intended: respondents note a rise in plagiarism, cheating and distractability, which they attribute to easy and ready access to mobile technologies.
- Higher education is responding to globalisation. Respondents say that having an overseas presence will be the norm for the majority of universities over the coming years, and 54% of academic respondents say their institutions either already have foreign locations or plan to open them in the next three years. Distance education is also becoming increasingly global,
with universities in the US and overseas leveraging advanced technologies to put education within reach of many more individuals around the world.

Over the last decade, with the evolution from Web 1 to Web 2, a range of new technologies have been affecting educational delivery and student learning. The technologies include social networks – facebook, twitter, flicker, blogs, etc., and new modes of interactive information supply including wiki’s, virtual worlds, and 3-D reality environments, access to which is enabled by i-pads, mobile phones, and wireless communications. Educational institutions are incorporating the new technologies through i-campus developments and open source middleware (see Box 4).

**Box 4. Tablets emerge as new uni tool**

THE 53 students who enrolled in RMIT University’s new pharmacy degree program this year are pioneers in more ways than one. Before they began the course last week, each student was given an Apple iPad as a basic tool in the learning process. At Adelaide University, one faculty has been even bolder. The 702 students who signed up for science this year have been given free iPads. What is unfolding at RMIT and Adelaide is symbolic of the way technology is changing the university experience. Tablets, iPads, iPods, iPhones, clickers and screencasts are only some of the latest devices replacing last century’s whiteboard and the overhead projector.

RMIT’s head of pharmacy, Peter Little, says the iPads will enhance the students’ learning. “The iPad is being used in hospitals and by health professionals, so for the students, having an iPad themselves will put pharmaceutical and drug-specific information at their fingertips. The specific aim, however, is to enhance their learning experience,” he says.

At Swinburne University, Dr Birgit Loch is deploying new technology to boost students’ marks and keep dropout rates down. Using tablets with touch-sensitive screens, clickers and screencasts, she is helping reshape the age-old formal lecture with its talking head and passive students. Students in her maths classes were the first to try out the clicker — a small wireless device with numbered buttons they use when Dr Loch projects equations on a screen. The students select from several potential solutions and click on the one they think is correct. Software then generates a graph on the screen that shows the popularity of each solution. “Using clickers, students respond to questions anonymously so the less confident can still participate,” she says. “The clickers also allow me to gauge how many students understand the content and this makes a huge difference because it lets me know whether I should keep focusing on a particular area or if it’s time to move on to the next subject.”

At Monash University, associate director of e-learning Nathan Bailey says the screen-sensitive tablet PCs are preferred to iPads by staff in their lectures. The university now has 1000 of them on loan to staff and, if they wish, to students. “For students to learn from other students and for the teacher to intervene if the students aren’t learning effectively, you need devices that allow the lecturer and students to interact, to ask questions and respond to questions, to get a lot more discussion happening rather than the lecturer standing out the front talking,” Mr Bailey says.


Following MIT’s OpenCourseWare (OCW) initiative, “over 400 universities have adopted the OCW paradigm to distribute their own learning assets to the world, with over 7,000 courses now available online” (Duderstadt, 2009). Additionally, the GoogleBook digitisation exercise involves more than 26 leading libraries around the world digitising large amounts of their printed material for searchable access online. Some envisage a radically transformed set of arrangements for tertiary education in the future, operating through mixed platforms on a global scale (Duderstadt, 2009; Gonick, 2010: see Box 5). Duderstadt envisages that “in the near future it could be possible that anyone with even a modest Internet or cellular phone connection will have access to the recorded knowledge of our civilization along with ubiquitous learning opportunities and access to network-based communities throughout the world” (Duderstadt, 2009).
In this context, as paradigm One moves beyond the mature stage of the product life S-curve, policy developments can be expected to investigate options such as the introduction of capital charges to encourage leveraging from fixed assets (e.g. large built environments on expensive urban real estate) to gear up new technology platforms for more dispersed delivery of educational services.

**Box 5. The rise of the meta-university**

“The emerging learning enterprise involves designing and creating experiences that provide opportunities to discover and gain 21st century competencies based on assembly, synthesis, perspective, critique, and interconnected systems thinking. The mechanisms for certifying competency (along with what I will refer to as emergent learning communities) provide the value—and brand—of traditional universities in the 21st century. The traditional university, once a near monopoly producer of graduates with valued and relevant skills, has given way to a growing number of providers of valued and relevant skills and education in the maturing connected learning era.

My view is that in the open-access movement, we are seeing the early emergence of a meta-university—a transcendent, accessible, empowering, dynamic, communally constructed framework of open materials and platforms on which much of higher education worldwide can be constructed or enhanced. The Internet and the Web will provide the communication infrastructure, and the open-access movement and its derivatives will provide much of the knowledge and information infrastructure.

The Internet enabled a worldwide connected infrastructure that supported acceleration of the global economy and a variously described flat or flat-with-some-bumps world. Scholars from peripheral outposts, far from pre-Internet knowledge clusters, gained equal access to scholarly research materials and near real-time interaction with colleagues at the most prestigious institutions. This dramatic reframing of scholarship has not been accompanied by a parallel transformation in the student experience, represented by scalable, cross-national collaborations between students of diverse backgrounds”.


Gonick’s technology-driven view of the future contrasts with Wildavsky’s talent-driven view, where more powerfully informed and motivated students are seeking out excellence within a global frame of reference, in response to which leading brand institutions will be driven to replicate themselves, or otherwise guarantee consistently high standards through their internationalised operations and alliances:

“Whatever direction global higher education takes going forward, one thing is clear: the growing number of internationally mobile students, intent on finding excellence in research and teaching, have already begun to create a world in which, to an unprecedented extent, talent can be identified and find the best possible academic home—a version of what, in real estate, is known as the ‘highest and best use’. Policymakers seeking to reap the advantages of a thriving and open higher education system will make little headway toward creating good universities, let alone globally great ones, without understanding that meritocracy and the free exchange of ideas form the core of the university” (Wildavsky, 2010).

**Developments affecting research**

In several industries, increasing pressure on companies to obtain revenue streams quickly has led to declines or closures of research laboratories with capabilities for long-term research. Examples include Bell Labs, Lucent, Hitachi, HP, Exxon, IBM Research, RCA, GE Research, GM and Ford Scientific, and Westinghouse Research. The short-term horizon of research in most of the remaining company labs effectively puts an end to their basic research Natelson, 2007). At the same time pharmaceutical corporations are maintaining significant in-house R&D capacity while linking with universities and medical research institutes globally. Leading pharma and biotech companies have undergone major R&D restructuring over the last five years involving a consolidation of efforts
through numerous acquisitions, both intra-pharmaceutical as well as purchases of biotechs by big pharma. Pharmaceutical companies are narrowing the focus of their research and development units through a more strategic concentration on key chronic illnesses. The blockbuster drug with surrounding hype but questionable scientific underpinnings seems to have had its day. The emerging technologies open up the market for customised treatments. Big pharma companies are also adopting a focused, streamlined global approach which is increasingly reliant on offshore strategic partnerships, academic collaboration and outsourcing to established networks of scientific expertise (Pharmaceuticals Asia Product News, 2009).

For universities to pick up the slack or participate in the new networks, it is necessary for them to invest in major facilities and equipment, and to fund inter-disciplinary research teams over blocks of time exceeding the normal 3-5 year terms of conventional national research funding schemes. In effect there is competition between nations in making themselves attractive to the footloose R&D investment of corporations. Nations need to weigh up, prioritise and concentrate their own expenditures to achieve competitive scale and quality, without putting all their eggs in one basket. It is prudent to allow some opportunistic investment in yet-to-be-realised areas.

Aided by high technology and communications capacity, fields such as nanotechnology, biosciences, geosciences and environmental sciences require major investments in interdisciplinary centres and related infrastructure. Concurrently with a need for highly creative individuals it is suggested that “big science of the ‘top-down’ type (e.g. genomics and proteomics) is overshadowing individual research” (Arai, 2007). In the quest for innovation it is the ability to marshal resources, including intellectual capability, to achieve ‘significant advances’ ahead of the competition that counts. In this regard, group productivity may be far more important than individual productivity: “scientific recognition is based on group output, and the ability to capture significant attention based on quality and quantity of output, rather than output per researcher” (NBEET, 1993).

Very few institutions have sufficient capacity to compete alone in the contemporary environment in any industry. The most successful organisations collaborate with others, including their competitors, at different points along the supply chain, where they do not have distinctive competitive advantages, and can share common costs or work together to expand the scale of the market (Brandenburger & Nalebuff, 1996). The alliances within the airlines industry illustrate the advantages that accrue to the companies and their customers, through cross-travel and shared services. Advances in communications and technology offer new possibilities for university specialisations and course-sharing in cyberspace, along with cross-national institutional alliances.

Changes in modes and sites of research

Today, numerous streams of data are being collected from sensors that monitor the environment. When used in conjunction with computational models, these streams can be important sources of data for understanding physical phenomena and human behaviour. Such an instrumented world requires a class of information technology systems that combine very large numbers of sensors and actuators with computing platforms for capturing and analysing such data streams (Chen-Ritzo et al, 2009). An essential prerequisite for knowledge institutions like universities is to have high-capacity, high-speed communications links, computational processing and data repositories for accessing, storing and manipulating the large data sets underpinning contemporary science on the big and complex problems.

Three further areas of fast change have been seen to be transforming the modes of knowledge production: the growth of authorship; the explosion of publication; and the availability of data (Burgelman et al, 2010). Authorship of user-generated content on the Web is accelerating as access to information expands and barriers to publishing decline: “it’s a publish-then-filter approach as contrasted to a filter-then-publish approach (Shirky, 2008). Readers rather than publishers are deciding the relevance and importance of published material. This ‘democratisation of software’, which widens as open-source, cloud computing and user communities make data processing
cheaper or free, blurs the boundaries between professional and amateur claims to knowledge (Burgelman, 2010). Researchers are making increasing use of informal correspondence of intermediate results through the open Web, via blogs and other channels, before final results are published. The wide availability of draft products and working data enables researchers to receive more frequent feedback for improving their work. It also gives other researchers and lay persons access to data and insights to support alternative interpretations. The availability of data is growing and the costs of access to it are falling. Raw data, particularly government data and data resulting from publicly-funded research, is being published on the web and is freely accessible. Contemporary tools for processing data are also more widely available.

A consequence is that the traditional model of science is giving way to a new model. In the traditional model a creator (scientist) processing content (data) in a creative way (research concept and methods) generates scientific output (article) for publication. The publisher is in a dominant position in exercising exclusivity, quality control, management of rights, marketing and distribution logistics. In the new model “a near infinite number of potential creators (universal literacy and authorship) with lowered barriers to entry (cost of initial investment in data and data processing tools as free intermediary inputs) is enabled to publish directly on the Web or any other mass digital platform (free channels of distribution) benefitting from a wide and differentiated audience (universal access to the Internet, multiplication of niche markets)” (Burgelman et al, 2010).

This more open model is double-edged. On the one hand its capacity and spread allows for larger data sets to be gathered and analysed, and to cross-fertilise cross-disciplinary approaches, in addressing complex problems. On the other hand, it erodes the authentication of knowledge. Lay authors and publishers (e.g. advocacy groups, journalists and radio commentators) can call on bits of data, apparent correlations, and fragments of theory to prosecute their claims in the public domain, whether relating to climate change, creationism or genetically modified organisms. Credibility may be confused with capacity to communicate:

“the openness of the reputation system will also induce risks for non-scientific theories and less rigorous scientists having a disproportionate amount of attention because of their capacity to communicate. In such an open system, the lack of scientific literacy is likely to worsen the quality of scientific output” (Mooney & Kirshenbaum, 2009).

 Trusted filters and services will be needed to help people make informed judgements among the competing claims. The bottom-up model of academic peer review is unlikely to suffice in the emerging environment. Third party authentication systems, including objective measures, will be required. Burgelman et al suggest that these systems will become associated inevitably with reputation and alerting processes. They envisage that the proliferation of scientific authorship, fragmentation of research output, and increased availability of data will lead to:

- A more unequal distribution of influence, with increased resources being concentrated on a few world-class and star researchers and research centres;
- A disruption of the value chain of scientific production, with a particular difficulty for publishers to maintain their role as ‘gate-keepers’;
- A blurring of the boundaries between scientific and cultural production;
- A new model of science, thanks to unprecedented data availability, where correlation supersedes causation;
- An increased importance of reputation, and the adoption of more open reputation management systems for scientific careers; and
- An increased need for scientists to communicate to diverse audiences.

Meanwhile, Asia is emerging as the main future destination for the location of business R&D (European Commission, 2009).
3. Changing patterns of demand and supply for education, training and research

Global demand for education and training

A 2007 global student mobility study by IDP projected growth in international higher education from 2.2 million in 2005 to 3.7 million in 2025 (Banks et al, 2007). The estimates suggested compound growth of 2.7% per year. For Australia to maintain its market share, the number of students was estimated to grow from 163,345 in 2005 to 290,848 in 2025. Demand for international higher education places in Australia was predicted to grow 4.25 per cent per year to 2010, then slow to three per cent per year to 2015, then slow further.

Already, for Australia, these projections can be seen to have underestimated actual student demand. The rate of growth in demand on a global scale is faster than projections. In 1975, there were 0.8 million internationally mobile students. By 1985, the number was 1.1 million. The average annual rate of growth over the decade 1975 to 1985 was 3.4%. Over the decade 1985 to 1995, average annual growth rose to 6%. In 1999 there were 1.7 million mobile students, and in 2009, 3.3 million. Over the decade 1999 to 2009, mobile student numbers rose by 1.6 million, or 9% annually on average.

Projections of globally mobile student numbers now range from 4.1m to 6.7m (Calderon, 2010). Comparing rates of growth of ‘high value exports’ and ‘non-high-value exports’ across countries, Calderon (2010) has suggested a set of market segmentations: ‘sunset’, ‘sunshine’, sunrise, and ‘dawn’ markets. The ‘sunset’ markets (Hong Kong, Japan, Korea, Malaysia and Singapore) are not expected to offer growth prospects over the period to 2020. The ‘sunshine’ markets (including India, China, Brazil, Russia and Vietnam) are projected to offer moderate growth prospects over the medium term. The much smaller ‘sunrise’ markets (e.g. Armenia, Bangladesh, Chile) offer modest prospects, along with ‘dawn’ markets of Azerbaijan, Kyrgyzstan, Tajikistan and a few others.

Changes in the supply of education and training

A strongly emerging feature of the global context for tertiary education is the growth of private providers, which have been estimated to represent some 30% of total global enrolments (Levy, 2009). For instance, Laureate Education International operates 60 institutions in 10 countries, and Singapore-based Raffles Education is active in 14 countries including Australia (Bjarnason, 2011). Private Equity (PE) partnerships, such as the Caryle Group in association with Apollo, and Initial Public Offerings (IPOs) such as Anhanguera Educacional Participacoes in Latin America, are moving into areas with potential for growth and efficiency gains (Bjarnason, 2011). This appears to be the new key trend, and it promises to reshape the provision of higher education globally in the years ahead.

In view of the increasing world middle class and the importance attached to education for personal advancement and national economic development, we can expect substantial global investment in international education. The scale and structure of supply could well be transformed by significant private investment and the increasing capacity and power and ubiquity of ITC:

“The service delivery models that are likely to grow rapidly and have the greatest impact on domestic higher education systems are those involving commercial presence and cross-border supply (the latter includes e-learning and distance learning). Various projections show that the number of students studying abroad and the number of host countries will also increase; however, this mode of delivery of foreign higher education has less direct positive benefits for domestic systems in developing countries and, in the short run, it could also produce negative fiscal and economic effects due to the migration of highly skilled labor. The other modes of delivery, which are currently relatively small in terms of overall supply, have enormous potential for growth and can also influence the supply of domestic higher education in developing countries. This is the case because these modes break down the
higher education process into different components that can be ‘produced’ around the world. The further spread and penetration of ICT, the development of new business models in higher education and the growth of trade in other services will accelerate the growth of these supply modes. They are likely to have the greatest impact on domestic higher education systems, offering new opportunities and many risks. At least certain subsectors of the higher education system will become increasingly differentiated from the traditional universities” (Bashir, 2007).

An important shift in the structure of higher education is the emergence of developing countries as sources of supply rather than only as sources of demand for higher education:

“Currently, the main exporters of higher education services are the industrialized countries which have a comparative advantage in highly skilled labor, relevant technologies and the ability to produce services of perceived high quality. Competition will be increasingly based on quality and price. Certain developing countries, with a sufficiently large pool of academics and technological know-how, are likely to be able to offer relevant and high quality courses at lower costs than existing providers from developing countries. At present, intra-developing country trade is being developed through the “education hub” model pioneered by Malaysia, Singapore, Dubai and Qatar, which have used foreign universities to attract students from developing countries. However, other models can develop. Technology firms from these developing countries, perhaps in alliance with traditional or virtual universities, and leveraging their technology networks (satellite communications), are capable of emerging as serious competitors. This opens up the possibility of greater trade between developing countries, affording more choice and lower prices. Another possibility is that aspects of “content development” are “outsourced” by higher education providers in developed countries to countries that offer lower wages for highly skilled labor in order to retain their competitive edge” (Bashir, 2007).

In the developed world, a number of established institutions are reconsidering their global strategies. Britain’s Open University (OU) currently serves some 250,000 students in 125 countries (Dawe, 2011). OU delivers courses through innovative technologies and provides mentoring, coaching and support through its staff and partners. OU’s new strategy targets the ten fastest developing countries headed by China, India and Brazil along with former Eastern bloc countries and Arab nations. In China the focus is on education, engineering and science courses. In Africa and India the focus is on IT, community health and nursing. In Europe the focus is on leadership and management. The 2011 report, Collaborate to Compete, published by HEFCE, recommended an injection of over £100 million for OU to partner with bodies concerned with higher education and digital technologies to develop and exploit open educational resources and set the “world standard of distance learning”. With growing student demand and competition among providers on a global basis, OU considers that the time has come for it to seize the moment:

“The way people learn has been transformed. Students today are comfortable with learning online, via Ipad or iPhone, and use social networking websites to interact with their fellows” (Dr Anthoula Madden, Director of OU’s Business Development Unit, cited in Dawe, 2011).

Beyond the education sector, communications providers and other businesses are venturing into the learning space. In February 2011, Google launched its ‘One Pass’ subscription service for customers to buy professionally produced news and information across the Web with a single click. New media consuming devices featuring Google’s ‘Honeycomb’ software are making information more accessible in a structured way. YouTube is morphing from a user-generated free-for-all into a hierarchy of channels, some carrying high profile content. Google’s search algorithm is being honed “to point toward new, real, trusted content and away from generic content cranked out by so-called content farms” (Carr, 2011).
A set of scenarios for the future role of private providers is at Appendix 1. Currently, private providers are delivering foundation, language and study skills courses under a contract or partnership arrangement with a host university: e.g. Cambridge Education Group, INTO, Kaplan, Navitas, Study Group (see Appendix 3). Technical and professional qualifications are offered by vendor companies (e.g. Microsoft, Cisco) alongside higher education awards. Content provided by companies such as Pearson includes tutorial material and teachers’ notes, as well as interactive links to assessment systems. Future arrangements may see assessment and accreditation services decouple from educational delivery, as learning is validated by supra-national private accrediting bodies.

**Anticipated national responses**

How are different countries responding to the changing environment? Some of those with growing populations beyond their own capacity to educate (e.g. China and India) are adopting dual strategies: variously encouraging diversification and enlargement of their home capacity, including through the presence of foreign providers; and building selective centres of expertise, including through the participation of foreigners and returning diaspora. Others (e.g. Singapore and UAE) are attracting foreign suppliers to create global hubs as a basis for attracting talent and investment (see Appendix 2). A number of developed nations (e.g. US, UK) are facing particular difficulties in the aftermath of the global financial crisis and the related need for structural adjustment and regulatory reform.

**Growth strategies in China and India**

**China**: In March 2011, the National Bureau of Statistics (NBS) published figures showing that China’s higher education institutions of various forms had some 31 million students enrolled in 2010, up 35% on the number in 2005. The number of foreign students in China is currently around 260,000 including those on short-term programmes. Chinese authorities envisage that by 2015 the international student population in China will reach 350,000 students and 500,000 by 2020. China has seen huge growth in its own student numbers and is hoping to increase enrolment in higher education further, to 40% of the school-leaving cohort by 2020 (Sharma, 2011).

In order to reach the target of half a million foreign students, China plans to go beyond country-to-country student exchanges and contacts, and build on regional cooperation with the European Union, Association of South East Asian Nations, North East Asia, Africa, Latin America and the Arab World. Credit transfer agreements and mutual recognition of academic credentials with other countries were an important part of realising this plan. Mutual degree recognition agreements have been signed with 34 countries. China is also interested in more jointly run programmes with foreign universities such as a recent agreement signed with New York University to set up a campus in Shanghai in collaboration with a Chinese university (Sharma, 2011).

China is awarding a large number of scholarships to African students to study in China. China is also beginning in 2011 to build a University of Science and technology in Malawi (Mohamedbhai, 2011).

**India**: Over 70% of Indians will be of working age in 2025. India wants to increase its university enrolment rate from around 12% at present to 30% of the 18-24 year population by 2025. A major portion of the money for higher education will go to the 15 Indian Institutes of Technology (IITs), which will receive $1.25 billion, followed by the University Grants Commission, the regulatory body for higher education, which will receive $1.16 billion (Mishra, 2011). India’s National Knowledge Commission has estimated that India needs 1,500 universities compared to around 370 now. The unfulfilled promises under the 11th Plan include proposals to establish 20 new Indian Institutes of Information Technology, and more recent pledges like the National Education Finance Corporation. The NEFC is expected to provide loans and bank guarantees for students seeking study loans, and easy loans for new institutions. The government had also promised to set up 50 centres for cutting-edge research in science (Mishra, 2011).
Reduced funding of public universities in advanced economies

Australia’s universities are less likely than their US and English counterparts to suffer significant funding reductions over the decade 2011-2021. In the US, 43 states have announced cuts to higher education. In California, the UC and CSU systems have been cut by $500 million and the Community Colleges by $400 million. In England, a total of £940m is being cut from the budget for teaching, research and buildings for the next academic year, a 12.6% reduction. Universities that can offset teaching losses with their research income emerge most unscathed, as the teaching grant is reduced by 8.2%, compared with 2.8% shaved from the research budget. There will also be a 58.1% cut in cash terms in funding for buildings. Further cuts next year will be offset to some degree by the ability of some institutions to raise student tuition fees.

A particular challenge for US and UK universities will be to hold onto their talented academic staff. As the system winds down and work pressures build up, the working culture will become less attractive and promotion opportunities will be limited. Several Australian universities are relatively well positioned to offer competitive opportunities to talented people in these circumstances. Indeed, facing shortages in domestic graduate output, Australian institutions will need to access overseas sources of academic staff to offset impending retirements.

Tightening immigration policies of developed nations

In the context of rising domestic unemployment, the UK and the US have been tightening their immigration policies. The UK Government estimates an annual cut of 100,000 international students from 2011, as a result of tightened immigration and workforce access policies. The cuts are expected to occur in enrolments of less reputable providers (The Telegraph, 22 March 2011). In the US, at least 43 states have cut their funding for public universities and colleges, resulting in faculty and staff reductions and tuition price increases. This winding-back in public investment in tertiary education at a time when more people are seeking employability skills creates an opportunity for private sector expansion. It has not gone unnoticed that the business of international education was less adversely affected by the Global Financial Crisis post 2008 than most other industries. The large and growing market opportunity invites increasing proprietary provision (Baird, 2011).

Tighter immigration controls in Britain and the US, including student visas and employment opportunities following the completion of studies, may make other countries more attractive to prospective international students. However, Australia has also been tightening access on a similar basis. A more nuanced approach to student visa and post-study employment policies might give Australia some competitive advantage.

Tighter regulatory frameworks for education and training

The expansion and diversification of higher education requires new forms of information and channels of communication about the orientation and quality of different higher education institutions and programs. This is necessary for potential participants to make sense of what is available and make informed decisions, and for employers to have a reasonable basis on which to compare graduate applicants.

We can observe different sets of response options to the challenges arising from the diversification of higher education demand and supply. One set of responses is institutionally grounded, whether (a) through improvements to internal assessment practices, or (b) structured recording and reporting of graduate capabilities, perhaps as a competitive differentiating strategy, or (c) alliances with similar institutional types nationally and internationally, perhaps as a talent-attracting or quality validating strategy but most importantly as a means of providing students with the best possible learning environments. A second set of responses is system-based at a national level, whether (a) narrowly through the reporting of student performance measures on standardised tests of generic skills, or (b) publication, within a common template, of information about institutional capacity, offerings, other indicators of graduate achievement, destinations and satisfaction. A third set of response options
focuses on field-of-study or professional specifics, and increasingly on an international frame of reference.

The US for-profit higher education providers were subject to critical interrogation by the US Senate in 2010, and serious deficiencies were uncovered, including among some of the major players, especially in passing on high debts to students for less than adequate services. Their sustainability is threatened by reputational damage, so they can be expected to give greater attention to demonstrating academic integrity. However, governments are seeing the need to tighten regulatory requirements for provider licensing and associated compliance monitoring procedures. Within host nations of internationalised or globalised institutions as well as for new local entrants, the development of criteria against which the capacity and performance of different providers can be assessed is seen to be necessary for competitive market development, especially where long-established institutions have reputational advantage which is not subject to objective demonstration and where new providers cannot rely on such status signals (Alderman & Brown, 2007).

The internationalisation of higher education, including the internationalisation of curricula, cross-border delivery and growth in international student mobility, makes it necessary to see higher education qualifications beyond the national contexts of their awarding. In many cases, students are preparing for work as global graduates, and their credentials need to be useful for work and further learning wherever in the world they want to make their way. In some professional fields there are international agreements covering mutual recognition of qualifications, such as for Engineering: the Washington Accord (1989), the Sydney Accord (2001) and the Dublin Accord (2002); as well as agreements covering competence standards for practising engineers—the APEC Engineer agreement (1999), the Engineers Mobility Forum agreement (2001) and the Engineering Technologist Mobility Forum agreement (2003).

The concurrent modernisation and globalisation of higher education may be seen to reduce differences among countries and highlight inconsistencies within countries, with the inference that we may see supra-national arrangements also having increasing significance. It is not yet clear how the balance will be struck between governmental and private initiatives in this arena. Supra-national, independent quality reviews (e.g. IQR) may become an increasingly important part of the quality assurance framework for global education. The IQR is a professional service of the European Universities Association. Alternatively or concurrently, we may see an international convergence around a focus on the quality of student learning experiences and learning outcomes standards, through regulatory requirements such as are being expressed in the litany of European initiatives (e.g. The Bologna Process, National Qualifications Frameworks, and the, OECD project on the Assessment of Higher Education Learning Outcomes. The latter includes proprietary test instruments, such as the Collegiate Learning Assessment (CLA). It is possible that governmental frameworks will sanction the use of specific instruments and materials developed by corporates serving the education industry. The tendency of public policy in this area is schizophrenic. On the one hand, the aims of a broader education and adaptable skills formation give emphasis to the nature of the learning process for development of the mind and the person, or more narrowly, for ‘employability’ skills, and there is a consequential focus on the quality of student ‘engagement’. On the other hand, national qualifications frameworks relate to credentialing irrespective of the place and means of learning. Hence there is ambivalence in contemporary approaches to higher education quality assurance and academic standards.
4. Options for Australia and Australian institutions

The future engagement of Australian institutions in international education and research will be a matter of strategic choice about scale, nature, location and delivery mode.

Projections of international student enrolments with Australian education providers

In 2002 AEI produced three projections (conservative, intermediate and optimistic) of international student enrolments by sector for the decade 2002 to 2012 (Gallagher, 2002). A Comparison of those projections with actual student numbers up to 2010 indicates that even the optimistic projection significantly underestimated behaviour for onshore higher education and VET. The intermediate projections for ELICOS and Schools were realistic. The offshore higher education projection was overestimated.1

Here an updated set of estimates is provided as a guide to discussion (see Slides 18 to 22). As noted above, international student demand will continue to exceed supply over the next several decades. Hence these projections are sensitive to other assumptions and factors, particularly the relative attractiveness of Australia as a place of study, the competitiveness of Australian offerings both onshore and offshore, policy and regulatory incentives and disincentives affecting prospective students and providers, and institutional capacities, including policies affecting capacity limits. Earlier projections by IDP and AEI also included a capacity cap on growth of some 20%, based on indications from universities:

Australia’s market share is not forecast to grow further: much of the forecast growth in Australia’s market share already has occurred; Australia is facing increasing competition, from both international provision and domestic provision; Australia’s currency, specifically change in the value of the Australian currency, is having a negative impact on demand for Australia; to the extent that the opportunity for skilled migration is a driver of Australia’s international student program, changes from 1 September 2001 in Australia’s skilled migration program introduced uncertainty; Australia is facing shortages in the appetites and capacities of its universities to supply places to meet international demand (Banks, Olsen, Pearce, 2007).

As it has turned out, Australian institutions have continued to expand their international student enrolments. The Australian Government’s policy of funding from 2012 any number of domestic undergraduate students that a university chooses to enrol could place constraints on future growth in international intakes, as universities will find it more difficult to justify turning away qualified domestic students.

Table 3 shows five projections for higher education, reflecting various assumptions. The base, flat-line, assumption of scenario 1 is no growth in overall enrolments. Assuming no increase in the real rate of fee income per student, scenario 1 represents a real decline in revenues from international education, accumulating over the decade as a serious net income loss. Without offsetting income flows from domestic activities, scenario 1 suggests that several existing higher education institutions would become financially unviable. Notably, the projections do not include a scenario of falling enrolments over the decade ahead. Such a scenario, in a context of rising commodity exports and associated appreciation of the Australian dollar, would reflect an irrational choice by Australian institutions whose dependency on growth in international student fee income has become entrenched.

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1 Students in another country undertaking distance education courses with a provider located in Australia are classified in DEEWR UniStats as onshore rather than offshore students, whereas AEI in DEEWR include such distance education students as offshore (not having a visa to study in Australia). In 2008 the difference in the method of accounting represented 25% of the AEI number.
Scenarios 3 and 4 represent modest increases in the decade ahead in overseas higher education enrolments over the decade past. Scenario 2 would be sustainable only if Australian providers were able to secure a price premium in the future well above that which they have achieved in the past, with the added difficulty of a stronger Australian dollar. Scenario 3 possibly represents a more realistic mix of volume expansion and premium pricing. A key question, whether overseas students in Australia rise to one million or half a million by 2020, is can Australia accommodate such a level physically and socially?

Scenarios 2 and 5 are premised on income being sustained primarily through further growth in enrolment volume at or about the average annual rate of growth of the previous decade. However, the scale of enrolment growth may over-stretch capacity, especially when set alongside concurrent increases in domestic student participation in higher education. The most sustainable option appears to be one involving higher rates of growth in offshore, including on-line, provision. However, offshore provision is a high-cost and high-risk option, for which returns typically are back-ended. Institutional mobility or ‘commercial presence’ requires a long-term commitment and the harnessing of considerable financial and human resources. Shared delivery and on-line options are more attractive, and their increasing adoption can be expected.

**Table 3. Projected Growth in Higher Education International Students (Onshore + Offshore), 2010-2020 vision**

<table>
<thead>
<tr>
<th>Year</th>
<th>International Students</th>
<th>Scenario 1: No growth</th>
<th>Scenario 2: Average 10yr growth (11% onshore, 8% offshore)</th>
<th>Scenario 3: 2% growth</th>
<th>Scenario 4: 4% growth</th>
<th>Scenario 5: 10% growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>95,607</td>
<td>320,970</td>
<td>320,970</td>
<td>320,970</td>
<td>320,970</td>
<td>320,970</td>
</tr>
<tr>
<td>2002</td>
<td>185,058</td>
<td>390,515</td>
<td>390,515</td>
<td>390,515</td>
<td>390,515</td>
<td>390,515</td>
</tr>
<tr>
<td>2003</td>
<td>210,397</td>
<td>430,834</td>
<td>430,834</td>
<td>430,834</td>
<td>430,834</td>
<td>430,834</td>
</tr>
<tr>
<td>2004</td>
<td>228,555</td>
<td>475,377</td>
<td>475,377</td>
<td>475,377</td>
<td>475,377</td>
<td>475,377</td>
</tr>
<tr>
<td>2005</td>
<td>239,495</td>
<td>524,592</td>
<td>524,592</td>
<td>524,592</td>
<td>524,592</td>
<td>524,592</td>
</tr>
<tr>
<td>2006</td>
<td>250,794</td>
<td>578,975</td>
<td>578,975</td>
<td>578,975</td>
<td>578,975</td>
<td>578,975</td>
</tr>
<tr>
<td>2007</td>
<td>273,099</td>
<td>639,073</td>
<td>639,073</td>
<td>639,073</td>
<td>639,073</td>
<td>639,073</td>
</tr>
<tr>
<td>2008</td>
<td>294,163</td>
<td>705,496</td>
<td>705,496</td>
<td>705,496</td>
<td>705,496</td>
<td>705,496</td>
</tr>
<tr>
<td>2009</td>
<td>320,970</td>
<td>778,915</td>
<td>778,915</td>
<td>778,915</td>
<td>778,915</td>
<td>778,915</td>
</tr>
<tr>
<td>2010</td>
<td>320,970</td>
<td>860,075</td>
<td>860,075</td>
<td>860,075</td>
<td>860,075</td>
<td>860,075</td>
</tr>
<tr>
<td>2011</td>
<td>320,970</td>
<td>949,801</td>
<td>949,801</td>
<td>949,801</td>
<td>949,801</td>
<td>949,801</td>
</tr>
</tbody>
</table>

[Source: 2000-2009 actual student enrolments, DEEWR Higher Education Student Statistics]

Table 4 shows projections of overseas student enrolments for the schools and ELICOS sectors based on a continuation of the average trend rates of growth per annum for each sector over the period 2002 to 2010. For the VET sector, the projections are based on the trend rate over the period 2002
to 2007, in order to smooth out the aberrant growth post 2007 in that sector as a consequence of perverse migration policy incentives. Nevertheless, the projections appear optimistic, as Australia’s migration policy may continue to constrain capacity to serve international students seeking pathways through VET, notwithstanding possible increases in demand for tertiary preparatory and English programs emanating from Africa, the Middle East and Latin America, where there are serious deficiencies in the quality of schooling.

Future growth in the international VET sector is likely to be associated with pathways to degree qualifications rather than attaining certificates for employment. A problem faced by many developing economies, and increasingly by developed economies such as Australia, is that while there are growing shortages of skills in the trades and technician occupations, there is a shrinking interest on the part of students (or their aspirational parents) in technical training. No country, except perhaps Germany, appears to have been able to achieve parity of esteem as between vocational and academic qualifications. Policy advisers continue to suggest that shorter-cycle qualifications are beneficial for particular types of learners and labour market segments, but it is always a solution that suits others rather than oneself. Further consideration needs to be given to ways of raising the social value of technical skills and qualifications.

Table 4. VET, Schools and ELICOS overseas enrolment projections

<table>
<thead>
<tr>
<th>Year</th>
<th>11% VET growth, 1% Schools growth, 5% ELICOS growth</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>VET</td>
</tr>
<tr>
<td>2010</td>
<td>206,581</td>
</tr>
<tr>
<td>2011</td>
<td>229,305</td>
</tr>
<tr>
<td>2012</td>
<td>254,528</td>
</tr>
<tr>
<td>2013</td>
<td>282,527</td>
</tr>
<tr>
<td>2014</td>
<td>313,605</td>
</tr>
<tr>
<td>2015</td>
<td>348,101</td>
</tr>
<tr>
<td>2016</td>
<td>386,392</td>
</tr>
<tr>
<td>2017</td>
<td>428,895</td>
</tr>
<tr>
<td>2018</td>
<td>476,074</td>
</tr>
<tr>
<td>2019</td>
<td>528,442</td>
</tr>
<tr>
<td>2020</td>
<td>586,570</td>
</tr>
</tbody>
</table>

[Source: based on AEI International Student Statistics by education sector, 2002-2010]

Institutional considerations

From the perspective of higher education institutions a range of strategies may be envisaged for global positioning. At Box 2 above, various arrangements for the delivery of international higher education were outlined. Australian institutions are involved in twinning agreements, franchised and moderated programs, on-line provision and offshore campuses (e.g. RMIT n Vietnam, Monash in Malaysia, South Africa, Wollongong in Dubai). Several universities have ‘study sites’, ‘portal campuses’ and ‘education embassies’ in other countries. Various Australian universities are involved in global alliances (see Appendix 4). A number of Australian institutions participate in pathways programs and other relations with IDP, Navitas, Study Group and other private businesses in the global education industry (see Appendix 3).

Future positioning options for institutions include consideration of the following models, or combinations of models:

i. Comprehensive higher institutions

ii. Niche higher education institutions

iii. Small elite institutions which provide a campus-intensive experience, including residential community life, for a mix of local and foreign students.
iv. Self-selecting networks of universities operating on a cross-national basis through student and staff exchange and research collaboration
v. Spin-outs of communications and media corporations offering professionally supported open-source learning, with specialised assessment and credentialing services
vi. Large transnational corporations, with perhaps a few major globalised universities, offering total service packages
vii. Combinations of the above, including public-private partnerships of various types.

Additionally, several public institutions face the option of privatisation. Recent developments in England are instructive in this regard. There the Government has removed funding subsidies for teaching places in the Humanities and Social Sciences. Public higher education institutions have the option of raising tuition fees to compensate in part for the withdrawal of government subsidies in these fields. There are several institutions, ranging from LSE to London Met, whose business is largely in the Humanities and Social Sciences, which do not have medical schools, and do not have large enrolments in the physical sciences. Some (e.g. LSE) attract considerable funding for research from research funding councils and other sources, but others are not comprehensively active in research. The latter have few incentives for staying public, especially as the Government is setting tighter conditions on the operations of public higher education institutions, including in respect of student access. Ironically, the institutions with the least incentive to privatise are the elite universities with medical schools, large enrolments in the physical sciences and substantial publicly-funded research activity. For them there is also the important matter of protecting brand equity, and that is influenced by the other institutions with which they are seen to associate.

The formation of global university alliances (see Appendix 4) may be seen as self-selecting partnering. Alliance membership is based on peer recognition of equivalence in quality, so that learning and credit in one institution can be recognised in another alliance member institution. Students seeking international experience as part of their higher education are interested to obtain home credit for the courses they complete in other institutions. In this context, groups of similar universities are forming in various countries and they are networking with like groups elsewhere for research collaboration and student and staff exchange (e.g. Australia’s Go8 and China’s C9). These arrangements of mutual selection, which may go beyond national frameworks formed by governments, are driven by academic judgements about relative quality. A particular expression of this “increasingly important form of implicit international accreditation” (Tan, 2010) is the growth in the number of joint graduate research degree programs with external partners of similar ethos. Underpinning these partnerships (e.g. National University of Singapore with Imperial College, King’s College London and the Australian National University) are understandings about “consistency of admission standards and some degree of comfort in the internal assessment processes, like course requirements, qualifying examination, and thesis advising and supervision” (Tan 2010).

An alternative view is that alliances of like institutions will fail to satisfy the varying needs of learners. In a more competitive global environment, what matters is a responsive value chain that meets the demands of learners.

“Alliance such as Universitas21 internationally and the Australian Technology Network are bound to end in failure, or at least fail to meet reasonable expectations. They will fail because they bring together like institutions separated only by physical location. They bring together the same sets of capabilities, strategies, course types and student profiles many times, when what is required is to bring together different but complementary capabilities. Cooperation not competition will be the catch cry” (Walters & Adams, 2009).

However, this view underestimates the positional value of higher education credentials as status goods, and the need to have them validated by reference to respected sources. It also fails to appreciate the quest for quality and the toughness of academic peer assessments especially regarding the quality of research. Nevertheless, it suggests that future dynamism in global education
will be driven not so much by the elite universities but by those institutions serving mass markets and for which the availability of public funding is increasingly unreliable. The elite universities are more likely to be innovative in global research alliances.

Adaptation to changes in market conditions has seen various instances of vertical integration – firms expanding their market position by broadening their product range, often through acquisition, e.g. SEEK and IDP; Navitas and Edu Global; Hobsons acquisition of Apply yourself, and horizontal integration – firms expanding their market position by acquiring companies in the same field or entry into new markets, e.g. Navitas purchase of other colleges; IDP entry into US agency market; Laureate purchase of Blue Mountains Hotel School (Walters & Adams, 2009). Such forms of adaptation can be expected to become increasingly aggressive.

5. Implications for strategy and policy

Table 5 indicates a range of inter-related drivers and motives for international engagement through education, training and research. These diverse motives and shared interests suggest that a broad view of internationalisation is appropriate, and that Australia could benefit from a more integrated approach involving all the purposeful actors.

Table 5. Drivers and motivations for internationalisation of education, training and research

<table>
<thead>
<tr>
<th>Motives</th>
<th>Drivers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strategic</td>
<td>Government: e.g. diplomatic ties, trade Institution: e.g. global reputation and/or presence Researcher: e.g. access to leading sources of knowledge, know-how and facilities Student: e.g. acquisition of reputable qualifications Industry: e.g. supply chain</td>
</tr>
<tr>
<td>Influencing</td>
<td>Government: e.g. international agreements Institution: e.g. building institutional brand equity Researcher: e.g. disciplinary development Student: e.g. networks of respected peers and alumni Industry: e.g. trade openness, supply reliability</td>
</tr>
<tr>
<td>Cultural</td>
<td>Government: e.g. understanding cultural differences as a basis for cooperation Institution: e.g. inter-institutional relations Researcher: e.g. comparative studies Student: e.g. plural perspectives, languages Industry: e.g. understanding clients and competitors</td>
</tr>
<tr>
<td>Commercial</td>
<td>Government: e.g. services export income and domestic economic growth Institution: e.g. funding additionality and generating surpluses Researcher: e.g. licensing technologies Student: e.g. achieving labour market advantage Industry: e.g. productivity improvement and profitability</td>
</tr>
<tr>
<td>Access to talent</td>
<td>Government: e.g. skills in demand Institution: e.g. academic appointments Researcher: e.g. collaboration with knowledge leaders Student: e.g. learning with smart peers Industry: e.g. professional &amp; technical expertise and leadership</td>
</tr>
<tr>
<td>Access to knowledge</td>
<td>Government: e.g. policy ideas, innovative practices and evaluations Institution: e.g. benchmarking Researcher: e.g. comparative information Student: e.g. development of professional competence Industry: e.g. commercial problem solving</td>
</tr>
<tr>
<td>Access to research facilities</td>
<td>Government: e.g. defraying domestic costs Institution: e.g. underpinning &amp; complementing research strengths Researcher: e.g. working on state of the art instrumentation Student: e.g. working in state of the art facilities Industry: e.g. testing product innovations</td>
</tr>
<tr>
<td>Access to markets</td>
<td>Government: e.g. for domestic producers Institution: e.g. for overseas students Researcher: e.g. for research commercialisation Student: e.g. jobs Industry: e.g. consumers</td>
</tr>
</tbody>
</table>
Reshaping Australia’s approach to trade in education services

Walters and Adams (2009) have suggested that a new business model is emerging for Australia’s trade in education services. It is one in which competitive advantage is based upon rapid and flexible responses to market change:

“The new capabilities are based upon developing unique relationships with partners (suppliers, customers, employees, shareholders, government and, often, with competitors), an understanding of, and the ability to use and manage the new technology and to understand the impact of knowledge creation and its distribution” (Walters & Adams, 2009).

Hence they contrast this new paradigm with the established one (study-in-Australia). They describe the new paradigm as:

“Recruitment of students to a network of regional, global and virtual campuses through the creation of innovative international degree products, relationship and technology management” (Walters & Adams, 2009).

There are several features of this new paradigm, beyond those noted by Walters & Adams. First, it is not bound by any national brand or ownership; it is supra-national if not necessarily global. Second, its providers are not called to account by any government for the total scale of their activities, including total student numbers. Third, it can operate in parallel with the established paradigm of recruitment of overseas students to experience Australia and obtain Australian qualifications. Australian universities and other Australian education service providers may operate in both paradigms concurrently. For some institutions, their home country campus may not be the largest of their deliver network nodes.

“Universities will need to develop strong alliances with key channel providers, global and regional agents, offshore partners, technology platform companies, web navigation companies, universities and university systems. These relationships will be strategically managed and will open both organisations to cross boundaries with processes, quality assurance and strategy” (Walters & Adams, 2009).

Rebuilding international education relations for cultural-strategic purposes

Australia has significant capacity to respond to the global imperative for cooperative action to address emerging challenges. Particular attention could be given to collaborative research, public policy frameworks, standards-setting and skills transfer.

There are many areas where Australian researchers can contribute (see Box 6). Australians can also provide a leading role in the development of public policy frameworks and international standards – e.g. occupational skills, professional standards, project management, quality of qualifications, provider licensing, research ethics and codes of practice. Australian can also contribute to international frameworks for dialogue around controversial areas such as nanotechnologies, synthetic biology, surveillance technology, and biometrics.

Box 6. CSIRO and the Chinese Academy of Social Sciences

Two of the world’s leading science agencies, CSIRO and the Chinese Academy of Sciences (CAS), are joining forces to tackle one of the world’s biggest problems – how to feed a global population that is growing by 75 million people per year. Scientists from CSIRO and CAS are focussing on rice and wheat, which along with corn make up the three most widely grown food crops in the world.
Leading CSIRO and CAS researchers in the area of plant genomics will share their latest research findings and also map out the areas where future joint research efforts could speed up the rate of scientific discovery. CSIRO Plant Industry Deputy Chief, Dr John Manners, said the collaboration between CSIRO and CAS is a positive step towards meeting the growing challenge of global food security. “China is not only an agricultural powerhouse but also a scientific powerhouse and they face many of the challenges that we do in Australia, including drought, hostile soils and plant diseases,” Dr Manners said. “The research projects that we will be working on together will not only improve crops in both countries but will play an important role in the battle for global food security.

[CSIRO Media Release, 10 March 2011]

**Inserting Australia globally through co-investments**

Australia may be able to focus usefully on some major domiciled research facilities and services, through targeted investment in capability (expertise + infrastructure + networks), such as in astronomy and astrophysics, geosciences and marine science, partly because of Australia’s location and physical conditions. Through such investments Australia may contribute in special ways to the world’s advancement of knowledge and gain additional reciprocal benefits. However, in most other areas, Australia will lack the capacity alone to sustain major world facilities, and it will be necessary to co-invest with others in other parts of the world.

**Branding differentiated Australian offerings**

Global delivery networks will involve marketing sites operated by partners or intermediary agencies. Strong institutional branding within alliances will be essential in this context, where the marketing strategies and messages are not under the control of a partner to an alliance. Brand Australia needs to raise the visibility of Australia’s capabilities and recognise the diversity of offerings.

**6. Conclusions**

In the twentieth century, Australia’s engagement internationally through education and training had two dimensions: a ‘cultural-strategic cooperation’ dimension and, since 1986, a ‘commercial services-export’ dimension. Both have contributed to capacity building outside Australia and added benefits to Australia’s own development and its relations with other nations and institutions. However, the latter is subject to intensifying competition and the former has weakened, notwithstanding the need for greater collaboration in understanding and dealing with shared global problems.

In the twenty-first century it is necessary to reshape radically those two dimensions. At the same time, it is imperative to develop a third ‘knowledge network insertion’ dimension which relates to sustaining Australia’s capacity to be competitive in the future global economy by integrating into and co-investing with the rising global knowledge centres, networks and alliances around the world. This third dimension is essential also for positioning Australia at the forefront of world knowledge advancement and for enabling Australia to contribute effectively to global problem solving.

The second decade of the twenty-first century will see a transformation in the delivery of tertiary education worldwide. With only a few exceptions, the conventional models of public sector supply of tertiary education face serious funding deficits. Meanwhile there is surging global learner demand associated with the expanding youth populations and the increasing number of middle class families in developing countries. Concurrently, sophisticated yet mass technologies, embracing rapid, ubiquitous and powerful communications capacities, enable quality education to be designed, delivered and consumed relatively cheaply in many parts of the world. Simultaneously, there is intensifying competition globally for intellectual talent.

If public sector institutions cannot rise to the new challenges and opportunities, private entities surely will. Indeed, they are already on the rise around the world, and are inevitably an integral part
of the solution to the problem of meeting the rising demand for tertiary education cost-effectively. They offer competitive products and services, often having innovative features, being closer to professional practice and the working environment, responsive to the varying needs and circumstances of their learner customers, and providing quality student support. Significant private investment in higher education may well be the defining characteristic over the next decade and beyond as investors seek out opportunities for growth and efficiency improvement, including through buy-ups and carve-outs of established education and training operations and their integration with enterprise units and groups in other industries.

Students will be more deliberate drivers of the next stage of developments – already they are customising their learning by shopping around and taking from offerings around the world through YouTube and other media.

In this paper, a range of projections of international student enrolments with Australian education providers is presented as an aid to discussion. The projections reveal more about uncertainties than probabilities. Short of some catastrophe, there is no constraint on international student demand over the next decade or so, although various factors may induce prospective students from one or more countries to prefer options other than study with Australian providers. The main constraint is Australia’s supply capacity, especially within Australia. There may well be larger expansion of international enrolments with Australian providers via distance/on-line modes or through Australian campuses or joint ventures overseas, but this is hard to estimate. Additionally, future modes of supply will increasingly involve Australian providers in alliances with other providers including institutions of other countries and transnational corporates. It becomes difficult to assign an “Australian share” of the diversifying joint forms of supply.

Several lessons can be derived from these considerations:

- Australia’s knowledge institutions cannot be competitive by themselves.
- A one-way flow of international student traffic is unsustainable.
- Australia cannot function effectively in the world as a monolingual nation.
- Co-investment of Australian institutions overseas and foreign institutions in Australia is essential.
- Australia has to give to get (as learned from experience with the EU Framework Programme).
- Australia needs to welcome and support international talent.
- It is imperative for Australia to give greater attention to India and Indonesia.

There are several implications for Government.

On the one hand, for consumer protection purposes and to safeguard the reputability of Australian qualifications, regulatory requirements for education provider licensing must be transparent and consistently enforced, proportional to risk, the more so with increasing diversification of education supply. On the other hand, education institutions must have flexibility to innovate and operate in the global competitive environment. The challenge for regulatory policy is that it must be locally coherent but not parochial. Recent Australian policy developments (e.g. the revision of the Australian Qualifications Framework, and research-related requirements relating to university title) have not taken sufficient account of global context.

Immigration policy should be open, fair and efficient. Australia needs to increase its attractiveness to intellectual talent. Conditions attaching to student visas should be proportional to risk. Australian educational qualifications should not be a liability for graduates seeking permanent residence.

Australian scholarships need to enable Australians to study abroad and overseas students and researchers to study in Australia.
Australian institutions need to invest and co-invest selectively offshore in education and research facilities. Australia should be open to foreign direct investment in education and research facilities in Australia.

Australia must make a serious effort to develop multilingual skills among the population. A major program for the study of foreign languages in schools is required. Incentives should be provided for increasing foreign language learning in universities, including support for study overseas. Particular attention should be given to Asian languages (e.g. Mandarin, Bahasa Indonesia, Hindi/Urdu), Spanish, Arabic and Farsi.

Brand Australia needs to explicitly acknowledge and celebrate Australia’s differentiated capacities and services. Australia should be presented as a well-connected and dynamic global player.
References


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Phoenix Business Journal, 21 October 2010


Appendix 1: Some future scenarios [Extracted from UniversitiesUK (2010)]

This appendix considers some future scenarios concerning private providers awarding degrees, as this is where we have suggested that the competitive threat principally exists. A number of contextual factors could affect the growth of the private sector in this area, including:

- a change in UK government policy on regulation or funding (in England particularly) a change in market conditions in the UK (for example, increase in student demand);
- a reduction of supply in the publicly-funded sector; removal of, or a rise in, the tuition fee cap; differential public funding for different subjects, programmes or awards in different higher education institutions;
- a change in market conditions or regulatory environments in other countries (such as changes mooted in the United States and Australia);
- changes in European or international policy and legislation (for example, competition law, General Agreement on Trade in Services (GATS))
- a new Whitehall government with a different political agenda to the present one
- severe pressures on public funds, leading to less public funding for universities
- technological changes that create new market opportunities or make some kinds of provision or practices obsolete
- student or employer demands for provision or forms of educational service that are not provided adequately or not provided at all by the publicly-funded sector
- internal, ‘organic’ changes continuing within the publicly-funded sector (such as some institutions becoming fully ‘private’ in terms of their funding sources)
- a change in public attitudes towards taxpayer support for publicly-funded universities which are deemed at risk in quality or financial terms.

All of these contextual changes are possible in the next five years and, if they occur together, they could have a significant impact on publicly funded institutions. In this context the following scenarios are feasible.

**Scenario 1:** The UK sector becomes more diverse in terms of the mix of institutions in operation, with competition and collaboration between all kinds of higher education institutions (this process may be organic or accelerated through funding incentives, new commercial opportunities, changes in legislation in the UK or changed market conditions in other countries). New overseas universities operating in the UK as well as private higher education providers may increase levels of competition. In addition, ‘mutual benefit partnerships’ are widely regarded as the route to increasing access to higher education and responding to the requirements of employers and students alike. This scenario represents an evolution of current trends.

**Scenario 2:** One or more UK publicly-funded institutions are acquired, in whole or in part, by for-profit private sector education businesses or venture capitalists, subject to their statutes and governance restrictions. There are examples in other sectors (for example, schools or prisons) where the private sector has been brought in by government to turn around failing public institutions.

**Scenario 3:** Funding councils are allowed to make public funding available to private providers for teaching on a similar or equal basis to the publicly-funded institutions (perhaps also in different forms). This could lead to the funding bodies entering into public/private partnerships with private providers under which they were contracted to deliver teaching to UK students. The state could also allow the private sector to access publicly-funded resources (such as JISC’s content) and to apply for public research funding. Germany is an example where some of these incentives apply.
**Scenario 4:** Student funding is changed in ways which give UK/EU students more choice over where and how they study, through mechanisms such as vouchers that can be used at private sector institutions. Students would be able to choose where they used their vouchers and whether they wished to pay more for a full university experience. One variation on this theme might be that publicly-funded providers are able to take students (domestic and international) at a variety of fee levels. As an example, Kenya has allowed public universities to take in ‘private’ paying students. Another approach would be to follow the American example in allowing private providers, non-profit and for-profit, to access federal funding for their students.

**Scenario 5:** As in Australia and China, publicly funded higher education institutions develop or acquire private colleges and deliver their programmes to full fee-paying domestic students in parallel with publicly-funded students. The publicly-funded institution acquires or creates a number of different subsidiary ventures, some with charitable and some with commercial goals. Any surpluses generated by the latter are covenanted up to the charitable parent.

**Scenario 6:** Negotiations between countries within GATS regain momentum. Real pressure is brought to bear (for example through private sector lobbying in the United States and the UK) to challenge perceived regulatory restrictions on ‘educational trade’ or unfair competitive advantages accruing to publicly funded higher education institutions in the UK and elsewhere from access to public resources and potential cross-subsidies of their commercial activities from publicly-funded resources. Whether any of these scenarios come to pass depends on the responses of politicians, policymakers, institutional leaders and governing bodies to the contextual factors described.
Appendix 2. Global Knowledge Hubs

A designated region intended to attract foreign investment, retain local students, build a regional reputation by providing access to high-quality education and training for both international and domestic student, and create a knowledge-based economy. An education hub can include different combinations of domestic/international institutions, branch campuses, and foreign partnerships, within the designated region.

New knowledge spaces are forming through multiple institutions, including firms, from different countries are brought together within one place. These may take the form of a branch/overseas/foreign campus, a joint research centre, or linkage schemes (e.g., joint and dual/double degrees, or international consortia of universities).

Examples of such knowledge spaces include:

- Dubai Knowledge Village (which is hosting Boston University, Harvard University, London School of Business & Finance, Michigan State University, Rochester Institute of Technology)
- Bahrain Higher Education City (announced December 2006)
- Kuala Lumpur Education City (which is working with, in the first instance, Royal Holloway, University of London)
- Singapore’s ‘Global Schoolhouse’ (which is hosting or collaborating with Johns Hopkins University, MIT, Georgia Institute of Technology, University of Pennsylvania, INSEAD, University of Chicago, Technische Universität Eindhoven, Technische Universität München, Carnegie Mellon University, Stanford University, Cornell University, Duke University, Karolinska Institutet, University of New South Wales (RIP, 2007), ESSEC, University of Nevada, Las Vegas, IIM Bangalore, SP Jain Centre of Management, New York University, DigiPen Institute of Technology, Queen Margaret University)
- Incheon Free Economic Zone (which is working with, in the first instance, State University of New York at Stony Brook and North Carolina State University)
- Education City Qatar (which is hosting Carnegie Mellon University, Georgetown University, Northwestern University, Texas A&M University, Virginia Commonwealth University, Weill Cornell Medical College). See this flyover of Education City Qatar to give you one sense of the nature of such a space.

Education Hub: The following is a list of entities that have described themselves as current or developing education hubs. For each entry we provide a basic description based upon news reports, information from the organization, and, when possible, our own visits. Inclusion below does not mean that the entity currently operates as a hub, but merely that there is evidence that it is intended to be a hub.

**United Arab Emirates**
**Dubai**
- Dubai Knowledge Village / Dubai International Academic City
  - Dubai International Financial City
  - Dubai Health Care City
  - Dubai Silicon Oasis

**Bahrain**
[.Kuala Lumpur Education City
[.Iskandar (Malaysia)
[.Singapore’s Global Schoolhouse

**CREATE Research Centres**

In October 2010, the Singapore National Research Foundation (NRF) announced that the University of California, Berkeley will conduct research on “Building Efficiency and Sustainability in the Tropics”. The first core programme for BEARS will be an interdisciplinary research programme (IRP) on “Building
Efficiency and Sustainability in the Tropics (BEST), in collaboration with NTU, NUS and other local research institutions in Singapore. A shared-use test-bed in Singapore for buildings in tropical climates will be made available for the research.

The Ben-Gurion University of the Negev (BGU), the Hebrew University of Jerusalem (HUJ) and Nanyang Technological University will jointly develop and apply nano-materials to increase the efficiencies of energy and water management technologies. This brings the total number of CREATE research centres to seven since the first CREATE centre with the Massachusetts Institute. The other 5 universities are MIT, Technion, ETH, Technical University of Munich and Hebrew University of Jerusalem. The 7 research centres will be relocated to the CREATE campus when it is completed in 2011.

Located at the southern end of the new National University of Singapore (NUS) University Town (former site of the Warren Golf Course), CREATE will have a gross floor area of over 60,000 m² to house 1,000 researchers at steady state. Several other top research universities are in varying stages of discussion with NRF about setting up similar centres.

Incheon Free Economic Zone (South Korea)
Appendix 3. Global Private Education and Training Players

Apollo
Apollo Group Inc. through its subsidiaries University of Phoenix, College for Financial Planning, Institute for Professional Development and Apollo Global. Apollo Global Inc. was formed in 2007 as a joint venture between Apollo Group Inc. and a private equity firm, Carlyle Group.

Apollo reported $521 million in net income on $4.9 billion in revenue in fiscal 2010, compared with $594 million in net income on $3.9 billion in revenue in fiscal 2009. That was an increase from 2008 when Apollo reported $476 million in net income on $3.1 billion in revenue. Apollo is planning to sell Insight Schools, a group of high schools the company bought in 2007 as a feeder system into its universities. It recorded a $9.4 million impairment charge for Insight Schools’ goodwill in the second quarter of fiscal 2010, which is included in discontinued operations. However, the company continues to increase enrollment at its flagship University of Phoenix. The company achieved 13.1 percent growth in enrollment for UOP in 2010, compared with 2009. Phoenix Business Journal, 21 October 2010

Apollo provides services of a distinctive character: The curriculum includes program content relevant in today’s workforce. The curriculum is centrally controlled quality to ensure consistency across the university. Teaching faculty are experienced practitioners in their field. Class sizes average 15 students. Learning involves interactive student participation. Courses are available all year round, and can start any time of day to suit particular learner groups. Learning is supported through online or campus-based classrooms, eBooks and other learning materials are accessible on mobile devices. Students have access to personalised academic advisers and tutoring and access to career services.

Hobsons
Hobsons is a premier provider of innovative technology and integrated marketing solutions that empower education professionals to manage the entire student lifecycle, including recruitment, enrollment, and retention. With end-to-end, enterprise-class products built from more than 30 years of education experience and market knowledge, Hobsons helps more than 5,000 global secondary schools, colleges, and universities achieve their goals.

Hobsons was founded as a publishing business in 1974 and is part of the Daily Mail and General Trust plc (DMGT), one of the oldest and most successful international media companies.

In response to the growing need within education to streamline and improve their processes, we developed a range of technology products that help educational institutions plan, manage, and track students more effectively throughout their educational careers.

Hobsons Australia has three business divisions:
- The Enrolment Management Services division provides 30 universities and other education providers with sophisticated recruitment, marketing, and management solutions, as well as detailed reporting.
- The Enrolment Management Technology division has Web-based software solutions to enhance interactions with prospective students. From CRM to online application systems, our EMT product suite can help institutions target, manage, and track student communications effectively.
- The Publishing division offers a wide range of valuable printed resources for students and advisers, and delivers a sophisticated range of research services across the education sector.

Navitas
Navitas offers undergraduate and diploma courses through universities to foreign students, which provides the bulk of its revenue, as well as running English-language training and industry-based internship programs. Navitas partners with universities in Australia, Canada, Britain and the US. Navitas
partner universities include: Brunel University; University of Hertfordshire; Anglia Ruskin University; Swansea University; University of Portsmouth; Macquarie University; Curtin University Griffith, Deakin, University of South Australia; Edith Cowan University, La Trobe University; WKU, UMass,Boston; UMass Dartmouth; UMass Lowell; University of New Hampshire; Simon Fraser University; and University of Manitoba.

Study pathways may be undertaken through Navitas on the home campuses of the partner universities and also in Singapore through the Curtin University Singapore campus, in Kenya through AUSI which delivers programs on behalf of Edith Cowan University, in Sri Lanka through Edith Cowan University programs with ACBT, in Indonesia through MIBT in Jakarta which offers preparatory programs for entry into Deakin University

Navitas Uni Prep Program may include one or more of the following:

- **Navitas English**, an innovative, communicative and comprehensive English language program that raises the student’s level of English language proficiency.
- **Navitas English and Pre-University Studies (including Pre-Master)**. Navitas English may be offered in conjunction with selected academic units (usually Communications and Computing) from the Navitas Certificate IV in University Foundation Studies program.
- **UniStart** is a two-stage or two-semester Foundation Studies program which offers students the opportunity to qualify for entry into some of Australia’s leading universities. UniStart is available to students who have successfully completed Year 12 or equivalent, with IELTS 5.5 or equivalent.
  - STAGE 1 is delivered in your country by a Navitas partner institution.
  - STAGE 2 is delivered in Adelaide, Australia by Eynesbury College.
- Selected Navitas college diploma units are also offered with some of our preferred partners as part of a pre-departure program. This program also consists of English language preparation.

In Melbourne, Sydney and Brisbane Navitas operates the College of Public Safety.

The Australian College of Applied Psychology offers

- small classes which allow you to interact with your fellow students and educators
- assessment strategies which focus on applying the skills learned in class through role plays and other activities
- Student Placement Program (a period of unpaid work experience built into the Bachelor of Applied Social Science and Graduate Diploma of Counselling),
- nationally recognised and competency based vocational courses and,
- hands on Psychologists Registration Supervision Program.
- study on a full or part-time basis, on-campus (in classes that average less than 20) in Sydney, Brisbane or Melbourne or by flexible delivery.

Navitas Workforce Solutions specialises in search, selection and relocation of skilled staff into Australia for companies experiencing staff shortages. A key feature of the Navitas approach is to use adult learning principles so course content is relevant and can be easily applied into real work situations. We believe this approach equips and empowers people to deliver performance improvements to businesses.

The Professional Year Program and internships offer graduate employment support services and work placements Australia-wide to international students and graduates.

On 1 February 2010, Navitas chief executive Rod Jones announced a profit of $27.5 million after strong student enrolment growth drove half-yearly revenue up by 24 per cent to $270m. The company said it continued to run a conservative balance sheet, with net cash of $24m and a total equity of $95m. Navitas’s share price rose by 13c, or 2.9 per cent, yesterday finishing at $4.61.
Currently, 80 per cent of the company's earnings come from its Australian operations, but Mr Jones flagged further international expansion, with three new colleges to open in the US in September. The company expects up to seven new colleges to open in the next year in Australia, the US, Canada and Britain.

In March 2011, Navitas acquired SAE group for A$289 million. SAE group offers courses in audio engineering, game programming, film production, interactive media and graphic design in 49 colleges in 19 countries (Blackwell, 2011).

**IDP**

IDP Education provides student placement, evaluation and assessment services and English language training. It also manages and part-owns the IELTS test. An established specialist in study in Australia, IDP is expanding its services to the US and the UK.

2006 SEEK Ltd acquired 50% shareholding in IDP; the remaining 50% continues to be held by Australian university shareholders. IDP opened in Melbourne, Brisbane and Perth.

2008 IELTS Australia remaining 46% share bought by IDP Education, making IELTS Australia a wholly owned subsidiary of IDP Education.

2009 IDP established itself in North America providing student placement in North American universities.

- IDP moved to a regional structure with six regions: North America, Middle East, South Asia, North Asia, Australia and Europe and South-East Asia.
- IELTS Australia breaks through the 500,000 mark in tests conducted for the calendar year.
- IDP establishes student service office in Adelaide, Australia.

2010 Satellite student services opened in Sydney.

- New IDP office opened in Shenzen, China.
- Three new offices opened in India: Coimbatore, West Delhi and Kolkata.
- New IDP offices open in Middle East: Libya, Egypt.
- IDP Education established office in Cardiff, United Kingdom, in preparation for launch of recruitment to UK in 2011.

SEEK Learning offers TAFE, university and IT courses with flexible study options. FEE-HELP and VET FEE-HELP are available for a majority of the courses offered from registered training providers:

- Australian College of Applied Psychology (ACAP) - offering a range of applied social science and counselling courses.
- Australasian College of Natural Therapies (ACNT) - provider of accredited natural health and fitness courses.
- APM College of Business and Communication - offering marketing, PR and event management courses.
- Billy Blue - providing accredited design courses.
- CATC Design School - offering a range of accredited design courses.
- Dynamic Web Training – offering training in Adobe, Microsoft and MYOB.
- Edinburgh Business School (EBS) - provider of MBA programs.
- JMC Academy - provider of entertainment industry education.
- Fitness Institute Australia (FIA) - fitness education provider.
- Holmesglen - offering accredited courses in building and construction.
- Jansen Newman Institute (JNI) - provider of counselling and psychotherapy courses.
- Kaplan Professional - offering nationally recognised and career-relevant financial courses.
- Open Training and Education Network (OTEN) - provider of TAFE courses by distance education.
- Open Universities Australia (OUA) - online higher education service.
• SkillSoft - provider of e-learning courseware for IT and business professionals.
• TESOL College - Australia's largest private TESOL training company.
• William Blue College of Hospitality Management - Accredited courses in hospitality and tourism.

APM College of Business and Communication, Australasian College of natural Therapies, Billy Blue, CATC Design School, Jansen Newman Institute, and William Blue college of Hospitality and Management are trading names of Think: Colleges Pty Ltd which is a wholly owned subsidiary of SEEK Ltd.

**Pearson**

Pearson is a global education company providing services from pre-school to high school, early learning to professional certification, through curriculum materials, multimedia learning tools and testing programmes.

Pearson generates approximately 60% of its sales in North America, but operates in more than 60 countries. Its publishing arms include Scott Foresman, Prentice Hall, Addison-Wesley, Allyn and Bacon, Benjamin Cummings and Longman. Pearson is also a leading provider of electronic learning programmes and of test development, processing and scoring services to educational institutions, corporations and professional bodies around the world.

North American Education is Pearson’s largest business, with 2009 sales of £2.5bn and operating profit of £403m. Over the past five years, it has increased both sales and profits at a compound annual growth rate of 8%. The company has made significant investments in technology services including: eCollege (3.5m student users in 2009), PowerSchool (8.5m), the MyLabs (6m) and Edustructures (8.1m) Pearson is developing a new generation of powerful technologies to integrate student information, assessment, instruction and performance data into connected learning environments, for students and institutions at all levels of education.

Highlights in 2009 include:

**Higher Education**

• The US Higher Education publishing market grew 11.5% in 2009, according to the Association of American Publishers. The industry benefited from strong enrolment growth and federal government action to support student funding.
• Pearson grew faster than the industry and outperformed the market for the eleventh straight year, continuing to see strong demand for instructional materials enhanced by technology and customisation.
• Pearson’s ‘MyLab’ digital learning, homework and assessment programmes again grew strongly. Our MyLab products saw more than 6m student registrations globally, 39% higher than in 2008. In North America, student registrations grew 37% to more than 5.6m. Evaluation studies show that the use of the MyLab programmes can significantly improve student test scores and institutional productivity (www.mymathlab.com/makingthegrade_v3.pdf).
• Sustained investment in content and technology continues to grow existing franchises and build new ones. In Engineering Mechanics, our market leading textbook Hibbeler’s *Statics and Dynamics 12th Edition* gained an additional four percentage points of market share with the addition of the newly launched MasteringEngineering digital learning and assessment platform. Pearson became market leader in psychology, supported by the recently launched textbook *Psychology 2nd Edition* by Cicarelli with MyPsychLab.
• Custom Solutions grew strongly across both bespoke books and customised services including content creation, technology, curriculum, assessments and courseware. Pearson partnered with the Kentucky Virtual Learning Initiative, for example, to deliver personalised mathematics instruction mapped to state college entry standards and have begun to extend this programme into transitional English and Reading.
• eCollege, a platform for fully-online distance learning in higher education, increased online enrolments by 36% to 3.5m and benefited from continued strong renewal rates of approximately 95% by value, new contract wins and strong growth in the usage of the platform, particularly by US for-profit colleges. New
business wins included Bridgepoint Education Inc. (45,000 students and 250 courses), Education Online Service Corp (63,000 enrolments over three years), William Penn University (4,000 enrolments over 3 years) and Arizona State University (3,000 enrolments over 5 years).

- Thirteen Pearson higher education and school products in ten categories were nominated as America’s best educational software products in the Software & Information Industry Association’s 25th Annual CODIE Awards. They include MyMathLab, Miller & Levine Biology, PowerSchool, Prentice Hall Literature, myWorld Geography, MyWritingLab, CourseConnect and eCollege.

Assessment and Information

- Significant profit increase in Assessment and Information, benefiting from the successful integration of the Harcourt Assessment business acquired in 2008.
- The National Services assessment business renewed its contract with the College Board, worth $210m over ten years, to process and score the SAT and contracts to support the College Board’s new Readi-Step and ACCUPLACER diagnostics programmes. Our State Services assessment business won a number of significant new contracts including new programmes in Florida and Arizona. We continue to gain share, winning 60% of the contracts bid for by value, and to be a leader in online testing, delivering 9 million secure online assessments in 2009, up more than 100% on 2008.
- The Evaluation Systems teacher certification business secured contract extensions in California, Illinois, Arizona and Washington; won re-bids in Michigan and New York, each for five years; and added new contracts in California and Minnesota.
- In Clinical Assessments, our AIMSWeb response-to-intervention data management and progress monitoring service for children who are having difficulty learning, continued to grow and now has more than 3 million students on the system.
- The Edustructures business, which provides interoperable systems to support data collection and reporting between school districts and state governments, doubled the number of students served to 8m.
- The Student Information Systems business continued to grow strongly, benefitting from strong demand for its services that help teachers automate and manage student attendance records, gradebooks, timetables and the like. It supports more than 12 million students – 8m of them through its flagship PowerSchool product which is now available in more than 50 countries. In 2009 it won contracts for new school districts including Nova Scotia Department of Education (133,000 students), Newark, NJ (45,000 students), and the Hamilton County DOE, TN (40,000 students).

School Curriculum

- The US School publishing market declined 13.8% in 2009, according to the Association of American Publishers. State budget pressures and a slower new adoption year caused particular weakness in the basal publishing market.
- Pearson’s enVisionMATH (www.environmath.com), an integrated print-and-digital programme, was the top-selling basal programme in the United States in 2009. It helped Pearson to a market-leading 46% share of all maths adoptions and sold strongly across the open territories.
- Successnet, an online learning platform for teachers and students which supports Pearson’s digital instruction, assessment and remedial programmes, grew strongly, achieving more than 4 million registrations in 2009.
- Poptropica (www.poptropica.com) became one of the largest virtual worlds for young children in the US, with unique visitors growing by more than 100% to almost 70m and the numbers of characters they have created approaching 200m, up 150%.

### INTERNATIONAL EDUCATION

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Pearson is the world leader in education publishing and related services outside North America. Over the past five years, this has been Pearson’s fastest-growing business, increasing sales at a headline compound annual growth rate of 17% (from £559m in 2005 to £1,035m in 2009) and operating profit almost three-fold (from £51m in 2005 to £141m in 2009). The business has achieved strong organic growth and successfully integrated a number of acquisitions including Edexcel, Harcourt International and PBM. In 2009 we further extended our international scale, acquiring Wall Street English, a chain of premium English language training centres in China; and investing in vocational training and online learning in India.

Pearson expects its International Education businesses to continue to benefit from a series of growth trends: increasing public and private spending on education; growing participation rates in elementary, secondary and higher education; the demand for assessment to provide measures of achievement; the growing technology infrastructure in educational institutions; and the rise of English and other international languages.

Key highlights in 2009 include:

**Global**
- ‘MyLab’ digital learning, homework and assessment programmes were used internationally by more than 470,000 students, up almost 60% on 2008, and are now sold in more than 200 countries worldwide.
- The Pearson Test of English was launched, a new test of Academic English which will be delivered in up to 200 Pearson VUE testing centres in 37 countries. Approximately 1,000 academic programmes worldwide now recognise, or are in the process of recognising, the Pearson Test of English.
- The eCollege learning management system is growing rapidly in international markets, winning new contracts in Australia, Brazil, Mexico, Colombia, Puerto Rico and Saudi Arabia.
- The Fronter learning management system continued to grow strongly with more than 6m students in more than 8,000 schools, colleges and Universities around the world.
- Pearson Learning Solutions business won its first contracts in the UK, the Gulf and Africa. It combines a broad range of products and services from across Pearson to deliver a systematic approach to improving student performance.

**Africa and the Middle East**
- Pearson successfully implemented the Abu Dhabi Education Council’s External Measurement of Student Achievement programme covering English, Arabic, Maths and Science in April 2009 and was also contracted by the United Arab Emirates Ministry of Education to deliver the programme in the northern emirates.
- In South Africa, Pearson launched Platinum, the first blended print and online course developed for the South African National Curriculum. 7,000 students registered for MyMathLab+, at the University of Witwatersrand, helping raise student pass rates in its initial phase from 31% in the first semester to 60% in the second semester.

**Asia and Pacific**
- Pearson acquired Wall Street English, China's leading provider of premium English language training to adults, for $145m. The combination of Longman Schools and Wall Street English gives Pearson a leading position in the English language teaching market in China, serving students from elementary school to professional levels.
- Pearson stepped up its presence in the Indian education market with two investments totalling $30m: a 50:50 joint-venture with Educomp, called IndiaCan, to offer vocational and skills training through 120 training centres across the country; and a 17.2% stake in TutorVista, which provides online tutoring for K-12 and college students.
**Continental Europe**

- The launch of digi libre (Content Plus) products helped Pearson gain share in the lower and upper secondary markets in Italy and positions for major curriculum reforms planned for 2010.
- ELT sales continued to grow in Poland, and across central and Eastern Europe there was strong demand for Pearson publishing and digital resources and Language Learning Solutions activities.

**Latin America**

- New editions of the proven bestsellers, BackPack and Pockets, along with the successful launch of two new courses, CornerStone and KeyStone, helped to deliver strong growth in the sales of ELT materials across Latin America.
- In Brazil, which has one of Latin America’s largest and fastest-growing university populations, Pearson’s virtual library now supports 30 post-secondary institutions. And, in Panama, 75,000 high school students are now learning Biology and Chemistry, using Prentice Hall Virtual Labs.

**United Kingdom**

- Pearson received over 3.7 million registrations for vocational assessment and general qualifications. Some 4.5 million 'A'-level and GCSE scripts were marked on-screen.
- Pearson made significant investments in supporting the new Diploma qualification for 14-19 year-olds, the IGCSE qualifications to meet the needs of International schools and colleges, and the BTEC vocational qualification. BTEC registrations totalled more than 1m for the first time and were up almost 30% on 2008.
- The Higher Education business grew strongly, helped by the success of new first editions, the rapid take up of MyLabs adapted to meet local requirements, and the growing popularity of custom publishing.

### PROFESSIONAL

<table>
<thead>
<tr>
<th></th>
<th>£ Millions</th>
<th>2009</th>
<th>2008</th>
<th>Headline growth</th>
<th>CER growth</th>
<th>Underlying growth</th>
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<tbody>
<tr>
<td>Sales</td>
<td>275</td>
<td>244</td>
<td></td>
<td>13%</td>
<td>(1)%</td>
<td>(1)%</td>
</tr>
<tr>
<td>Adjusted operating profit</td>
<td>43</td>
<td>36</td>
<td></td>
<td>19%</td>
<td>8%</td>
<td>8%</td>
</tr>
</tbody>
</table>

The Professional education business is focused on testing and certifying adults to become professionals; and on publishing and other learning programmes for professionals in business and technology. Over the past five years, Pearson has increased sales in this division at a compound annual rate of 8% and operating profit from a profit of £2m in 2005 to a profit of £43m in 2009. Over that period, they significantly re-oriented the professional publishing businesses towards digital products and sales channels and built professional testing into a profitable industry leader. These businesses are expected to benefit from rising demand for work-related skills and qualifications in both developed and developing markets; and from close connections with professional content and customers in other parts of Pearson.

**Professional testing & certification**

- In the UK, Pearson extended its contract with the Drivers Standard Agency to deliver the UK drivers theory test until 2014. With the Graduate Management Admissions Test and the recent contract extension for the NCLEX nursing examination, its three largest professional testing contracts now run to 2013 or after.
- More than seven million secure online tests were delivered in more than 4,000 test centres worldwide in 2009, an increase of 9% over 2008.
- Registration volumes for the Graduate Management Admissions Council test rose 8% worldwide in 2009, including a 16% increase outside the US.
• In the US, Pearson VUE won a number of new contracts with organisations including Oracle, Citrix, Novell, VMWare, and Adobe, the National Registry of Food Safety Professionals and the National Institute for Certification in Engineering Technologies.

• Pearson VUE extended its international reach, signing an agreement with the Dubai Road and Transport Authority to deliver a new, high-tech Driver Testing System and launching the Law School Admission Test in India.

Professional publishing

• A best-selling product in 2009 was CCNA Network Simulator, which are digital networking labs designed, developed and published by Pearson, to help candidates successfully pass the Cisco CCNA certification exam.

• Pearson launched new learning solutions for IT Professionals preparing for certification accreditation. Cert Flash Card applications were launched for students studying for Cisco CCNA, CompTIA and Microsoft certification exams and are accessible through web browsers and iPhone and iPod Touch devices.

• FT Press launched a new e-publishing imprint, FTPress Delivers (www.ftpress.com/delivers).

The UK Border Agency has formally approved the Pearson Test of English Academic (PTE Academic) as fully satisfying the Government’s criteria for English language proficiency tests for student visas under Tier 4 of the Points Based System. In Australia the Department of Immigration and Citizenship (DIAC) has also given in-principle approval for the acceptance of more than one English language test to be officially recognised as proof of English proficiency for student and skilled migration visa applications. Currently, students who require proof of English language proficiency for those category visas have only IELTS available to them. DIAC published a set of benchmarks that test publishers had to address in a formal submission to the department by 31 December 2009 to be considered. PTE Academic is now being considered as an alternative English language test for Australian visa purposes. PTE Academic is a computer based academic English language test that is widely recognised and available globally.

PTE Academic is currently accepted by a range of EA member schools including ACE, ACL, Hawthorn-Melbourne, Swinburne College, Wollongong College, TAFE NSW, Carrick Education, UNSWIL… and many more. For the month of July 2010 Pearson is offering a free copy of the PTE Academic Official Guide (RRP$50) to EA member schools who sign up to recognise PTE Academic.

Edexcel, a Pearson company, is the UK’s largest Awarding Organisation. It offers academic and vocational qualifications and testing to schools, colleges, employers and other places of learning in the UK and internationally.

BTEC qualifications are the leading vocational qualification across Europe, Asia, Africa and the UK and are awarded by Edexcel, the UK’s largest Awarding Organisation. BTECs provide students with an award equivalent to AQTF Certificate I to Advanced Diplomas, across a wide range of subject areas, including hospitality, management, business, IT and engineering. In Australia, VET providers can now offer students the option of achieving a BTEC qualification while studying for an equivalent AQTF award. Edexcel will simply map the relevant BTEC qualification to your current AQTF course, quality assure the programme against BTEC standards and issue dual certification.

Colleges awarding BTECs will be more attractive to students:

• **Colleges can differentiate themselves from their competitors:** BTEC colleges can offer additional international certification alongside current AQTF qualifications.

• **BTECs mean a quality education – guaranteed:** Students are aware that all VET providers do not offer the same level of education. Each BTEC college undergoes a rigorous pre-assessment, followed by ongoing bi annual assessments to ensure that the college maintains the BTEC standard.

Students will love BTECs because they will get:
• **Two qualifications at the same time**: Students completing an AQTF qualification at a BTEC college can achieve both qualifications – at the same time.

• **An international passport**: BTECs are the leading qualification in Europe, Asia, Africa and the UK. This means they are instantly recognised by employers and education providers so getting a job or progressing to further study will be easier.

• **The BTEC quality assurance**: BTEC accredited colleges go through rigorous assessments before they can offer the qualification, and are required to pass ongoing external verification and quality audits. So students know they are the safe choice.

**Study Group**

Study Group specialises in the provision university access and English language programmes. It caters annually for some 55,000 students from more than 140 countries. Its global network emokuys over 2000 people worldwide, including specialist education counsellors and nearly 200 university partnerships across the United States, Canada, the United Kingdom, Australia and New Zealand is on a scale unrivalled in modern international.

Study Group invests in cutting-edge technologies to enhance the learning environment, including interactive whiteboards and laptops in the classroom as well as tailor-made software programmes.

On July 1st, 2010 Providence Equity LLC took ownership of Study Group Pty Limited for $660 million Australian dollars. This acquisition marked the next level for the industry-leading international education provider. Providence is the world's leading private equity firm focused on media, entertainment, communications and information investments. The firm manages funds with $23 billion in commitments and has invested in more than 100 companies globally since its inception in 1989.

Providence, which already has a substantial portfolio of education investments, will purchase shares in Study Group owned by CHAMP Private Equity and Petersen Investments. Current Study Group Executive Chairman and founding shareholder Arvid Petersen has assumed the position of Non-Executive Chairman and will continue as a shareholder in the company. In the past 10 years, Study Group has become a global leader in private education by providing a complete range of university access, language and career education courses for international students. Study Group has more than 55,000 students at 38 campuses in the United States, the United Kingdom, Australia and New Zealand, and a market-leading network of alliances with internationally focused universities in these markets, with 70 university and college partnerships in the US, 12 in the UK and seven in Australia and New Zealand.

Study Group’s global portfolio includes:

**The Australian College of Physical Education** (ACPE) is an independent, tertiary institution that offers a range of courses within the fields of sports studies, dance education and physical and health education. Located in the prestigious Olympic Park in Sydney.

**The Australian Institute of Applied Sciences** (AIAS) is a specialist provider of vocational education for Natural Medicine, Massage and Beauty Therapy, located in Brisbane.

**Bellerbys College** is the largest provider of international students to UK universities. Bellerbys offers Programmes range from GCSE and A Level to Foundation courses, degree study and postgraduate preparation courses. Selected locations offer the University of Sunderland Business Management degree for progression to a Masters degree at a UK university.

**Embassy** provides world-class English language training to over 30,000 students at locations worldwide. With nearly 30 years experience, Embassy is one of the world’s premier English language training institutes. It delivers a comprehensive range of modern and consistently popular courses at superb locations throughout the English-speaking world. All courses are designed for practical results, whether
measurably improved fluency, formal independent qualifications and certificates or English for entry into university. Embassy classrooms worldwide have digitally enhanced technology to enhance the learning experience, and are equipped with interactive whiteboards.

**International Study Centres** (ISCs) provide specialist on-campus university preparation for international students who want to enter the university system. These specialist preparation centres are located on the campus of universities in the UK, the USA, Canada, Australia and New Zealand. ISC students live in student accommodation, study on campus and have access to university facilities. With the highest levels of supervision and support, ISC offer both tailor-made courses for international students and the university campus experience. Study Group operates International Study Centres in partnership with local universities.

**Martin College** - In its three decade history, the College has evolved into one of Australia’s largest providers of career training. Martin College has campuses in Brisbane, Gold Coast and Sydney. Courses are offered in the following areas: Business and Management; Marketing; Information Technology; Graphic Design; Event Management; Travel and Tourism.

**MW Summer Schools** - The MW Summer Schools offers students a wide range of academic and sporting courses provided by professionally qualified and experienced tutors. Summer schools are located at prestigious boarding schools in countryside towns across England, where students can enjoy activities from horseback riding to sailing or tennis. Our language courses are taught by experienced staff and designed to rapidly improve English skills beyond the classroom.

**Private High Schools in the USA** - Our Private High Schools programme provides placement and support services for study at schools across the United States. The exceptional high schools represented by Study Group are renowned for superior academic and extracurricular offerings. From boarding schools to day schools, we help students find their school of choice and to navigate the American high school system. These schools offer a lower student-teacher ratio than public schools, enabling students to benefit from the care and attention of experienced teachers. Our partnership with Meritas High Schools provides students with diverse and academically rigorous opportunities across the USA.

**Study Care** is a comprehensive insurance plan developed specifically for international students by leading education specialists with over 35 years experience. The experience and success of Study Group students is at the core of our organisation’s priorities. We know that by studying and living in the UK, USA or New Zealand, students are making a major investment in their education and their future. It will be one of the most rewarding and exciting experiences of their life. It is vital that they are secure and safe during that time abroad.

**Taylors College** is a provider of university preparation in Australia and New Zealand. Taylors College offers Senior High School programs for years 10 - 12, as well as Foundation programs to leading universities in Australia and New Zealand: AUT University, Auckland; The University of Auckland; Massey University, Auckland; Massey University; Monash University; The University of Western Australia; and The University of Sydney.

**Universities in the USA** provides a package of services for students wishing to study for a Bachelor's or Master’s degree in the USA. It offers student support, guidance and an accelerated application system to help students find the right degree at a choice of partner universities. All Study Group partner universities in the USA are fully accredited and competitively ranked.
Appendix 4: Global University Alliances

Association of Pacific Rim Universities (APRU) is a global network of 42 leading research universities from around the Pacific Rim. APRU’s members are drawn from Asia, Australasia, North and South America, and include such prestigious universities as Stanford, California Institute of Technology, UCLA, the University of Tokyo, Peking University and the National University of Singapore.

The International Alliance of Research Universities (IARU) is a collaboration between ten of the world’s leading research-intensive universities who share similar visions for higher education, in particular the education of future leaders. Established in late 2005, the Alliance comprises the Australian National University, ETH Zurich, National University of Singapore, Peking University, University of California, Berkeley, University of Cambridge, University of Copenhagen, University of Oxford, The University of Tokyo and Yale University.

IARU is jointly addressing grand challenges facing humanity. The Alliance has identified sustainable solutions on climate change as one of its key initiatives. As a demonstration of its commitment to promote sustainability, IARU has sought to lead by example through the establishment of the Campus Sustainability Programs aimed at reducing the environmental impact of our campus activities. IARU has also successfully organized an International Scientific Congress on Climate Change in 2009. Some of its members have also cooperated on major research projects pertaining to ageing, longevity and health, global security, and sustainable cities.

A set of global education initiatives aimed at cultivating a sense of global citizenship and leadership amongst students was also jointly developed under IARU. The Global Summer Program, the Sustainability Fellowships, and internships offer opportunities for students at the IARU member universities to engage critically as global citizens in an increasingly interconnected world.

Besides enriching students, the Alliance also brings considerable diversity in the promotion of institutional joint working among its members, inter-university networking and staff development. Projects include Industrial Innovation, Women and Men in Globalising Universities and HR Benchmarking. Newly minted are Value of Research Intensive Universities, Alumni Association and Open Access Publishing.

The Matatiki Network of universities includes Dartmouth College, Durham University, Eberhard Karls University of Tubingen, Queen’s University, University of Otago, The University of Western Australia and Uppsala University

Universitas 21 is an international network of 23 leading research-intensive universities in fifteen countries. The network’s purpose is to facilitate collaboration and cooperation between the member universities and to create opportunities for them on a scale that none of them would be able to achieve operating independently or through traditional bilateral alliances. It members are University of Melbourne; University of New South Wales; University of Queensland; University of Hong Kong; Waseda University; University of Auckland; Lund University; University of British Colombia; McGill University; The University of Delhi; Tecnologico de Monterrey; National University of Singapore; University of Birmingham; University of Edinburgh; University of Glasgow; University of Nottingham; Fudan University; Shanghai Jiao Tong University; University College Dublin; University of Amsterdam; Korea University; University of Connecticut; University of Virginia. The Group’s activities include:

- Developing innovative ways of sharing teaching and experience, benchmarking best practice where appropriate.
- Creation of jointly developed and delivered curriculum across member universities, to both on campus and exchange students, building on the success of the Global Issues Programme (jointly organised by the Universities of Auckland, British Columbia, Hong Kong, Nottingham and Melbourne).
- Running an annual Summer School for undergraduate students, an annual Undergraduate Research Conference which results in published proceedings and a Graduate Students Conference on research methodology and publication.
- Investigating the potential for joint graduate study and joint PhDs, with the view to encouraging these with willing participant members.
- Sharing good practice and benchmarking activity.

**Academic Consortium21 (AC21)** is an international network comprised of educational, research and industrial organisations throughout the world. The consortium has been established to encourage the further advancement of global cooperation to the benefit of higher education and to contribute to world and regional society. Members of AC21 include Peking University, Shanghai Jiao Tong University, the University of Warwick, North Carolina State University, and the University of Sydney.

**World University Network (WUN)** offers multilateral opportunities for international collaboration in research and graduate education. It has 16 members: University of Southampton; Pennsylvania State University; The University of Western Australia; University of Bergen; University of Cape Town; University of Sheffield; University of Washington, Seattle; University of York; Nanjing University; The University of Auckland; University of Alberta; University of Bristol; University of Leeds; University of Wisconsin, Madison; Zhejiang University.

**The Laureate International Universities network** includes more than 55 accredited campus-based and online universities. More than 600,000 students are served by the network which spans 27 countries throughout North America, Latin America, Europe, Northern Africa, Asia and the Middle East. Laureate universities offer more than 130 undergraduate, master’s and doctoral degree programs in fields including architecture, art, business, culinary arts, design, education, engineering, health sciences, hospitality management, information technology, law and medicine. Australian participants in the network are: Australian International Hotel School (AIHS) and Blue Mountains International Hotel Management School (BMIHMS).
The distinction made in this paper between ‘international’ and ‘global’ should not be confused with the ideological debate between the advocates of educational ‘internationalisation’ on the one hand and ‘globalisation’ on the other. Recently it has been suggested that “among international educators there is still the notion of internationalisation as something good and globalisation as something evil” (de Wit, 2011).

Educational internationalisation is widely understood as “the process of integrating an international or intercultural dimension into the teaching, research, and service functions of the institution” (Knight, 2004). This is inherently an institutional perspective, and it is basically about the nature of student learning experiences. It is a view of education that is capable of accommodation within public and private education institutions, irrespective of their bases of funding. Nevertheless, some contend that educational globalisation, or trade in educational services, commodifies education and reduces its worth to the values of commercial markets. This view emanates from the assumption that public institutions have particular responsibilities to the communities that sustain them, and that, by inference, private institutions do not have such responsibilities – even though the private institutions would not be viable in markets where they cannot sustain community confidence.

"Internationalisation is claimed to be the last stand for humanistic ideas against the world of pure economic benefits allegedly represented by the term globalisation. Alas, this constructed antagonism between internationalisation and globalisation ignores the fact that activities that are more related to the concept of globalisation (higher education as a tradable commodity) are increasingly executed under the flag of internationalisation. The defining line between competition and cooperation is becoming more obscure. Internationalisation is still primarily driven by activities and related targets, such as the Bologna target of having 20% of students being internationally mobile, trends towards larger numbers of international students and more teaching in English. In the late 1990s a movement started in Europe named 'Internationalisation at Home', which focused more on internationalising the curriculum and the teaching and learning process, rather than interpreting internationalisation as being exclusively concerned with the 5% to 10% of mobile students. The movement had resonance even beyond Europe, in particular in Australia and the United States, but its impact is still limited. The global knowledge economy, though, will force more attention to be focused on the internationalisation of the curriculum, as the knowledge and skills of all our graduates have to reflect that they are able to operate in a more connected world. How do we define intercultural and international competencies for our students, how do we include them in our curriculum and how do we assess them? These are questions which institutions will have to focus on more, rather than on the mobility goals which now dominate their internationalisation strategies (de Wit, 2011).

The definition used in here is a broad one, with a mainly economic basis. We refer to a global ‘middle class’, which consists of those who have scope for discretionary expenditure over and above the basic necessities of life such as food, clothing and shelter; but who, at the same time, face some constraint on that expenditure. Members of this group may, for example have access to items such as consumer electronics, cars, the possibility of owning their own housing, leisure travel – whether domestically or internationally – and, perhaps most importantly, the ability to invest in higher levels of education for the next generation. At the same time, their access to these things is, in general, restricted by some significant budgetary constraint – unlike the ‘rich’.

It is worth noting that others use more restrictive definitions: the World Bank (2007b), for example, has defined the global middle class as those living, anywhere in the world, in households whose annual income per person falls between about $4000 in year 2000 international dollars at the lower end and about $17 000 at the upper. * This definition would exclude the vast majority of people in economies such as the United States, Canada, Japan and Australia, who would be defined as ‘rich’ in global terms, but would clearly be regarded as ‘middle class’ in their own context. This report’s definition of ‘middle class’ therefore would include those encompassed by the World Bank’s definition of ‘middle class’ and the vast majority of people who would be classified by the World Bank as ‘rich’. (Department of Foreign Affairs and Trade, 2007)