Comments on Higher Education in Australia

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Background

Prior to the formation of independent states in the mid 19th century Australia was a colony of the British Empire. Australian is now a federation of states. The federation, together with the Australian constitution (which has maintained some links with the British monarchy), came into being in 1901, and is referred to as the Commonwealth of Australia. The early development of Australian education needs to be understood against the background of these two aspects of Australia's heritage: its links with Britain and the strong political role of the states. Australia's first universities were established by the states prior to federation in the mid to latter part of the 19th century. The first universities established were the universities of Sydney, Melbourne, Queensland, Adelaide, Western Australia, and Tasmania, they were modeled on the British system and many of the early academic appointments were of course from Britain, a situation which persisted well into the 20th century . Today the power to establish universities still lies with each state, and each university is founded on an act of its relevant state parliament. Indeed the provision of education is a state responsibility, but the Commonwealth Government provides the funds and is therefore in a position to influence the development of education in each state. The power of the Commonwealth Government is particularly exercised in the post school education sector which basically comprises the vocational education system and the higher education system.

A feature of the development of higher education in Australia has been its movement from an elite form of education to mass education between the Second World War and the present day. In 1939 there were six universities and two university colleges with a total of 10,354 degree students, 191 post graduate students, 163 professors and 752 lectures. Today there are 37 universities (only two are private) ranging in size from 3,135 equivalent full-time student units (EFTSU) to 25,370 EFTSU with a student population of approximately 430,000 EFTSU, of which 85% are undergraduate.

The current system

Each university is established under its own act of state parliament, and is regarded as an autonomous institution. There are only two private universities in Australia. Generally speaking the governing body of each university is the Council or Senate and it is presided over by the Chancellor of the university. It is generally comprised of community representatives appointed by the state minister of education, a number
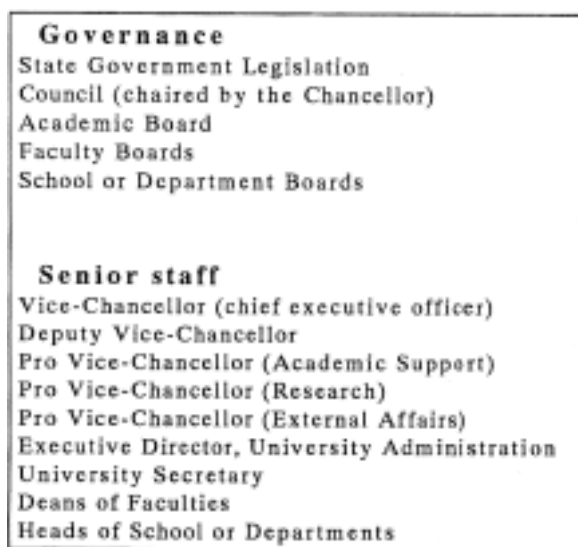
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of ex-officio members, and elected members from each of the convocation, staff and students. The chief executive officer of each university is the Vice-Chancellor who is the equivalent of the President in Japan or the USA. The structure of each university below the Vice-Chancellor varies, but generally speaking there are combinations of Deputy Vice-Chancellors and/or Pro Vice-Chancellors who have broad areas of responsibility in their portfolios, together with an administrative division, a secretariat, and a number of faculties, schools and/or departments. In addition there are a number of boards and committees through which universities conduct their business. All universities have a key academic board which normally has a range of committees, and most have faculty or school boards or their equivalent.The structure of the University of Technology, Sydney is illustrated in Attachment 1.

Universities receive their funding from the Federal Government through its agency, the Department of Employment, Education and Training (DEET). There is a separate National Board of Employment, Education and Training (NBEET) which has a Higher Education Council which provides independent advice to the Commonwealth Minister of Education on matters related to higher education. DEET provides funds to institutions based on the agreed profile of students for that particular university (e.g. the number of EFTSUs spread across different disciplinary areas together with the postgraduate and undergraduate ratio). The funds may be used by the university to support research, teaching and community service in a manner they determine through their annual budget process. Generally speaking the funds account for approx. 85% of each university's budget - although they do include a student fee component of approx. 20% of the cost of instruction. DEET also administers a range of programs of research and teaching for which universities can bid in a competitive process.

In 1988 the Commonwealth Government introduced the Higher Education Contribution Scheme (HECS). Prior to 1988 university education was free (at least from 1972). Each student builds up a HECS liability for their education which is an amount of money which is payable once the student earns over a certain annual income (e.g. $27,000/year). For example a typical HECS 'debt' for a three year course is $6,750. Once the student graduates they may have a commencing salary

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Governance
State Government Legislation
Council (chaired by the Chancellor)
Academic Board
Faculty Boards
School or Department Boards


Senior staff
Vice-Chancellor (chief executive officer)
Deputy Vice-Chancellor
Pro Vice-Chancellor (Academic Support)
Pro Vice-Chancellor (Research)
Pro Vice-Chancellor (External Affairs)
Executive Director, University Administration
University Secretary
Deans of Faculties
Heads of School or Departments
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Attachment1. Structure of the University of Technology, Sydney

of $25,000, in which case no portion of the HECS debt is payable. Once the student earns over the threshold amount of $27,000 they are required to pay a percentage of their 'debt' each year. If a student never finds employment then the debt is never paid and it is absolved at death. It is a system which allows students to attend university irrespective of their capacity to pay at the time of attendance. In addition to this basic system of HECS universities are permitted to develop full-fee paying courses at the postgraduate level, and they can enroll full-fee paying overseas students.

The changing context

In recent years education in Australia has been subject to unprecedented change. The principal reason for the change is that education is being seen as an instrument of government economic and social policy. It is seen as a key element in improving the skills base of all Australians, which is a prerequisite for the success of the restructuring of Australian industry to make it more competitive on world markets. With increasing retention rates to the final years of school and the shift from elite to mass participation in higher education, education now has the potential to act as a vehicle for change in the economic and social fabric of Australian life, and the Commonwealth Government has seized on this opportunity. Some of the changes specifically introduced or encouraged through Commonwealth Government intervention include breaking the universities' monopoly on accreditation and encouraging private providers of education and training, amalgamating the universities and the old colleges of advanced education to achieve economies of scale, introducing performance indicators for research and teaching, quality reviews, management reviews, national evaluations of students' course experiences, annual negotiations on student profiles, funding on a competitive basis to encourage teaching innovations,

establishing a range of specifically targeted research funds that meet national priorities, pressuring universities to contribute more to their budgets through entrepreneurial activity and full fee paying courses, encouraging credit transfer arrangements with the vocational education sector, and promoting the recognition of prior learning in industry or commercial settings

It is true to say that education is no longer considered to be a good thing in its own right, and more than ever the public funding of education is contingent on its demonstrable benefits to society in equity and/or in economic terms. The increasing emphasis on vocational outcomes poses a distinct threat to broadly based courses in the humanities, social sciences, and science, with students seeking places in more specialised courses which lead directly to employment. The emphasis on equity has been a positive aspect of government intervention. It includes concern with access and curriculum issues relating to non-traditional students, such as Aboriginal and Torres Strait Islanders, women in certain disciplinary areas, students from rural and isolated areas, disabled students, migrants, and students from a low socio-economic backgrounds.

In addition to the above, there is increasing competition from institutions outside the university system. No longer do universities have a monopoly on accreditation, or privileged access to the production and distribution of information and knowledge. Increasingly, commerce, industry and government agencies are becoming more sophisticated in providing learning opportunities in the workplace as they move towards the notion of the 'learning organisation'. The competition will continue to increase amongst universities themselves, especially with the introduction of open learning and distance learning technologies and practices, the expansion of mature age entry and the burgeoning international student market (the number of overseas students choosing to study in Australia has

increased ten-fold from approximately 7,000 in 1987 to 79,000 in 1995 - education and training services now account for $2 billion in export income).

Selected issues

As can be seen from the above there are a range of complex issues, many of which are connected but all of which are impacting on the daily lives of Australian academics. Collectively they are leading to debate about the future nature of universities and academic work Set out below are four issues which are examined in more detail.

(1)Efficiency, effectiveness, accountability for quality, and a subsequent concern with management structures and practices.

The issue here has to do with how the work of universities is to be publicly evaluated. What is the output of a university? Is it even appropriate to treat a university as an institution with identifiable inputs and outputs? Surely universities are different kinds of organisations from commercial and industrial organisations which have clear goals against which performance can be measured? Don't universities have broad cultural goals that cannot and should not be measured? Such questions have been stimulated by some of the key initiatives taken by the Commonwealth Government such as:

•the identification of performance indicators for research, teaching, management and community service,

• a wages system based on demonstrable productivity gains,

•the introduction of a quality audit process,

•the conduct of a management review of higher education.

Take the quality audit process as an example. The Committee for Quality Assurance in Higher Education first met in 1993. It has since conducted three quality reviews of all universities in Australia. It allocates additional funds to universities if they can demonstrate effective quality assurance practices and quality outcomes. Each university prepares a portfolio and submits it to the Committee following the set guidelines. The Committee then arranges for a team of people to visit each university. In the first quality audit the Committee focused broadly on the three areas of teaching, research and community service. In the second review the focus was on teaching alone. The areas reviewed for teaching are outlined below to illustrate the range of evidence being gathered:

• overall planning and management of the under-graduate and postgraduate teaching and learning program,

• curriculum design,

• delivery and assessment,

• evaluation, monitoring and review,

• learning outcomes,

• use of innovative teaching and learning methods,

• student support services and other teaching support services such as library and computer services,

• staff recruitment, promotion and development,

• postgraduate supervision,

Some of the outcome measures identified by universities in their portfolios are include in Attachment 2. It is clear that this process has stimulated a range of new quality assurance practices in universities, including strategic planning, staff development, guidelines for course development, programs for new staff, the collection of statistics in a range of areas, internal and external self evaluations and so on. Overall there have been benefits form this exercise, especially given that there are some complementary programs which provide even further funds for specific improvements to quality (e.g. grants for teaching innovations). In the area of research also there are supplementary funds tied to each university's research performance as measured by a set of indicators which

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Student indicators - undergraduate and postgraduate coursework
Rates of student progression
Rates of student completion
"Value added" (A number of institutions pointed to the diversity of their student body and
    to institutional outcomes for disadvantaged students)
Student satisfaction (Internal and external surveys of current students, graduates as well
    as Course Experience Questionnaire data)
Entry levels/ student "quality"
Staff: student ratios
Student demand/ preference for courses

Student indicators - postgraduate research
Ph.D. examination recommendations,   use of external examiners
Student quality - postgraduate student publications
APA and other postgraduate awards
Thesis completion times
Student satisfaction

External assessment
1993 CQAHE assessment
Good Universities Guide
Student prizes, competitive awards
External course accreditation
National and international benchmarking
National/ international adoption of practices

Staff indicators
Peer evaluation of teaching
Teaching excellence/ awards
Staff attributes - qualifications, publications
Progress with equity targets
TAFE articulation

Employment and employer indicators
Employability/ starting salaries
Further education
Employer/ professional body satisfaction (internal and external surveys)
Graduate attributes (lifelong skills, generic skills, industry related skills)
Industry placements

Student service indicators
Satisfaction with student services
International student satisfaction
Level of improved services

Attachment2. Outcomes measures identified by institutions in their portfolio
(report on 1994 Quality Reviews)

make up the 'research quantum' for the university. However an inevitable result of programs such as these is that universities become less collegial and more managerial in the way they operate, and this is evident in all universities.

(2)The role of universities in promoting lifelong learning

The role of university study in lifelong learning is becoming more of an issue as there is a growing recognition of the need to update skills and knowledge throughout one's working life. Because of rapid technological, economic and social change, and the rate at which knowledge is expanding; the old 'front end' model of education, whereby students 'completed' their education and then 'applied' their studies throughout their working life, is no longer seen as appropriate. Given that a university education is only one component of lifelong education, what kinds of skills and knowledge should it be imparting? In Australia this has led to debate about the appropriate balance between technical or professional knowledge and skills (including disciplinary knowledge), general knowledge (including an understanding of the social, economic and cultural context in which the profession practices), and generic or transferable skills such as oral and written communication skills, leadership, self organisation, analytical skills, critical thinking , teamwork, problem solving skills, and so on.

In a recent national report, Developing Lifelong Learners Through Undergraduate Education, Candy (1994) argues that the generic or transferable skills should lie at the heart of the undergraduate program. Specifically he believes that the most important generic skill is the skill of lifelong learning i.e. the capacity to 'learn how to learn' This of course can not and should not be taught separately from the content, rather it should be a key aim of every subject to enhance students' competence for learning after formal studies have been completed.

At a broader level the Commonwealth Government has attempted to improve opportunities for lifelong learning by increasing the links between the different educational sectors (school, vocational education, university) and between the education sector as a whole and the community, industry and commerce. Credit transfer arrangements exist between vocational education sector and the universities, and to a lesser extent between schools and universities. In higher education the Australian Vice-Chancellor's Com-mittee's Policy Statement for the 1995-97 Triennium specifically refers to the need for partner-ships with industry and vocational education and training. Throughout the system there is now more scope for having learning (or rather, the outcomes of learning) recognized wherever it occurs: in schools, in vocational colleges, through workplace training, and through private and community-based education providers.

(3)The relationship between the 'academy' and the 'workplace'

In Australia, as elsewhere, there are ongoing debates about what constitutes professional knowledge and how this relates to the role of the university. Indeed there is a growing recognition in the higher education sector, especially in education for the professions, of the notion of workplace knowledge, or, as some refer to it, 'tacit' knowledge. The recognition of tacit knowledge immediately challenges the traditional theory-practice relationship which has arguably been dominant in guiding the development of higher education curricula (i.e. that theoretical concepts or principles are learned and then applied to practice). Because tacit knowledge arises from practice, the argument is that students need to be exposed to practice and be equipped with the skills to analyze practice in order to build their knowledge base. Thus a greater proportion of university education should be directed at practice and its analysis.

Currently the typical preparation of a professional has four components : the development of general knowledge, the development of generic skills, the development of professional knowledge, and ex-pe-ri-ence on the job, either during or following under-graduate work. There is a great deal of variability as to how well these aspects are integrated in educational programs. While there has been recently a good deal of interest in the role of the practicum or industrial experience (the experience component) and how it can be related to the other components, there is still a good deal to be learnt about how to bring these components together into a coherent whole. Most universities have put their emphasis on the first three of these components and assumed that the mere provision of experience, either during or following a degree, will enable the student to make the connections between theory and the world of practice.

The interest now is in how the curriculum can integrate the four components of professional preparation into a coherent whole. There are many ways in which this might be done. One way is through a problem based curriculum, which is now well established in a range of fields of professional practice and a large number of universities internationally. Another approach is through co-operative education, which may also be linked with a problem based curriculum

Co-operative education and problem based approaches are supported by recent research in the area of cognitive psychology (see for example Bruner 1990; Lave and Wenger 1990; Chaiklin and Lave 1993). Prior to this literature it has been almost universally accepted that in order to be able to understand, students need to be taught abstract concepts before and distinct from the context in which these concepts might be applied. However evidence has been building up which suggests that learning and cognition are fundamentally contextual or 'situated' and that generic skills are best developed in specific contexts. That is, understanding develops through students engaging in the social and physical context of work. There are substantial organizational and curriculum issues to be addressed with programs that are problem based and/or contain workplace learning. For example, with respect to workplace learning: How can we be sure that work placements will result in learning? How can we prepare and assess students? What is the role of workplace mentors and how should they be trained? How does the workplace component link with the rest of the curriculum? With respect to problem based learning the curriculum issues relate to how disciplinary knowledge is integrated into the problem based component. If the entire course is problem based should it be designed to cover the disciplinary content? How will this affect the normal sequencing of disciplinary content? Or perhaps disciplinary content should not drive the problems being investigated? Once again a national report has been commissioned titled The Conditions for Fostering Co-operative Education Between Higher Education and Industry (Davies and Hase, 1994) which looks at a number of Australian case studies and identifies the common features of successful co-operative ventures (see Attachment 3).

(4)Impact of the information superhighway - the development of educational software/ communications.

The advent of the information superhighway has led to much speculation about the future nature of universities. Of course the educational potential in this area has only just begun to be explored. It has the potential to break down barriers between universities worldwide so that students, say, studying in Sydney can enroll in a subject in a university located in another part of the world and receive credit for their study. Perhaps students in a 'virtual' university will be able to select subjects from a variety of universities worldwide,

the sum total of their subjects leading to a degree recognized by their national accreditation agency. There may even exist universities which simply act as agents for the delivery of educational products developed elsewhere. Such speculation has led to renewed debate about what constitutes university study , such as the need for a coherent program of study, the need to have physical contact with professors and other students, the need to have some kind of extra curricula activities, and the need to have a physical presence. Australia is addressing the educational potential of the information superhighway in a range of ways, notably by establishing agencies such as Education Network Australia (EdNA) which aims to link electronically every school, vocational education college, university and education provider by the year 1999. Other initiatives include the establishment of Co-operative Multi-Media Centres to develop Australian electronic products and services.

In summary, universities in Australia are changing rapidly as they respond to a variety of international and local forces acting upon them. They are trying to situated themselves in the new information age, within a society which is culturally diverse, and within an economy which is undergoing major restructuring.

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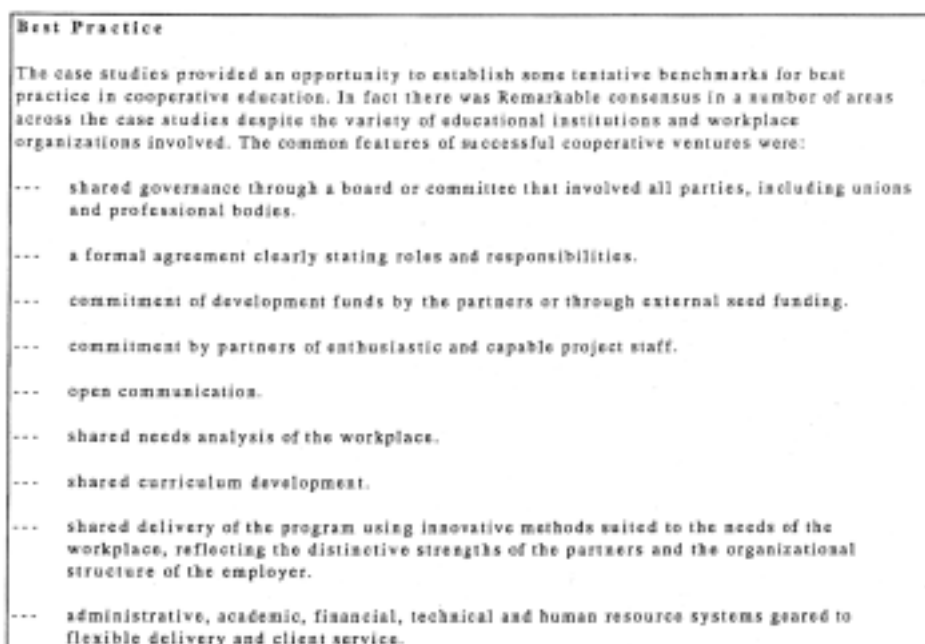
Attachment 3. The conditions for for fostering cooperative education between higher education between higher education and industry.