E-learning in Australia: universities and the new distance education

presented by

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7th OECD/Japan Seminar

On

E- Learning in Post-Secondary Education: Trends, Issues and Policy Challenges Ahead

Organised by

CENTRE FOR EDUCATIONAL RESEARCH AND INNOVATION/ ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT (CERI/OECD)

in co-operation with

THE JAPANESE MINISTRY OF EDUCATION, CULTURE, SPORTS, SCIENCE AND TECHNOLOGY (MEXT)

5th and 6th June 2001

KKR Hotel Tokyo
1-4-1 Otemachi, Chiyoda-ku, Tokyo

Ladies and Gentlemen, distinguished guests, I am very pleased to be here today to give a short presentation on behalf of Michael Gallagher, First Assistant Secretary in the Higher Education Division of the Australian Department of Education, Training and Youth Affairs (DETYA). Mr Gallagher regrets that other commitments mean that he cannot attend this workshop in person.

Australia has an interesting story to tell in the development of e-learning. To tell that story I will be looking briefly at:

- the development of university distance education to suit Australia's special circumstances;
- the developing environment for e-learning in recent years;
- how universities are moving to restructure in order to build on their distance education expertise and exploit the opportunities offered by e-learning;
- what our Department is doing to try to measure the numbers of e-learning courses and units of study; and,
- how Australia's quality assurance framework takes account of e-learning.

Background

I know that a number of you are familiar with the Australian higher education sector, but for those who are not, higher education in Australia is provided by a mix of public and private providers.

Public institutions

There are 38 publicly funded universities in Australia and another seven higher education institutions or colleges which receive public funds. All but one of the 38 universities were established by State or Territory acts of parliament, the remaining one was established by Commonwealth legislation. The other seven publicly funded higher education institutions were established either by legislation or accredited by the relevant State or Territory. In 2000, these institutions served almost 600,000 domestic students and over 95,000 students from overseas.

Around two thirds of the funding these universities receive is from the Commonwealth Government and from funds through the Higher Education Contributions Scheme. It is through accountability requirements for these funds that the Australian Government can exert some influence on universities.

Private institutions

There are also a large number of private providers of higher education accredited through the various States and Territories. A survey in 1999 noted a total of 86 private institutions accredited to award higher education qualifications. This number includes five private universities, two of which receive some public funds, teaching a total of approximately 35,000 students (Watson, 2000).

The schools and vocational education and training sectors are also very involved in e-learning, as is the private sector and professional associations in Australia, but I will focus primarily on the university sector.

E-learning in Australia

When discussing the term ‘e-learning’, I will be referring to the use of digital technologies to support and deliver some or all of the teaching and learning for a particular unit of study. Primarily this is the use of the communications power of the Internet to deliver an interactive learning environment to students without constraints of time or geography.

It is important though not to confuse the very important developments in technology that help to deliver education with the value of the education itself. Education has always been delivered to students by a variety of methods and students have always employed a variety of modes of learning, including informal modes such as discussing subject materials with other students, friends or family (Masie, 2001).

The environment for e-learning

E-learning in Australia has developed from a very long history of post-secondary distance education, with the first print-based distance education program offered to university students in 1911 (Department of Employment, Education and Training, 1993). Distance education options were initially offered by universities because of the need to overcome the often very large distances that separated students from a higher education institution. Australia is a very large landmass – over 7.6 million square kilometres - with a relatively small population of just over 19 million (Australian Bureau of Statistics, 2001a). To give you an idea of what that means, Australia’s population density in 1999 was 2 persons per square kilometre, while Japan had 335, Singapore 5699 and a country of more comparable geographic size, the United States, had 29 persons per square kilometre (United Nations Secretariat, 1999).

While these long distances still remain for many students, the overall nature of the demand for distance education has changed in recent years, with significant numbers of city-based students choosing distance education for the convenience of not having to visit a university campus (Cumpston et al, 2001). This reflects another important factor – the highly urbanised nature of Australia with over 60% of people living in the eight capital cities, and that number is projected to grow in the coming years (Australian Bureau of Statistics, 1999).

Also interesting are reports of the increasing number of on-campus students making use of distance education and e-learning materials, despite not being located remotely from a university.

Demand for e-learning

The move to e-learning has been assisted on the demand side by high access levels to computers and the Internet, with 66% of Australian adults having used a computer and 50% of adults having accessed the Internet in the twelve months to November 2000 (Australian Bureau of Statistics, 2001b). A private research firm claims that by February 2001, 67% of Australian Internet users had used the Internet regularly for about two years and that 83% used the Internet in the week prior to the survey (Red Sheriff, 2001; Centeno, 2001).

University student access levels to technology appear to be even higher than for the general population, with a recent survey of tertiary students in Australia finding that over 95% of university students reported making regular use of information and communications technology (ICT) (Oliver and Towers, 2000).

Indeed the recent OECD report on the new economy states that Australia's leadership in the takeup and use of ICT has been an important factor in Australia's recent strong GDP growth (OECD, 2001).

As well as an increase in access to and use of ICT, there has also been a corresponding and perhaps causal change in the profile of students engaging in education in university. Between 1994 and 1999 there was a 9% increase in the proportion of students who were studying full time, yet who were also in paid employment (McInnes, 2000). This change is also noted in the United States and other parts of the developed world in the form of what a study by Cunningham et al (2000) called the 'learner-earner' – the full time student who also has a paid job. Cunningham also identifies growth in numbers of the 'earner-learner' – the person with a full time job who undertakes study. These developments in the student profile mean that students trying to juggle both work and study are naturally interested in increased flexibility – such as reducing or eliminating the number of hours they have to spend on campus - and the ability to fast track their education. These are all factors leading to further demand for flexible forms of education such as e-learning.

McCann et al (1998) identified a number of other reasons why there might be a developing demand for e-learning, which include:

- the growth of the online economy and the consequent move from old to new economy;
- the growing demand for skills and ongoing education;
- the developing global market in education; and,
- the developing acceptance by teachers of the value of e-learning as a teaching method.

Supply of e-learning

Most Australian universities offer some form of distance or flexible education involving e-learning, with those universities at the leading edge offering fully online courses, leading to awards ranging from certificates to masters degrees in disciplines as diverse as nursing and accounting.

What is known as distance, external or flexible education has moved through a number of generations since the first correspondence students, and the development of these modes of education has taken advantage of new technologies as they came to hand. To explain these changes over time, Taylor (2001) identifies five generations of distance education in his model of the development of this teaching mode, the last two of which can be described as levels of e-learning. The levels are:

- The correspondence model, where learning materials are print-based;
- The multimedia model, where there is a variety of ways of presenting the learning materials, whether by print, audiotape, video tape or computer based learning;
- The telelearning model, in which modes of presentation of learning material include audio or video-conferencing and broadcast TV or radio;
- The flexible learning model, where students have access to interactive multimedia online, computer mediated communication and Internet-based resources; and,

- The intelligent flexible learning model, which builds on the fourth generation but will also allow "campus portal access to institutional processes and resources", allowing the institution to reduce its variable costs to close to zero.

An increasing number of Australian universities are offering access to education by e-learning and are moving to exploit the fifth generation model. These include education offered directly through universities with longstanding experience and expertise in distance education, such as Charles Sturt University, Deakin University and the University of Southern Queensland.

With the growth in e-learning comes the growing realisation of the potential to seek out global markets for education and training. A number of Australian universities have recognised the challenge and the opportunities offered by globalisation have joined a number of international consortia to help them to develop brand recognition and compete in this very large market. Three of these consortia are:

- the International Network of Universities (http://www.flinders.edu.au/About/inu.htm), which plans to allow students to undertake e-learning with partner universities;
- Universitas 21 (http://www.universitas.edu.au/), which has a preliminary agreement with Thompson Learning to develop and deliver its e-learning; and,
- the Global University Alliance (http://www.gua.com/), which is already offering online courses through its network of universities through an arrangement with NextEd.

While many universities are restructuring to be able to offer more e-learning options for students, there is an argument that these changes are largely supply driven by universities that wish to exploit the opportunities offered by the new technology, and are not the result of demand by most Australian students. The demand is largely restricted to the earner-learners who need to continue their studies while working full time (Ryan, 2001).

Indeed the targets of this university supply-driven market are students outside the relatively small Australian market and the earner learners, who may be supported by their employers or are confident that their investment in learning will assist their careers and their earning future. Although historically Australian students have not been used to paying directly for their education and so have been reluctant to pay the extra cost of e-learning, many can afford to pay the often substantial fees charged for e-learning units (Whyte, 2001).

Issues to be resolved

Ryan (2001) notes that there are also a number of issues still to be resolved in the debate surrounding e-learning, including:

- the benefits of e-learning to students, as it is important to remain focused on the need to communicate content to students in a useful and meaningful way. Many students do not have the ability and motivation for independent learning that is required for e-learning, leading to reports of high drop out rates from some overseas sources;
- the structure and value of the education offered. E-learning is often sold under the slogan "any time, any place", but should e-learning also value the teaching and learning of "anything"? There is the temptation in discussing the opportunity e-learning offers for developing tailored "just in time" courses for corporate clients to give educational credit to almost any type of learning. Is that appropriate? Are there levels of education or unstructured programs that just do not merit credit towards a recognised qualification?

- the cost of developing e-learning materials, with one estimate for materials of the type and quality desired by corporations being as much as US$25,000 per instructional hour; and
- the value of e-learning compared to other education modes. Given that Australia already has a has a successful system of postgraduate distance education courses offered for full fees, is there real advantage to students and universities in moving to what appears to be the higher cost e-learning business model?

These issues will need to be addressed for e-learning to be successful in the long term.

Student numbers involved in e-learning

It is difficult to determine the exact number of students involved in e-learning with Australian higher education institutions.

In 2000, 14% (95,300) of all students studying at Australian universities, both domestic and overseas students, were studying by what is described in statistics as "external" education. The definition of "external" in the statistics collected by the Department of Education, Training and Youth Affairs is fairly broad and includes "all units of study for which the student is enrolled involv[ing] special arrangements whereby lesson materials, assignments etc. are delivered to the student, and any associated attendance at the institution is of an incidental, special or voluntary nature" (Department of Education, Training and Youth Affairs, 2001).

The external category therefore includes most students undertaking e-learning as well as distance education by paper-based and mixed mode study. It is interesting to note that while Australian students studying externally increased in number by over 50% from 1991-2000, overseas students studying either in Australia or in their own country by external mode increased by almost seven times to a total of just over 10,000 in 2000.

Australia's leading universities in the field of distance education and e-learning boast very high numbers of external students, with three of Australia's universities having approximately 65-75% of their students studying off-campus. As many of these students are studying part time, this slightly overstates the full impact of the numbers, but they are certainly significant.

As mentioned earlier, the overall picture of the number of students involved in e-learning is clouded by the fact that significant numbers of on-campus students choose to study some subjects or aspects of their course online.

Although we can infer an increase in students using e-learning methods, the statistics as they currently measure student numbers are not able to give us an accurate picture of the numbers of students studying by specifically e-learning methods.

Statistics on courses and units of study taught by e-learning

The extent of use of e-learning in universities in Australia – that is the number of units or courses taught using e-learning methods - is also difficult to determine. Although there are occasional reports which proclaim significant advances in the use of ICT in education, such as the claim in the Report of the Web-Based Education Commission (2000) in the United States that "nearly 40 percent of all [United States] college classes used Internet resources as part of the syllabus in 1999, compared with 15 percent in 1996", it is often difficult to track down the actual statistics,

the methodology or definitions used for their collection. In this particular case the information used by the Web-Based Education Commission was sourced to an unpublished report prepared by a major world financial company.

There do not appear to be official statistics published by governments on this subject, but the company Noir sur Blanc is this year undertaking a survey of this area on behalf of the European Association for International Education using an "E-Learning Survey for Europe" online questionnaire (Noir sur Blanc, 2001).

Collecting statistics on this area poses a number of definitional questions, given that people are often talking about quite different things when they refer to the concept of 'e-learning':

- what is e-learning?
- how much of an electronic component do you need in a course before it becomes e-learning?
- does all of the particular unit of study have to be taught on-line for it to be called e-learning, or only parts?

In order to address this gap, the Department of Education, Training and Youth Affairs is initiating a new statistical collection – the first official statistics measuring number of e-learning units and courses in Australia. This new collection will give us a complete and no doubt very interesting picture on the extent of the use of e-learning methods in universities. The statistical definitions were developed in consultation with the university sector and using a small working group of university practitioners and departmental officials.

Australian universities are required to provide statistics and other information to the Australian Government each year on a range of matters, so these statistics will be collected as a part of that process. It is anticipated that a later phase of the survey may be to investigate the costs to universities of implementing e-learning – another area fraught with difficulties of definition and measurement.

The current survey will seek data at two levels: the unit of study and the complete course.

For the purposes of collecting the statistics, e-learning has been defined under three categories: web supplemented, web dependent and fully on-line. As you can see, after some discussion of the different ways we could use to describe and define units and courses of study, we came to the conclusion that we should measure their degree of dependence on the Internet.

Mode A – web supplemented

In this category, participation online is optional for the student. Enrolled students can access information on units of study that is additional to that available in the university's calendar or handbook. The information may include course descriptions and study guides, examination information, assessment overview, reading lists and other on-line learning resources. The information is used to supplement traditional forms of delivery.

Mode B – web dependent

Participation on-line for each activity in the following three categories is a compulsory requirement of participation although some traditional on-campus component is retained:

- Students need to use the web to interact with the education content necessary for study; or,
- It is a compulsory requirement of study that students must use the web to communicate with staff and/or other students; or,
- Students need to use the web both to interact with content and to communicate with staff and/or other students.

Mode C – fully on-line

There is no on-campus direct contact component in this mode. All interactions with staff and students, education content, learning activities, assessment and support services are integrated and delivered online.

This data collection is expected to be finalised in November this year and, once analysed, may be made available to the public in 2002.

Regulations and quality assurance mechanisms

Australian regulations and quality assurance mechanisms in higher education have never distinguished between the methods of teaching and learning employed, whether they be the more traditional on-campus face-to-face learning, or whether they be by paper-based distance education, e-learning or another teaching and learning method. The focus has always been on the quality of the pedagogical approach and on the use of whatever technology allows the student and teacher the best flexibility and outcome.

E-learning, flexible learning, distance education, external education and education by correspondence are all varieties of the same thing – they all involve the ongoing efforts of university teachers to develop the appropriate pedagogy and to use the best and most effective of the available technologies to deliver education to students.

Regulations and quality assurance mechanisms for e-learning are therefore the same as the broad regulatory regime that applies to universities and other higher education institutions in Australia with regard to other forms of teaching and learning.

The framework within which institutions are regulated is one that involves a range of players at different levels within government and the private sector (Department of Education, Training and Youth Affairs, 2000; Karmel and Jones, 2001). Last year the Ministerial Council on Education, Employment, Training and Youth Affairs (MCEETYA) agreed to the establishment of the Australian Universities Quality Agency and the adoption of the *National Protocols for Higher Education Approval Processes* (http://www.detya.gov.au/highered/mceetya_cop.htm), which outlines how the States and Territories carry out their higher education responsibilities and includes the requirement that the word ‘university’ is protected under Commonwealth Corporations Law and under State and Territory business names and associations legislation.

The broad Australian Quality Assurance Framework involves:

- the Australian Qualifications Framework, which maintains a national register of accredited institutions and award descriptions;
- the universities, which are responsible for their own academic standards;

- the Australian Universities Quality Agency (AUQA), an independent body which undertakes audits of the quality of universities and government accrediting agencies;
- the Commonwealth, which is the largest source of funds for universities and which collects performance data and quality assurance/research plans, and which has established a framework for the protection of international students; and,
- the States and Territories, which provide accreditation for some institutions on the basis of nationally-agreed protocols.

Australian Qualifications Framework

The Australian Qualifications Framework was established in 1995 by the Ministerial Council on Education, Employment, Training and Youth Affairs to assist the articulation of education awards across Australia between the higher education and the vocational education and training sectors. The awards of bachelor, graduate certificate, graduate diploma, masters and doctoral degrees must meet specified criteria within the Australian Qualifications Framework so that the awards are of similar standard, no matter which institution is providing the award course.

Universities

Universities are established under Commonwealth or State legislation, with the particular legislation specifying their powers. Universities are self-accrediting autonomous institutions responsible for accrediting their own awards, as well as their academic standards and quality assurance processes.

Australian Universities Quality Agency

In March 2000 the Ministerial Council on Education, Employment, Training and Youth Affairs endorsed the establishment of the Australian Universities Quality Agency (AUQA). The AUQA is an independent agency that will monitor, audit and report on quality assurance in Australian higher education institutions. The audits are expected to commence in early 2002.

The AUQA will:

- Undertake quality assurance audits of universities and state and territory accreditation authorities on a five year cycle;
- Publicly report the outcomes of the audits;
- Report on the criteria identified in the audits for the accreditation of new universities and non-university higher education institutions;
- Report, as a result of the audits, on how Australian institutions compare internationally and on the relative standing of Australian institutions.

Any failure by an institution to respond appropriately to a report may lead to funding sanctions by the Commonwealth or regulatory action by the State or Territory involved.

The Commonwealth of Australia

The Commonwealth has a significant role to play in the quality assurance framework, firstly as the main source of funding for higher education in Australia and secondly as a major source of information on higher education.

One of the conditions of receiving funding from the Commonwealth is that universities must prepare what is called an "educational profile" each year, which includes detailed strategies on how the university plans to achieve planned outcomes as well as detailed student and financial data. The money a university receives from the Commonwealth can only be spent as set out in the educational profile document.

The Commonwealth publishes a range of performance data, collected from universities during annual profiles discussions and through other sources, and provides both the tools and the incentives to assist universities to improve the quality of their outcomes.

The Commonwealth issues a number of publications to improve transparency and accountability in the university sector, including:

- Quality Assurance and Improvement Plans;
- Indigenous Education and Equity Plans;
- Research and Research Training Management Plans (from 2001);
- A range of statistics on universities, staff and students (see http://www.detya.gov.au/highered/statpubs.htm);
- The Characteristics and Performance of Higher Education Institutions (see http://www.detya.gov.au/archive/highered/statistics/characteristics/contents.htm);
- A website comparing university courses in ten broad subject areas to assist prospective students to make informed choices, called Which Course? Which University? (see http://www.detya.gov.au/tenfields/)

The Commonwealth also funds:

- The publication of the Graduate Destination Survey, which measures the employment success of graduates;
- The Course Experience Questionnaire;
- The Postgraduate Research Experience Questionnaire;
- The Graduate Skills Assessment test;
- The Australian Universities Teaching Committee, to promote quality and excellence in teaching and learning; and,
- The Higher Education Innovation Programme, to promote the quality of higher education through innovative projects.

The States and Territories

State and Territory governments in Australia have a number of quality assurance responsibilities as set out in the *National Protocols for Higher Education Approval Processes*, endorsed in March 2000 by the Ministerial Council on Education, Employment, Training and Youth Affairs. The Protocols ensure a consistent approach across Australia to the recognition of universities and accreditation of courses, including defining a university as "an institution which meets nationally agreed criteria and [which] is established or recognised as a university under State, Territory or Commonwealth legislation".

Non-university providers of higher education must be registered and have their courses accredited through a government higher education recognition office in the state or territory in which they operate. In order to operate in several states or territories of Australia, they must be

approved within each jurisdiction. Those States and Territories that have mutual recognition arrangements often facilitate the recognition of providers that operate across jurisdictions.

Conclusion

These quality assurance mechanisms ensure that the Australian higher education sector continues to be regarded as a provider of high quality education, both to Australian domestic students and to students from around the world. E-learning is one of the most recent and significant developments in teaching and learning, as it uses the very powerful technology of the Internet to enhance the flexibility of study and the quality of communication between teacher and learner. The Internet shows great promise for promoting student choice, flexible access to education and the quality of teaching, but in the end the Internet is just the latest mode for delivering teaching and learning to students. It is important that the hype surrounding the technology used does not obscure the importance of the pedagogy behind the teaching and the primary aim of the course of education, which is a better educated student.

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