SKILLS FOR LIFE

LIFELONG LEARNING SYSTEMS IN AUSTRALIA

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Skills for Life: Lifelong Learning Systems in Australia

Background

Lifelong learning has become recognised as a key concept in education policy internationally. Indeed, organisations such as UNESCO and the OECD have made lifelong learning the centrepiece of their education policy. A great deal of the impetus behind lifelong learning internationally has been due to technological and economic growth, although increasing recognition is also being given to social cohesion and employability issues. For example, the European Union's *Memorandum on Lifelong Learning* emphasises the objectives of citizenship and employability.

In the Australian context, the emphasis for lifelong learning has been on skill training (or learning) and employability issues (Robinson, 2000a; Smith & Misko, 1999). For example, the Australian National Training Authority (ANTA) recognises lifelong learning as an important theme in terms of people having to update and upgrade their skills during their working lives (ANTA, 1998). Similarly, the West Report discusses lifelong learning in terms of providing people with skills and knowledge to benefit employment or personal enrichment (Department of Employment, Education, Training and Youth Affairs, 1998). In this context, post-compulsory education plays a vital role, and providing the means for all people to access this education becomes an important challenge for governments (Wheelahan, 2000). As will be discussed in this chapter, systems and frameworks are currently in place or being implemented in Australia to assist students to move more easily in and out of education, and across the sectors of education as they require. However, unlike some other countries and international organisations (for example UNESCO and the OECD), Australia does not yet have a coherent and overarching policy for lifelong learning.

Overview of Education and Training System

Australia has a comprehensive education system that is divided into three formal sectors. These sectors are known as the Schools sector, the Vocational Education and Training (VET) sector, and the Higher Education (that is universities) sector. Additionally, Adult and Community Education (ACE) and enterprise training also play an important role in Australia's education and training.

The Schools sector consists of pre-school education (usually one year and not compulsory), and thirteen years of formal schooling consisting of a preparatory year, primary schooling (six or seven years), and secondary schooling (five or six years). Attendance at school is compulsory until age 15 or 16 depending on the State or Territory.

School can be followed by a period of tertiary education that can be divided into Vocational Education and Training (VET), and Higher Education. Programs of higher education typically lead to a range of Bachelor degrees and postgraduate awards (for example honours level programs, post-graduate diplomas, masters degrees and doctorates). The VET sector provides a range of programs that can commence after schooling, or can commence while still at school. VET sector qualifications include certificates, diplomas, and advanced diplomas. This sector also provides employment linked programs in the form of apprenticeships and traineeships. As will be seen in this chapter, programs offered by the VET sector are competency based and come under the National Training Framework. Activity is primarily focused on the workplace and meeting the skill needs of industries as defined by employers.

It is important to note however that with the introduction of 'user choice' and greater competition, there is increasingly a 'blurring' of the boundaries between the education sectors in Australia. An example of this the offering of VET type programs in universities. Additionally, VET courses now include components (for example human behaviour and other conceptual material) traditionally taught by universities. There has also been a blurring in terms of the customer bases of both VET and university. In addition to training for new workforce entrants, VET also caters for customers who are up-skilling, and people in a transitional employment situation. Hence, Vocational Education and Training has a far wider role than servicing 'second chance' customers such as people not being able to progress to higher education (Davis, 2002). Research conducted by the Department of Training in Western Australia has shown that the VET sector does indeed now comprise of several different customer groups including labour market entrants, career changers, skill improvers and other types of customers.

The qualifications issued by Australia's three formal education sectors are under the auspices of the Australian Qualifications Framework. This framework, which is a nationally consistent set of qualifications for all post-compulsory education in Australia, is described in detail later in the chapter.

A large portion of education and training in Australia is not restricted to formal education, but is nevertheless an important contributor to lifelong learning. A significant portion of this is the Adult and Community Education sector, which has a great diversity of training providers and organisations that deliver a variety of both vocational and non-vocational programs. The latest figures available suggest that in 1998, some 1.2 to 1.4 million people (8.0%-9.5% of the adult population) were involved in some form of Adult and Community Education (Borthwick, Knight, Bender, & Loveder, 2001). The VET data collection as of 1998 contained data for 582 000 of these people. A breakdown of this data showed that 22.3% of the people were involved in formal VET, 20.7% in informal VET, and 61.5% in personal enrichment programs.

Enterprises are also a large contributor to education and training in Australia. Much of this training is informal and covers on-the-job training, mentoring, and other forms of training that is not part of formal education. Last available figures put investment in training by enterprises at about $A4.8 billion (ANTA, 2001c).

Although all the education and training sectors are important in the provision of lifelong learning in Australia, this chapter will focus to a large extent on the VET sector. The Vocational Education and Training sector is particularly important to lifelong learning in Australia due to its emphasis on delivering workplace skills and second chance education. Indeed, in comparison to some other countries, Vocational Education and Training in Australia is very broad. Not only does VET supply skills for economic competitiveness, but also skills for life and to enable further education. Importantly, Vocational Education and Training in Australia has traditionally had strong participation from the adult community.

Forces for Lifelong Learning

The conditions that have brought about the emphasis on lifelong learning in Australia can be grouped broadly under the headings of demand for labour force skills, and supply of labour force skills. On the demand side, globalisation, technological change and workplace change has had a major impact on the way work is done, and the types of skills required. In particular, the advent of the knowledge economy has meant that a change in the skills profile is required to compete successfully on the global market (Robinson, 2000a). There is indeed some evidence that there is a demand for change in the skills profile in terms of distribution of occupations. For example, for the five years from 1996-2001, the percentage of people employed as managers and administrators, professionals, and associate professionals/para-professionals has increased from 30.5% of the workforce in 1996 to 37.7% in 2001. Conversely, over the same period, the percentage of people employed as intermediate production and transport workers, plant and machine operators and drivers, and labourers and related workers has dropped from 21.6% to 18.0% of the workforce. In particular, the percentage of labourers and related workers has dropped from 14.5% in 1996 to 9.4% in 2001 (NCVER, 2002b).

There is also an increased requirement for information and communications technologies skills in enterprises. Enterprises increasingly use video conferencing,

software packages, and internet services in conducting work. Additionally, due to the level of workplace change, employers are also demanding generic skills in addition to more specific, technical skills. These generic skills, or employability skills, are designed to provide employees with greater flexibility and adaptability in meeting the needs of constant workplace change. The types of skills which come under the heading of generic skills include teamwork ability, problem solving skills, the ability to use technology, and communication skills (Robinson, 2000a).

On the supply side, Australia has an ageing workforce (in common with many other OECD countries). Whereas in 1991, 22% of the workforce was under the age of 25, and 25% over 45, by 2001 only 20% of the workforce were under 25, with 32% being over 45. Furthermore, projections of Australia's population to 2020 indicate that this trend is likely to continue (NCVER, 2002b). The relatively fewer young people entering the workforce means that significant emphasis also needs to be placed on reskilling the adult workforce. This has particular relevance for lifelong learning, as in addition to young people, older workers will need to undergo training to enable them to remain in the workforce (Robinson, 2000a; Smith & Misko, 1999).

People will also need to undergo training as they age due to the career changes they make over their working life. Age profiles of employed people by industry and occupation show that the skill requirements of older workers tend to be different than those of young people. For example, figures for 2001 show that almost half of employed teenagers were employed by the retail trade. As people get older, this distribution changes, with for example relatively more people being employed in the manufacturing, and property and business services sector. Similarly, the percentage of people employed as managers and administrators, professionals, and associate professionals increases significantly with age (NCVER, 2002b).

Participation in Education and Training

Australia has had a long tradition of adult education and training, which is reflected in high levels of participation in education and training. Although there are difficulties in estimating the exact extent to which Australians engage in lifelong learning, some broad indicators of education and training in Australia are provided in Table 2. Unfortunately, an overall figure for participation in education and training in Australia in 2001 is not available[1]. However, as a guideline, an overall figure of 77.3% of the economically active 15-64 year old population was involved in at least one form of education and training during 1997 (ABS, 1998). This last overall figure for education and training for 1997 was not updated by the Australian Bureau of Statistics in 2001.

[1] The figures in Table 2 cannot be added to gain an overall figure as some persons undertake more than one form of education and training. For example, many people who participated in Schools, VET, or Higher Education, also completed a work-related training course.

Table 1: Participation in Education and Training in 2001 for people aged 15-64

Indicators	Numbers of people	Proportion of total (%)[a]
Enrolled in a course of study	2 528 100	19.6
Completed at least one work related training course in the past 12 months	4 781 000	37.1
Participation in Schools	700 800	5.4
Participation in Vocational Education and Training	1 760 000	13.1
Participation in Higher Education	614 400[b]	4.8

(a) These figures are based on an estimated 12 870 600 people aged between 15-64 years in Australia in 2001. The total population for Australia during 2001 was estimated to be 19 387 000 people.

(b) Additionally, there were also some 112 300 overseas students.

Sources: Australian Bureau of Statistics (ABS) 2002a, 2002b; Department of Education, Science and Training (DEST) 2002a and National Centre for Vocational Education Research Training (NCVER) 2002a.

In addition to the above figures, on-the-job-training was provided to 69% of the population of 15-64 year olds who were in the labour force or about to seek work, and who were not attending school (ABS, 2002a). Of interest in these figures is the relatively high level of participation in the VET sector, with approximately 1 760 000 people participating in some form of VET in 2001. This is as compared to a total of 985 900 people participating in VET during 1991. The figures in Table 2 also indicate that a large proportion of working age people undergo on-the-job training or attend work related training courses.

It is also worth noting that learning also takes place at the community level. In a globalised knowledge society, learning at the community level is essential in order to keep pace with the rate of change in our information driven society (Kearns, 2002). This of course, presents significant challenges for education and training systems in terms of them being able to change and continuously adapt to learning needs at the community level (see for example NCVER, 2002c).

Frameworks to Facilitate Lifelong Learning

In responding to the challenges discussed above, a formal system of providing Vocational Education and Training qualifications to Australians has been put in place known as the National Training Framework. In conjunction with the Australian Qualifications Framework that applies to all education and training sectors, this nationally consistent system promotes lifelong learning: by being flexible and responsive in terms of its training and assessment services thereby allowing Australian organisations to be more able to compete globally; by providing individuals opportunities to maximise their potential; and also by issuing nationally recognised qualifications (ANTA, 2001). The National Training Framework and Australian Qualifications Framework, which are described in detail below, emphasise learning pathways, qualification linkages and cross-sectoral collaboration as a way of breaking down the artificial boundaries between the education sectors. It needs to be noted however that whereas the Australian Qualifications Framework applies to all

three formal education sectors, the National Training Framework applies only to the Vocational Education and Training (VET) sector.

The Australian Qualifications Framework and National Training Framework: Concept and Features

This section discusses the main features and underlying rationale of the Australian Qualifications Framework and the two elements of the National Training Framework; namely the Australian Quality Training Framework, and training packages.

Australian Qualifications Framework

The Australian Qualifications Framework is a national and consistent set of qualifications issued for all post-compulsory education, ranging from Senior Secondary School Certificates through to Doctoral degrees. The framework is described in Table 2. It was introduced in 1995 and implemented over a five-year period. The framework is designed to recognise outcomes achieved in education and training in a consistent fashion. The framework also assists with the development of flexible pathways by providing the basis for recognition of prior learning (AQFAB to MCEETYA, 2002). The main emphasis of the Australian Qualifications Framework is to be a flexible system allowing for articulated[2] pathways between the sectors.

Table 2: Australian Qualifications Framework (AQF) According to Sector

Schools sector	Vocational education and training sector	Higher education sector
		Doctoral Degree
		Masters Degree
		Graduate Diploma
		Graduate Certificate
		Bachelor Degree
	Advanced Diploma	Advanced Diploma
	Diploma	Diploma
Senior	Certificate IV	
Secondary	Certificate III	
Certificate of	Certificate II	
Education	Certificate I	
	Statement of attainment (part qualification)	

Source: Australian Qualifications Advisory Board to MCEETYA (2002)

There are currently twelve qualifications represented under the framework. Note however that there is some overlap between the sectors in relation to the issuance of

[2] Articulation refers to a process of providing sequential pathways between courses, and is described in more detail later.

qualifications. For example, both the Vocational Education and Training, and Higher Education sectors issue diplomas and advanced diplomas. In addition, some graduate certificates and bachelor degrees are issued in the Vocational Education and Training sector, and some certificate level qualifications are issued in the Higher Education sector (AQFAB to MCEETYA, 2002). This is an example of the 'blurring' of boundaries between the sectors, which was mentioned earlier.

One of the major aims of the framework is to allow learners to start at a level that suits their particular needs, and then build up qualifications as needed according to their career life-stage. Crossing State or Territory boundaries for a new job theoretically will not affect the person's ability to progress their qualifications. Learners also have the ability to cross between the different education sectors in building their qualifications. Features such as these mean that the Australian Qualifications Framework is an important initiative in promoting lifelong learning. As has been mentioned previously, up-skilling is important in a society where globalisation and technology have become major imperatives.

In the Vocational Education and Training sector, attainment of qualifications under the framework is based on achieving a set of competency standards in training programs (see discussion below on training packages). This differs from the other sectors where qualifications are based on the amount of time needed to undertake a course of study[3]. Units of competency completed by students accumulate on a record of achievement and allow people to move smoothly from one qualification level to the next. However, students who complete only some of the competency standards towards a qualification are entitled to a Statement of Attainment. It is also worth noting that, as competency standards relate to skills and knowledge in the workplace, quite a lot of this training is undertaken under workplace conditions.

Other features of the Australian Qualifications Framework that will be described in more detail later in the chapter include recognition of prior learning, credit transfer, and new learning pathways. These features are all aimed at making the framework a flexible system that promotes and facilitates lifelong learning.

The Australian Quality Training Framework

The main emphasis of this framework is, through a set of nationally agreed standards, the provision of *quality* vocational education and training services throughout Australia. The framework, which was fully implemented as of 30th June 2002, replaces what was known as the Australian Recognition Framework. These previous arrangements commenced on the 1st January 1998, and provided an emphasis on registering training organisations and putting in place quality assurance procedures. Previous to the Australian Recognition Framework was a system where actual training courses were accredited, rather than accrediting the organisations that delivered them. The Australian Quality Training Framework is in fact a revision of the previous arrangements which according to ANTA (2001a):

[3] For example, in the Higher Education sector, it usually takes three years full-time to undertake a Bachelor of Commerce degree.

- *raises, and more clearly specifies, requirements of registered training organisations (RTOs);*
- *improves auditing arrangements; and*
- *introduces standards and agreed processes for State and Territory registering/courses accrediting bodies.*

In relation to the first point, registration bodies within Australian States or Territories can register organisations under the framework for a period of five years to provide training and/or to conduct assessment services. The registered organisations (known as Registered Training Organisations or RTOs) can then issue nationally-recognised qualifications in accordance with the Australian Qualifications Framework. Registered Training Organisations include a variety of organisations including institutes of Technical and Further Education (TAFE), adult and community providers, schools, institutions of higher education, industry bodies, and private providers. As part of meeting the registration requirements, these organisations need to demonstrate that they comply, and can continue to comply with standards set under the Australian Quality Training Framework.

A second key aspect of the framework is that it aims to improve the auditing of Registered Training Organisations to ensure that they meet the requirements of the framework. Under these arrangements, State or Territory registering/course accrediting bodies will audit relevant organisations. The audits occur at various times; prior to registration of an organisation, within twelve months of the initial registration of an organisation, where required based on a risk management approach, and where an organisation applies to renew its registration. Registered Training Organisations are also required to conduct periodical internal audits. Thirdly, the framework provides nationally agreed standards for both Registered Training Organisations and for State or Territory registering bodies. The previous Australian Recognition Framework Arrangements provided standards only for RTOs. Hence, the Australian Quality Training Framework builds on the previous arrangements by clarifying the rights and responsibilities of all responsible parties. Additionally, the standards aim to make the auditing of the training and assessment functions of organisations more clear, transparent and consistent.

Training Packages

Training packages can be defined as:

"an integrated set of nationally endorsed standards, guidelines and qualifications for training, assessing and recognising people's skills, developed by industry to meet the training needs of an industry or group of industries" (NCVER, 2000c, p. 39).

In the past, training programs were accredited by State and Territory-based training authorities. This led to inconsistencies in training programs across Australia. However, steps were taken in the early 1990s to ensure that States and Territories accredited subjects and courses that were formally recognised and consistent across Australia. Since then, training packages have been introduced which are approved nationally and are industry based. There has been a shift therefore from curriculum

accreditation to a focus on outputs (Dawe, 2002; Alto, Isaacs, Knight, & Polestico, 2000). The take up rate of training packages has been quite significant. Indeed, between 1999 and 2001 the number of students and hours associated with training packages has quadrupled as a proportion of total VET activity (NCVER 1999-2001 national collection).

One of the central features of training packages is that they are based on competency standards. These competency standards are focused on the skills and knowledge employees need to function effectively in the workplace. Packages are composed of units of competency, which can be combined to build a nationally-recognised qualification.

Consistent with the competency approach is that training packages are also industry-specific. They are developed by industry through industry training advisory bodies (ITABs), Recognised Bodies, or enterprises so as to meet the training needs of particular industries or industry sectors. Once a training package has been developed, certain essential components of the packages are submitted for endorsement. These components comprise competency standards, Australian Qualifications Framework qualifications for a particular industry or enterprise, and assessment guidelines. However, training packages can also contain other support materials describing assessment tools, learning strategies, and professional development resources. These components are not endorsed, and have no formal standing.

Once a training package meets the prescribed quality assurance processes it is endorsed by the National Training Quality Council, and then placed on the National Training Information Service[4]. Training Packages are typically endorsed for three years. Review of training packages usually begins 18 months after endorsement, in order to address implementation issues and to ensure they are still relevant to industry needs. After three years, updated training packages are submitted for re-endorsement.

As of September 2002, seventy-five training packages had been endorsed; eight of which are geared around the needs of specific enterprises. One of the purported major benefits of these nationally recognised arrangements is that they allow students to move between Registered Training Organisations in order to complete their qualifications.

New Apprenticeships

In relation to the above frameworks, it is also worth mentioning another initiative, the New Apprenticeships scheme. This scheme serves as a useful demonstration of some of the flexibilities in the initiatives discussed above. New Apprenticeships, which were introduced in 1998, build on Australia's long history of apprenticeships or indentured training that dates back to the last century. Australia's apprenticeship and traineeship system is based on the British model of master-apprenticeships. The New Apprenticeships combine work and structured training that lead to nationally

[4] This service is an internet-based database developed by ANTA that collects information on training packages as well as competency standards, courses, qualifications, and training organisations. The internet address for this service is www.ntis.gov.au

recognised qualifications (see previous discussion of the Australian Qualifications Framework).

The scheme has a number of flexibilities incorporated into its design including:

- The ability to combine different amounts of on-the-job and off-the-job training. Off-the-job training is conducted by Registered Training Organisations, and on-the-job training in the workplace;
- Flexibility in the choice of Registered Training Organisation and how training is delivered (for example classroom versus distance learning). This is known as 'user choice';
- Application of training contracts to both full-time and part-time employees; and
- The possibility of commencing the training while still at school.

In addition, financial subsidies and incentives are provided to employers of New Apprenticeships (Alto et al., 2000).

Although the number of apprentices has been growing since the mid-1990s, there has been a marked increase noticeable since the introduction of New Apprenticeships in 1998. Figures show that as of 2000, 2.3% (295 620 people) of the working age population participated in apprenticeships or traineeships, as compared to only 1.2% (141 390) in 1995. In addition, 6.7% (141 390) of people aged 15-24 participated in apprenticeships and traineeships in 2000, as compared to only 4.8% (127 580) in 1995 (NCVER, 2001a).

Of relevance also is that since the introduction of training packages there have been changes in the distribution of apprentices and trainees. One of the changes has been that the range of industries and occupational groups covered by training contacts has widened. For example, whereas in 1995 almost 90% of all apprenticeships and traineeships were in the skilled trade areas, this figure had dropped to less than 50% by 2001. This is due to other occupational areas such as clerical sales and service enjoying a marked increase in the overall percentage of apprentices and trainees (7% of all apprentices and trainees in 1995 to 30% in 2000). In addition, there is also a wider age range of apprentices. Whereas in 1993 young people (under 25) comprised 93% of all apprentices and trainees, by 2000 this figure had dropped to 67%[5]. In addition to these changes in composition, there is also a larger proportion of females involved in apprenticeships and traineeships than has previously been the case. While in 1995 males comprised 83% of all apprentices and trainees, this figure had dropped to 66% by 2000 (NCVER, 2002b).

Summary of Features

The above section has described the Australian Qualifications Framework and the two elements of the National Training Framework, the Australian Quality Training

[5] It needs to be noted however that there is still an increase in the overall number of young people undertaking apprenticeships and traineeships, in line with an the increase of overall numbers of apprentices and trainees.

Framework and training packages. To summarise, the Australian Quality Training Framework provides standards for Registered Training Organisations and State and Territory training authorities, and has in place auditing arrangements to enhance quality in the delivery of training courses. Training packages on the other hand provide nationally-endorsed competency standards and qualifications that recognise the skills people have. Complementing these elements is the Australian Qualifications Framework, which is a national quality assured system of qualifications providing recognition for educational attainment. In the Vocational Education and Training Sector, the Australian Qualifications Framework provides qualifications that recognise competencies that have been attained. These arrangements aim to be flexible and nationally consistent so that individuals can build on qualifications or obtain part-qualifications when and where required. In this way, these arrangements facilitate lifelong learning for individuals.

The next section will discuss issues surrounding the implementation of the National Training Framework, including an overview of the main stakeholders involved in the system. It will also summarise some of the main criticisms of the framework.

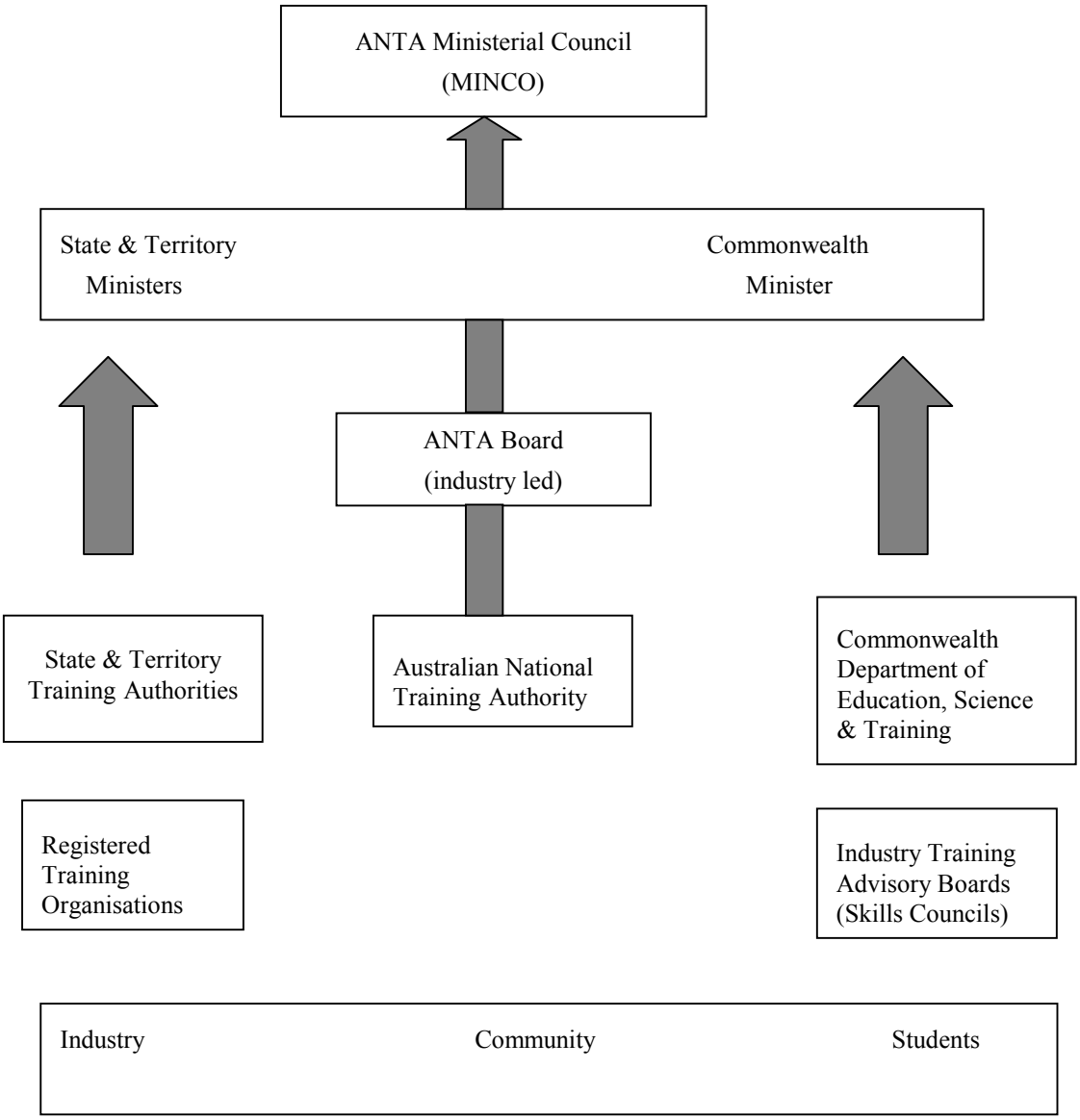
Implementation Issues

Organisational and Management Aspects

Although universities, secondary education and employer training are very important pathways in terms of skill development in Australia, an overview of the major organisations involved in the VET system in Australia is essential in describing how the National Training Framework discussed above is being implemented.

Unlike the situation in some other countries, and the Higher Education sector in Australia, the Australian publicly-funded VET system is the joint responsibility of both the national (Commonwealth), and State and Territory (Provincial) governments. Figure 1 illustrates the major organisations involved in the system, and following this a description of the role of these organisations is provided.

Figure 1: Major Organisations in Australia's Vocational Education and Training System



Source: ANTA website (www.anta.gov.au/vetWho.asp). Accessed 8/7/2003

At the top of Figure 1 is the Australian National Training Authorities' ministerial council. This council is the national decision making body for the vocational education and training sector. It comprises Commonwealth, State and Territory ministers who have the responsibility for vocational education and training. This council receives advice from ANTA, and in addition takes into account decisions made by the Ministerial Council for Employment, Education, Training and Youth Affairs (MCEETYA). MCEETYA coordinates strategic policy at a national level, and also develops national agreements on shared objectives and interests, as well as negotiating on national reporting requirements for employment, education, training and youth affairs (NCVER, 2000a).

The central body in Australia's Vocation Education and Training system is the Australian National Training Authority (ANTA). This body has the major responsibility for policy on Vocational Education and Training in Australia. It advises its ministerial council on policy, strategy, goals and objectives on a national basis and on plans for the States and Territories. It is also responsible for administering national programs and the funding of the VET system. ANTA is a Commonwealth Statutory Authority established in 1992 and reports to an industry board. Among its core roles are the development, management and promotion of the National Training Framework.

Also below the ministerial levels are State and Territory Training Authorities. These authorities administer vocational education and training within their jurisdictional boundaries. They report on operational issues to their Minister and Parliament, and on policy issues to ANTA's ministerial council (through their minister). Importantly, these training authorities are responsible for implementing the National Training Framework. They are also responsible for other matters such as registering training organisations and for accrediting courses.

In addition to the State and Territory Training Authorities, the Commonwealth Department of Education, Science and Training (DEST) has responsibility for: being principal policy adviser to the Federal Minister for Education, Science and Training; research and analysis of trends in science and education; policy coordination with the States and Territories; and provision of some funding.

Other important stakeholders in the system are Industry Training Advisory Bodies[6] (ITABs), which provide advice to the VET system. Their boards are comprised of employer, employee and VET representatives. These advisory bodies are important, as they are the major link between employers and the vocational education and training system. Their major role is to provide advice on the skills that are needed in Australian enterprises. However, they also inform industry on training. The Australian National Training Authority funds these advisory bodies.

Criticisms

There has been considerable criticism of the core notions underlying the National Training Framework. These centre on the competency-based approach to learning that

[6] ITABs have been renamed 'Industry Skills Councils'

underlies the framework, and more specifically underlies training packages. In particular, there has been criticism of the framework's industry driven focus, the range of skills covered by training packages, and difficulties in gaining acceptance within the university system.

Backdrop to Criticisms

The current criticisms of the National Training Framework and training packages have as a backdrop the introduction of competency-based training in Australia. This form of training, an outcomes-based approach focused on what students can actually do, as opposed to time serving, was introduced in the vocational education and training sector in the late 1980s (Misko, 1999; Misko & Robinson, 2000). As part of training reform aimed at making Australia more economically productive and competitive, competency-based training was aimed at meeting the needs of Australian industries and enterprises. The emphasis was on developing skills and knowledge in the workplace. One of the features associated with the competency-based approach was the implementation of assessment strategies based on nationally consistent industry or enterprise specific competency standards. These standards were a list of benchmarks or specifications in terms of what was expected work performance.

Students were to be assessed according to these standards (Misko, 1999). The National Training Board initially oversaw the process and endorsed the competency standards. This is now the responsibility of the Australian National Training Authority.

However, it was not long before criticisms of the competency-based approach to training approach emerged, particularly in terms of its prescriptive nature and narrow focus on performance without considering underpinning knowledge, values and attitudes. There were questions about its ability to develop skilled and flexible workers, and its ability to engage students in more deep level learning (Misko & Robinson, 2000). These criticisms were taken on board and the National Training Board broadened competency standards to include the knowledge, skills, attitudes, and values required to demonstrate competence. Additionally, the standards were required to identify more general skills such as literacy and numeracy. The mid–1990's then saw the development of training packages, still predicated on the competency based approach, however more holistic in terms of the requirements of training (Loveder, 2002). That is, in addition to competency standards, training packages also include Australian Qualifications Framework qualifications for a particular industry or enterprise, assessment guidelines, and other learning resources (see discussion above on training packages). These training packages are essentially frameworks that allow a greater degree of flexibility in the delivery of training. Nevertheless, criticisms of training packages and the competency-based approach still remain.

Competency-Based-Training and Training Packages

One of the major criticisms of competency-based training and training packages is that they are narrow in terms of the skills and knowledge that they provide. Smith (2001) refers to training packages as 'ticky-tacky boxes which all come out the same'.

They are seen by some academics and curriculum development staff within the VET sector as not being broad enough to encompass the 'education' of students or to develop the adaptability required in today's ever changing workplace. There is also some comparison of training packages to the principles of scientific management. That is, the packages are broken into small segments of basic skills, meaning that students end up being proficient in only narrow and specific skills. This to some extent ignores the development higher level critical analysis skills that would enable students to diagnose and solve problems in the workplace.

Interestingly however, the types of skills needed for economic success in a global marketplace are generic or more generalised and transferable employability skills (Ballenden, 2001). These, as was mentioned previously, include skills such as communication, team-work, customer service, information technology and problem solving skills. Hence it is argued by some (Ballenden, 2001; Smith, 2001) that there should be a greater component of generic skills in training packages. Although competency standards do incorporate a level of generic skills, it is argued that they should be wider to include personal attributes and values (Kearns, 2001). Indeed, Ballenden sees the recognition of generic skills as a key to lifelong learning. Therefore, it is advocated that in addition to meeting the short-term needs of industry in terms of specific skills, training packages also need meet longer-term industry and national needs by the incorporation of transferable generic skills. These seemingly competing approaches are a challenge training packages need to address order to facilitate lifelong learning.

Having said this however, generic skills are increasingly being incorporated into training packages. For example, Dawe (2002) found in an examination of training packages across ten industry sectors that there was a focus on generic skills. In addition, new training packages are including more support materials that aim to assist in the implementation of generic skills.

Industry Focus

More generally, the industry focus of competency-based training and training packages has been seen to present some problems. In addition to the narrow skills issue mentioned above, there have been concerns regarding the role of educators, as well as issues of concern regarding students. As was discussed previously, training packages are developed by Industry Training Advisory Boards to meet the particular needs of industry and in some cases enterprises. In this process however the role of educators has been marginalised (Cornford, 2001; TAFE Directors Australia, 2001). Indeed, Wheelahan (2001) claims that "teachers are explicitly excluded from developing the competencies" (p.18), and reduced to the role of a facilitator. As can be imagined, this has caused some angst, particularly among educators. However teachers are seen to play a critical role in student's learning. Teachers, particularly in the VET sector bring with them not only the ability to teach, but also have experience in their industry. As such, they have a great deal they can contribute to the development of training packages, and additionally would circumvent some of the problems with delivering them. In this light, Billet et al. (1999) recommend a broadening and deepening of the role of teachers to assist in developing a flexible and adaptable workforce capable of being competitive on the global market. Although

training students to be proficient in workplace tasks is important, training packages have been seen to miss the role of teachers in educating students and all that entails.

The issue of training packages being developed for industry and the workplace can also present difficulties for some students, particularly in terms of access and equity. As assessment of competencies takes place under workplace conditions, students who are unemployed, or who work in a different area from the course they are undertaking need to find work placements or operate in a simulated[7] work environment in order to be assessed (TAFE Directors Australia, 2001). This can be problematic. For example, to be competent in a particular area requires repeated exposure to the contingencies of workplace conditions. This can be difficult to achieve in a work placement or simulated work environment. The quality of work placements can be variable and somewhat dependent on the abilities of workplace mentors (Smith & Harris, 2000). In addition, training providers have limited resources with which to simulate workplace conditions (Boorman, 2001).

Another strategy which may be used by training providers given funding constraints on institutional delivery (as opposed to learning in the workplace) is to narrow the program of training. This can have the effect of students only achieving a narrow band of competencies, which may not be useful to employers (TAFE Directors Australia, 2001). Additionally, some providers may exclude students who are not employed (Smith, 2001). Given the nature of the VET sector, it would be expected that there would be a focus on training people to *get* jobs, or in changing careers. Having training organisations more involved in the development of the system and valuing institutionally-based training is seen as one approach to mitigating problems of access and equity (Boorman, 2001).

Following on from this, the whole issue of training packages being focused at industry level is coming under scrutiny. Ballenden (2001) argues that training packages can be too narrowly focused on the needs of a specific industry and miss broader generic or employability skills. As was discussed, these broader generic skills which cross industry boundaries are seen as being vital in an increasingly global environment where people are changing jobs regularly. There is also some suggestion that the uptake of training packages by industry is not that extensive (Ballenden, 2001; Cornford, 2001). Ballenden suggests that the main users of training packages are those sectors of the industry that have competency standards included in industrial awards (for example the manufacturing sector). Small business in particular relies on other methods of training (more informal and focused on immediate business needs), and less on formal VET courses.

Links to Higher Education

The competency-based approach to learning has also has been seen as presenting problems in terms of cross-sectoral linkages between the VET sector and the Higher Education sector. Much of the philosophy underlying the Australian Qualifications Framework involves the development of learning pathways that break down the boundaries between the education sectors. Some of the mechanisms discussed to

[7] Simulation involves activities such as role-plays, practice offices, training restaurants, scenarios, and community projects (Smith, 2001).

achieve this include recognition of prior learning, credit transfer arrangements, articulated pathways and integrated dual sector approaches. While cross-sectoral linkages are vital to achieving a framework that enables lifelong learning, some obstacles have been identified to achieving this. These obstacles largely revolve around the pedagogical differences between the sectors, with the VET sector using a competency-based approach specifying outcomes, and the Higher Education sector using a curriculum-based approach specifying content. These differences have some consequences in terms of what they mean for linkages between the VET and Higher Education systems.

One major consequence is the recognition by higher education institutions of qualifications based on training packages. Wheelahan (2000) points out that it is difficult for higher education to determine whether students who are transferring from the VET sector via training packages possess the same knowledge as those who have done their education in the higher education sector. This can also have implications for credit transfer arrangements whereby it has been noted that some higher education organisations have been reluctant to grant credit transfer and articulation for students who have completed training packages (for example Maslen, 2001; Smith, 2001). Factors of concern to higher education include underpinning knowledge, measurement of student effort and variations in the quality of training packages (TAFE Directors Australia, 2001). This however can also work the other way with higher education students moving to the VET sector finding it difficult to gain credit transfer because they have not been assessed against competencies in a training package.

A related issue is the problem of ranking applicants for higher education courses who are applying on the basis of VET qualifications they have gained. Many students with VET qualifications have non-graded passes making it difficult to compare them to other applicants. They can then be at a disadvantage when competing with students from secondary or tertiary education who have specific grades recorded on their results (Carnegie, 2001). One solution proposed to this particular problem is the grading of competencies.

Cultural differences between the Higher Education and VET sector has also been seen as a barrier to developing effective linkages (Carnegie 2001; Wheelehan, 2000). Although this barrier is one more of perception rather than a structural barrier, there does seem to be some degree of suspicion between the sectors. Much of this can be put down to the pedagogical differences between the sectors that were mentioned earlier. Other important problems with developing linkages between the sectors are that they have different funding and industrial relations arrangements. These particular issues will be discussed in more detail in the next section.

Quality Issues

In addition to the concerns surrounding competency-based training and training packages discussed above, some concern has also been raised regarding the variable quality of training packages. Smith (2001) notes that identical qualifications that have been issued under training packages do not necessarily reflect equivalent quality or standards. For example, training packages can vary by mode of delivery (classroom teaching, self-paced learning manuals etc.) and site of delivery (workplace or institution). Similarly, TAFE Directors Australia (2001) has expressed concern about

the consistency of quality of training packages. They have also raised the issue of inequities in equivalence of effort required to gain a given qualification. That is, the effort required to gain a certificate level III qualification in one industry may require considerably more effort than a certificate level III qualification in another industry. The variable quality issue can also present difficulties for students in gaining credit transfer when applying for higher education courses (Carnegie, 2001). However, the implementation of the Australian Quality Training Framework is currently addressing some of these criticisms.

This section has discussed some of the main criticisms of the competency-based training approach and training packages. While they do have some obvious advantages in terms of students gaining skills relevant to the workplace, the criticisms discussed would suggest that training packages need to continue to evolve in order to address these criticisms.

Trends and Innovations

The arrangements that form the Australian Qualifications Framework and the National Training Framework are increasingly aimed at promoting learning pathways and cross-sectoral linkages. These pathways and linkages can be seen as a vehicle for implementing lifelong learning in Australia. Associated with this aim are several trends, most of which are systems for providing credits to student. These trends include recognition of prior learning, credit transfer arrangements, articulation agreements, joint awards including Integrated Dual Sector Awards (or dual credentialling), and Vocational Education and Training in Schools. These concepts are outlined below.

Recognition of Prior Learning

Recognition of prior learning is a form of granting credit in a course in which a student is enrolled that acknowledges a person's skills and knowledge regardless of how it was obtained. As such, this form of credit can be granted by virtue of previous formal study, training at work, work experience, life experience (such as recreational interests and voluntary work), and qualifications gained overseas (Kenyon, Saunders, & Gibb, 1996). The rationale behind recognition of prior learning involves the elimination of duplication of education and training, improving equity in accessing qualifications, and helping to bridge the divide between institutionalised education and training, and skills and knowledge obtained from the workplace or life experience (Australian Qualifications Advisory Board to MCEETYA, 1997). It also creates learning opportunities for many people thereby facilitating lifelong learning (Wheelahan, Miller, & Newton, 2002). Recognition of prior learning in Australia was originally introduced in conjunction with the competency-based approach to training (Misko & Robinson, 2000).

Since the granting of this form of credit is based on an individual's skills and knowledge, assessment procedures are focused on the individual, and need to be done

on a case by case basis. That is, the assessment needs to take into account an individual's skills and knowledge regardless of how they were obtained (for example formal study, and experience) in order to determine how much credit can be given. As a student applying for recognition of prior learning often has no formal documentation to present as evidence, the assessor needs to determine the standard and extent of evidence presented. As can be imagined, this form of assessment can be a complex and time-consuming exercise. This has in the past been a deterrent to some institutions offering credit by this method (Misko & Robinson, 2000). However, once assessed, students in the Schools and Higher Education sector can complete part of a qualification through recognition of prior learning. Indeed, in the VET sector it is possible for students to be granted an entire qualification based on this form of credit (see Australian Qualifications Advisory Board to MCEETYA, 2002). Additionally, in the VET sector students can also get statement of attainment based on recognition of prior learning.

Despite its espoused advantages, a report by Wheelahan, Dennis, Firth, Miller, Newton, Pascoe, and Venker (draft in publication) has highlighted several areas of concern regarding the use of recognition of prior learning in Australia. Overriding concerns were expressed about the relatively low level of uptake of this form of credit, and that recognition of prior learning has not assisted in gaining access to education and training pathways for disadvantaged students. The report also expressed concerns about the level of support students have to effectively participate in the process (for example in preparing an application for recognition of prior learning). In addition, concerns were raised that the current funding arrangements between the education sectors, and between States and Territories do not support wide implementation of recognition of prior learning, and concerns were also raised regarding the quality of outcomes derived from this form of credit.

Although it is difficult to measure the extent of recognition of prior learning provision over the three education sectors, some figures are available for the VET sector. These figures show that this form of credit was granted for 2.5% of all subject enrolments in VET in 2001 (NCVER, 2001c).

Recognition of prior learning is emerging as an important learning pathway. For students, the ability to gain credit in a course based on knowledge and skills they already have is a strong incentive to continuing education and training. In this way, recognition of prior learning can be seen to promote and facilitate lifelong learning. It can also be seen as a nexus between vocational skills and knowledge and academic knowledge. However, given the concerns raised by the Wheelahan et al (draft in publication) report, there are still issues to address in order to maximise the benefits of this type of credit arrangement.

Credit Transfer Arrangements

These are the granting of credit in a course in which a student is enrolled for subjects already completed in previous study. As can be seen by this definition, credit transfer

is not as broad ranging as recognition of prior learning. Nevertheless, students benefit from credit transfer as it eliminates duplication of studies, and can potentially save the student from paying fees twice. To be granted this form of credit, the previously completed study must be of at least equivalent level and content as the topics the student is seeking credit for in the new course. Additionally, students need to have documented evidence of achievement in prior studies.

Credit transfer can be obtained through two processes. The first process is designed around the individual student and is done on a case-by-case basis. Under this process, the student takes their prior qualification to the institution where they wish to gain credit, to see whether that qualification holds merit for the purpose of gaining credit transfer. This process is however somewhat ad hoc and can lead to inefficiencies. Preferable is a more structured process of credit transfer. This involves institutions carrying out an assessment of how components of different awards relate to one another. Hence, the protocols for credit transfer are already determined before individual students come to request credit. This results in a more standardised and efficient process (Carnegie, 2001).

Credit transfer is available through several pathways, both across and within educational sectors. Hence, this form of credit may be available to students going from Senior Secondary Education to Vocational Education and Training, Vocational Education and Training to Higher Education, and Higher Education to Vocational Education and Training. In addition, credit transfer may be available between courses in both the Vocational Education and Training, and Higher Education sectors. The arrangements are usually negotiated between institutions, however occasionally, state-level agreements may be negotiated between sectors (for example Queensland and South Australia in regards to Vocational Education and Training). Within the VET sector, credit transfer was granted for 3.8% of all subject enrolments in 2001 (NCVER, 2001c).

Articulation

This process is aimed at providing a sequential pathway between courses. Under articulation arrangements, qualifications are integrated, allowing the student a smooth transition from one course to the next. This is done by agreeing on the form of linkages and credit values between the qualifications. Additionally, under these arrangements there is usually a block of credit identified (that is several topics are involved in the credit arrangement rather than just one).

Qualifications that are articulated are often nested; that is, the qualifications build on each other so that the content of a lower level course is contained in the higher level course. For example, in the VET sector, a Diploma may be articulated into an Advanced Diploma. However, articulation arrangements can also be dual sector, so that for example, elements of an Advanced Diploma awarded in the VET sector can be articulated into a Bachelor degree in the Higher Education sector (Carnegie, 2001).

Joint Awards

A more recent model is joint awards, including integrated dual sector awards. This arrangement involves the VET and Higher Education sectors coming together in partnership to design an award. While this award is closely related to the concept of articulation, it can be undertaken concurrently as well as sequentially. That is, a qualification in the VET sector can be undertaken concurrently with one in the Higher Education sector (Carnegie, 2001). Wheelahan (2000) also points out that these awards are in the same area of study. Other forms of dual sector wards, such as under articulation arrangements are often in complementary areas of study. This integration of awards across sectors has obvious benefits for students by its mixing of theory and practice under one coherent structure.

There are currently several institutions offering joint awards in Australia. Examples include Swinburne University's Bachelor of Business (e-commerce) involving both the university's TAFE division and Lilydale Higher Education Centre, and Victoria University's Bachelor of Health Sciences (Paramedic) containing multiple entry and exit points. The University of Canberra and Canberra Institute of Technology also offer a joint award in design. Other examples also exist. Although these awards are an emerging initiative, there is no overriding national policy framework regarding these types of arrangements, and it appears that a formal evaluation of this initiative is yet to take place (DEST, 2002c).

Vocational Education and Training in Schools

In addition to arrangements between the VET and Higher Education sectors, or within the VET sector, the Australian Qualifications Framework also provides for learning pathways relevant to the Schools sector. Units of competency (see above under description of training packages) are increasingly being made available within the school curriculum, meaning that students can combine their general school studies with vocational training. Some of these vocational studies at school can be used as credits if students decide to progress to a qualification within the VET sector. For example, if a school student were to be interested in a career in the food and hospitality industry, they may be able to undertake food and hospitality subjects at school as part of their Senior Secondary Certificate of Education, which also contribute to a certificate level qualification in the VET sector. Furthermore, students also have the possibility of starting the training component of the New Apprenticeships scheme while still at school.

Summary

The above models are aimed at providing seamless learning pathways for students, and assisting in the implementation of lifelong learning in Australia. Most of these models are forms of credit transfer arrangements. They each have their own inherent strengths and are to be used according to the circumstances surrounding the student. Recognition of prior learning can be seen as a different approach to the other models in that it is an individualised process that does not involve formal linkages between

qualifications. It does however, unlike the other models recognise experience outside of structured learning (for example life experience).

Funding Issues

Financing of formal education and training in Australia comes from various sources including both public (recurrent government funding) and private (for example companies purchasing training). Students are also required to pay a proportion of the fees for their post-compulsory education and training. In addition, industry invests a considerable amount of money in employee training. Table 3 below provides figures that indicate the level of funding for Australia's three formal education sectors for the year 2000.

Table 3: Funding levels for the formal education sectors for the year 2000

Sector	$A (billion)
Schools	18.2
Vocational Education and Training	4.0
Higher Education	9.3

Sources: Australian Bureau of Statistics (2002c), National Centre for Vocational Education Research (2001b), and Department of Education, Science, and Training (2002b)

Of the $18.2 billion funding for the schools sector, the States and Territories contribute approximately three-quarters of this amount, with the Commonwealth Government contributing the remaining quarter. The funding for the schools sector is also supplemented by other financing from student fees and other sources.

The $4.0 billion funding for the VET sector is comprised of $2.3 billion State and Territory Government funding, $835 million Commonwealth Government funding, and an additional $0.8 billion in other funding comprising of fee-for-service, student fees and charges, ancillary trading and other. In addition to the funding of the public VET system, there is also a considerable amount of investment in training by private enterprises. Although recent figures for this investment are not available, in 1998 this investment was estimated to be approximately $4.8billion (ANTA, 2001c).

The $9.3 billion funding for the Higher Education (universities) sector is comprised of $4.2 billion Commonwealth Government grants, $1.7 billion Higher Education Contribution Scheme, $1.7 billion other fees and charges, and $144 million state government funding. The remaining approximately $1.6 billion consists of funding from investment income, consultancies and contracts, royalties, trademarks, and licenses, and other sources (DEST, 2002). In total, expenditure on education in 2000 in Australia accounted for 6.7% of GDP (5.1% public and 1.6% private) (ABS, 2002c).

As can be seen, the public funding mixes of each of the sectors are essentially different. While the public funding of the Higher Education sector is predominantly

from the Commonwealth Government, with little input from the States, for the Vocational Education and Training, and Schools Sector, the funding is dominated by the States and Territories. Indeed, State and Territory funding accounted for 57.6 percent of the total funding of the public VET system in 2000 (NCVER, 2001b). The different funding arrangements for the VET sector and Higher Education sector are discussed in more detail below.

In the VET sector, State Training Authorities make funding allocations to Technical and Further Education institutes and other public providers of VET. Some of this funding is allocated on the basis of competitive tendering under user choice provision. The Commonwealth funds are provided to the State Training Authorities by the Australian National Training Authority. In contrast, higher education institutions are predominantly funded by the Commonwealth Government, even though they are constituted by State Government Acts of Parliament (Chapman, Doughney, & Watson, 2000). Both sectors also have internally generated revenue such as fee for service arrangements.

The VET and Higher Education sectors also use different funding formulas. In the VET sector, funding is on the basis of student contact hours, and is on an annual basis. Funds can only be used in accordance with a negotiated profile agreement, which limits the ability of VET sector institutions to make independent financing decisions. In the Higher Education sector, funding is on the basis of equivalent full-time student units, which is the workload of a normal full-time student. Funding is allocated three years in advance, and higher education institutions have more freedom than VET institutions as to how these funds are used (Chapman et al., 2000).

One other important difference between the sectors is the student fees regime. Students in the Higher Education sector are liable for a Higher Education Contribution Scheme fee. This is a fee which students pay as a contribution to the cost of their course of study. Students can either pay these fees up front at a discount, or defer them and repay them through the taxation system once their income has reached a certain level. These fees can amount to several thousands of dollars for each year of a course of study. Students of higher education are also required to pay a student amenities fees. Students in the VET sector are required to pay their fees at enrolment (unless they fall into a category where they are exempted or receive a discount). These fees are set at the state and territory level, meaning that there can be variations between the states. Fees are calculated per course contact hour, and there is usually a maximum fee payable in any one year. These fees are however considerably lower than the Higher Education Contribution Scheme fees. Students of VET may also have to pay other fees such as student amenities fees, course material fees, and enrolment fees (Chapman et al., 2000).

Criticisms of Current Funding Arrangements

There are various criticisms of the current funding arrangements for education and training in Australia. These criticisms centre on problems with developing effective cross-sector linkages, and in implementing an output-based system of vocational education and training while funding remains input-based.

Cross-sectoral linkages

The different funding arrangements between the education sectors have created considerable tension in terms of developing effective linkages between the sectors. The arrangements impact both on the ability to provide effective cross-sectoral education, and on students. For example, the arrangements present considerable difficulties in developing dual sector awards, or enhancing learning pathways between the sectors. Chapman et al. (2000) and Watson, Wheelahan, and Chapman (2002) in discussions of cross-sectoral funding models, have summarised these difficulties. They include:

- The differing accountability and reporting requirements of each sector. Hence, if a VET student is undertaking a higher education subject, there can be confusion as to how and to whom this is reported;

- The different funding cycles and the basis for allocating funds make it difficult to plan cross-sector courses;

- Industrial issues: VET and the Higher Education sector have different industrial awards. This means that there can be difficulties in allocating teaching staff in cross-sectoral awards. This can lead to duplication of resources and other inefficiencies;

- Dual sector institutions: Institutions involved in both the delivery of higher education and VET face considerable impediments because of the differing funding structures. This has implications for the development of information systems, and allocations of administrative staff;

- The same course (for example an Advanced Diploma) can attract a different cost depending on whether it is delivered by the VET sector or Higher Education sector.

Difficulties with the funding arrangements also extend to students. In particular, students involved in cross-sectoral programs face different financing options. For example, VET students undertaking a higher education subject as part of their course pay VET fees for all of their course except for the higher education topic, for which they are required to pay the Higher Education Contribution Scheme. As mentioned previously, these fees are considerably higher than VET fees. In contrast, a higher education applicant receiving credit for subjects undertaken in a VET course pays less for those subjects credited than if they had been undertaken in a higher education institution. Students are also affected because difficulties inherent in the funding arrangements have limited course design. This can mean that courses are often not being tailored to meet student learning needs. Furthermore, the up-front fee regimen of the VET sector can disadvantage some students who are not able to pay. The Higher Education fees system in contrast, while charging more, can be deferred until the individual has the capacity to repay.

Funding Issues within Vocational Education and Training

A major issue in implementing training packages in the VET system is that the funding arrangements remain input-based. As was mentioned, funding for this sector is based on student contact hours, that is input-based. However, the curriculum model for VET is competency based, which is an output-based system. Hence, the funding is time based rather than course based. Interestingly, while training packages have notional hours allocated to them, the whole system is based on students demonstrating competencies, not on hours of training completed. This can limit the amount of flexibility in training packages, as training providers need to show that they have used the notional hours allocated (Wheelahan, 2001).

Furthermore, providers in the VET system are funded only for competencies in the training packages. This means that it becomes difficult to develop the curriculum beyond these competencies and also limits flexibility in training packages. This also means that cross-sectoral programs facilitating the movement of students from VET to higher education can be impeded (Watson et al., 2002).

Summary

The different funding arrangements between the sectors are potential impediments to effective implementation of the Australian Qualifications Framework and the National Training Framework. Input-based funding models are also problematic for frameworks geared around outputs (that is skills and competencies). In particular, the current funding arrangements can present problems in developing effective cross-sectoral linkages. However, effective cross-sectoral linkages is one of the key processes underpinning the Australian Qualifications Framework, and in facilitating lifelong learning.

Implications for the Future

This chapter has mainly focused on a discussion of the Australian Qualifications Framework and National Training Framework as primary vehicles for facilitating lifelong learning in Australia. In particular, the chapter has described the main features of these frameworks, innovations aimed at providing effective and efficient learning pathways and cross-sectoral linkages, criticisms surrounding the implementation of the competency-based approach and in particular training packages, and tensions resulting from the different financing arrangements between the educational sectors. There are however, given the criticisms and tensions discussed above, still challenges facing the training system in Australia.

Firstly, in response to criticisms that have been made, training packages are continuing to evolve. An example of this is the recent implementation of the Australian Quality Training Framework, particularly in regards to addressing quality issues. However, there are other challenges. One of these is a continuing enhancement of generic or employability skills materials in training packages. These are aimed at making the skills of workers more transferable and less focused on a particular

industry. Generic skills are seen as vital at a time when people change careers several times throughout their working life.

Some authors (for example Boorman, 2001; TAFE Directors Australia, 2001; Wheelahan, 2001) also advocate a greater role for teachers in the development and implementation of training packages. This is seen as taking advantage of the skills teachers possess, and also redressing some of the industry bias inherent in the packages. One other challenge for training packages is to improve access and equity. Unemployed students or students changing careers often have difficulties in meeting the work based assessment requirements of training packages. Boorman argues that one way to improve the access and equity of students is to value the merits of institutionally based training.

An important aspect of the Australian Qualifications Framework is the development of cross-sector qualification linkages between the VET and Higher Education sectors. Several mechanisms exist to facilitate this approach, largely based on a system of credit transfer. There has however been some reluctance, particularly in the Higher Education sector, in accepting topics between the sectors for the purposes of credit transfer. In order to facilitate lifelong learning, development of these mechanisms will continue to take place. One issue that may be considered is the compulsory grading of competencies to assist staff in higher education institutions assess topics for credit. In addition, the Australian Qualifications Framework guidelines encourage other models of cross-sectoral linkages. These may include the development of partnerships between individual institutions or between consortiums, and between Industry Training Advisory Boards and partner universities (Australian Qualifications Framework Advisory Board to MCEETYA, 2002).

The concept of partnerships itself is an important issue in the facilitation of lifelong learning in Australia. In this vein, Kearns (2002) discusses the value of *learning communities* in Australia. Ideally, learning communities would involve a variety of government, private and community organisations in partnership to provide an integrated approach to learning at the community level. As an example, Kearns discusses the Far West Enterprise and Learning Alliance (FWELA), an incorporated company in Ceduna (a remote country town in South Australia on the Great Australian Bight and near the Nullabor plain) focusing on the needs of the Indigenous community. FWELA provides linkages between Commonwealth and State government bodies, institutes of Technical and Further Education, and local employers, and in addition has Indigenous organisations represented on their board in order to provide an holistic approach to community development. Examples such as these serve to demonstrate how comprehensive approaches to community development can assist Australia in implementing lifelong learning.

Finally, the current funding arrangements for education and training in Australia, with each education sector having different arrangements, will need to be addressed if the sectors are to be brought closer together. In this light, Watson et al. (2002) propose an incremental approach to cross-sectoral funding, which initially would aim to increase consistency between the current funding arrangements of the sectors. They see this approach as being more workable than a more fundamental restructuring of the funding system that is dependent on political goodwill, and risky in terms of achieving intended outcomes.

In conclusion, the Australian Qualifications Framework and National Training Framework arrangements are important aspects of the development and facilitation of lifelong learning in Australia. Of particular importance is the breaking down of boundaries between the education sectors in order to develop seamless learning pathways for students and to encourage cross-sector collaboration. In light of criticisms of the competency-based approach to training and current financing arrangements however, these frameworks are continuing to evolve to be effective vehicles for implementing lifelong learning in Australia.

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Appendix 1

Glossary of Terms

ACE *Adult and Community Education*

This education sector delivers a variety of courses including vocational, basic and community education, and personal enrichment programs. The courses provided by this sector are mainly aimed at adults, and many of the programs are informal, that is do not lead to formally recognised qualifications.

ANTA *Australian National Training Authority*

This body is responsible for policy on Vocational Education and Training in Australia. It is also is responsible for administering national programs and the funding of the VET system, and the management and promotion of the National Training Framework. Their website address is www.anta.gov.au

AQF *Australian Qualifications Framework*

This framework is a nationally consistent set of qualifications for all post-compulsory education in Australia.

AQTF *Australian Quality Training Framework*

This framework outlines the nationally agreed recognition arrangements for the vocational education and training sector. It specifies the requirements for registered training organisations (RTO's), auditing of RTOs to ensure they meet the requirements of the framework, and provides standards both for RTOs and State or Territory registering bodies.

CBT *Competency Based Training*

Training which is aimed at developing the skills, knowledge and attitudes that are required to meet competency standards.

Competency Standards

These are specified by industry in terms of the skills, knowledge and attitudes required for effective employment.

HECS *Higher Education Contribution Scheme*

Students of Higher Education institutions are required to pay these fees as a contribution to the cost of their education. The national government pays the remainder of the cost.

ITABs *Industry Training Advisory Boards*

These are organisations representing a particular industry that provide advice to government on vocational education and training needs for their particular industry.

NTF *National Training Framework*

This framework is the system for national vocational education and training. It consists of the Australian Quality Training Framework and nationally endorsed Training Packages.

RTO *Registered Training Organisation*

These are organisations that are registered by a State or Territory recognition authority to deliver training and/or conduct assessments. They are also registered to issue nationally recognised qualifications in accordance with the Australian Quality Training Framework.

TAFE *Technical and Further Education*

These are the major group of government-funded organisations providing vocational education and training, and other courses in Australia.

Training Packages

These are a set of nationally endorsed standards, guidelines and qualifications for training, recognising and assessing people's skills. They are developed by industry with the aim of meeting the needs of an industry or group of industries.

VET *Vocational Education and Training*

This refers to post-compulsory education and training aimed at providing people with the skills and knowledge to be competent in the workplace. Vocational Education and Training in Australia is principally aimed at meeting the needs of industry.

More complete glossaries on terms relating to Australia's Vocational Education and Training System can be found at www.anta.gov.au or at www.ncver.gov.au

Appendix 2

Trends in Australia Influencing the Need for Lifelong Learning

Demography

Australia is an island continent in the south-west pacific rim. Although covering some 9 million square kilometres (only slightly smaller than the USA), Australia is rather sparsely populated.

As of 2001, the total population of Australia was 19.4 million (a density of just over 2 persons per square kilometre). Of this, 50.2% were female, and 49.8% were male. The majority of Australians live in cities that are concentrated in coastal areas (approximately 64% of the population lives in capital cities). In addition, as of June 2000, there were estimated to be 418 800 indigenous people resident in Australia (ABS, 2001b).

Australia also has an ageing population. For the twenty-year period from June 1981 to June 2001, the median age of Australian's rose from 29.6 years to 35.4 years, representing an increase of 5.8 years (ABS, 2001a). The increasing age of the population means that the needs of a skilled and trained workforce cannot be met solely through young people. Significant emphasis also needs to be placed on skilling and re-skilling the adult workforce. This has implications for lifelong learning in Australia as education and training systems will need to focus on providing skills to people of all ages (Robinson, 2000b).

Globalisation and Changing Technology

In common with other countries, the forces of globalisation and the impact of changing technologies have affected Australia. In particular, the economy of Australia has changed considerably since the 1970's when mining and agriculture were still major export industries and tariff protection was in place. Since then, there has been an opening up of the economy with for example tariff reductions, deregulation of the finance sector, the floating of the dollar, enterprise bargaining arrangements, taxation reform, easing of foreign investment regulations, and micro-economic reform (Maglen, 2001).

As a result of globalisation, and the need to be able to compete internationally, Australia is increasingly becoming what is known as a knowledge-based economy (that is an economy driven by information and knowledge). This is evidenced by an expanding service industry (in knowledge-based areas such as computing, education, and financial services), and a high level of information technology skills. Indeed, Australia has by world standards a very large information and communications technology market (ICT), with investment in ICT (as a percentage of GDP) being ranked third in OECD counties (Department of Foreign Affairs and Trade, 2002a). Computer and internet usage among Australians is also very high. In terms of the

percentage of the population connected to the internet, Australia was ranked 8th in the world in 2000 (Department of Foreign Affairs and Trade, 2002c).

Australia also has a rapidly expanding services industry sector which accounts for approximately 64% of the economy. Additionally, Australia's service exports are increasing. This increase is an important indicator of Australia's move towards a knowledge-based economy (Department of Foreign Affairs and Trade, 2002a). For the 1999/2000 financial year, exports in services such as computing, education, and financial services totalled $28.3 billion. This is approximately 25% of the total export market (Department of Foreign Affairs and Trade, 2002b).

Further evidence that Australia is moving towards a knowledge-based economy can be found by looking at Australia's employment structure. Maglen (2001), in a study of participation of Australian's in a global knowledge-based economy, estimated that approximately 56% of Australia's labour market could be said to be employed in global labour markets. Other evidence can be found by looking at Australia's industry structure. An industry employment profile for the period 1996-2001 showed an increase in employment in the services sector, particularly in the areas of property and business services, health and community services, and cultural and recreation services. For the same period, there was a decrease in employment in the manufacturing sector[1] (NCVER, 2002).

Concurrent with the changes to industry employment patterns has been a change in occupational structure. The distribution of employment in managers and administrators, professionals, and associate professionals/para-professionals has increased from about 30% of the workforce in 1995 to close to 38% of the workforce in 2001. Over this same period, the proportion of tradespersons has declined from 14.3% to 12.7%, and the proportion of labourers and related workers from 14.8% to 9.4%. These figures are consistent with the growth of Australia's service sector (NCVER, 2002).

Globalisation, technological change and changes in the nature of work have had a significant impact on education and training systems in Australia. Firstly, there are implications for the skills that educational institutions need to impart to students. The increasing role that service industries have in Australia's economy mean that students need to develop interpersonal skills in addition to technical skills (Shah & Maglen, 1998). In addition, due to the increasing emphasis on information and communication technology, students also need to be provided with skills in this area, and be willing to retrain in accordance with changing technologies. Robinson (2001) goes further to suggest that education and training systems need to provide students with generic skills (for example communication skills, team building skills, problem solving abilities) in order for them to engage in the types of work resulting from the global economy.

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[1] This growth of the service sector, and the decline of the manufacturing sector cannot however be seen simply as the displacement of one sector with the other. A complicating factor to the changing employment pattern is that many services are providing services to manufacturing companies, and within manufacturing about one-third of the jobs are in service functions (Marginson, 2000).

Educational institutions will also need to be flexible and adaptable in order to meet the demands of the knowledge economy. This impacts on the structures of educational institutions, their curriculum, the skills of their staff, the use of flexible delivery modes, and learning strategies (Hobart, 1999). A variety of learning pathways (for example between the VET sector and universities) are also critical to meeting the needs of a global and knowledge–based economy (Shah & Maglen, 1998). With changing employment patterns and changing technologies, people will need to be able to re-skill during their working lives. Access to different levels, sectors and modes of education are necessary to enable the re-skilling to effectively take place. Of particular importance is that educational institutions will need to provide education and training programs suitable for adult learners (Robinson, 2000b).

Appendix 3

Comparative Indicators

Labour Market Conditions

Table 1: Australian population by age, 1991-2001

Year	Age groupings (population in thousands)			Total	Age Dependency Ratio[(a)]
	0-14	*15-64*	*65+*		
1991	3 785	11 546	1 953	17 284	0.169
1992	3 814	11 669	2 012	17 495	0.172
1993	3 833	11 784	2 050	17 667	0.174
1994	3 856	11 892	2 107	17 855	0.177
1995	3 886	12 036	2 150	18 072	0.179
1996	3 920	12 194	2 197	18 311	0.180
1997	3 927	12 355	2 242	18 524	0.181
1998	3 915	12 530	2 285	18 730	0.182
1999	3 920	12 688	2 329	18 937	0.184
2000	3 927	12 874	2 356	19 157	0.183
2001	3 916	13 067	2 404	19 387	0.184
	0-14	*15-60*	*60+*		
2020	3 946	13 686	5 395	23 027	N/A

(a) Population aged 65 and above as a proportion of the working age population (ages 15-64)

Source: Australian Bureau of Statistics 2002c, NCVER 2002

Table 2: Female, male, and youth labour force participation rates, 1991-2001

Year	Participation rate (percent)				
	Males	Females	15-19yrs	20-24yrs	Persons
1991	74.3	51.7	53.5	81.5	62.9
1992	74.3	51.9	54.5	81.8	62.9
1993	73.8	51.5	52.4	81.3	62.5
1994	73.4	52.3	55.5	81.1	62.7
1995	73.7	54.0	57.8	82.5	63.7
1996	73.4	53.6	57.4	82.2	63.3
1997	72.8	53.4	55.5	81.1	63.0
1998	72.8	54.1	55.7	82.4	63.3
1999	72.5	53.8	56.4	81.8	63.0
2000	72.5	54.9	58.0	81.5	63.6
2001	72.2	55.5	59.6	81.8	63.7

Source: *The labour force,* Australia, ABS cat no 6203.0 – Various issues, June

Table 3: Unemployment rate by level of education, 1991-2001

	Year (% unemployed)										
	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
No non-school educational qualifications	12.4	13.7	14.1	13.0	11.1	11.3	11.6	10.9	10.3	9.1	9.6
Advanced Diploma or below	7.3	8.8	8.0	6.7	6.3	6.0	6.5	6.0	5.5	5.2	5.7
Bachelor degree or above	3.9	4.3	4.8	4.7	3.6	3.8	3.5	3.1	3.0	3.0	2.8

Source: Australian Bureau of Statistics 2002c

Figure 1: Youth unemployment rate (15 to 19-year-olds), 1980-2001

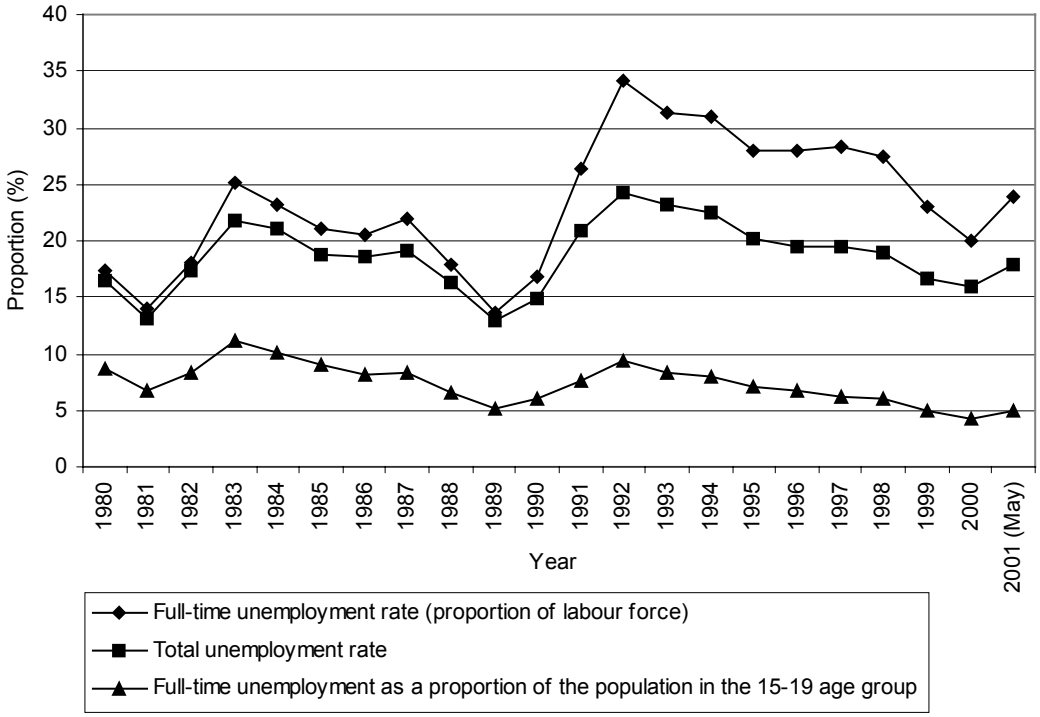
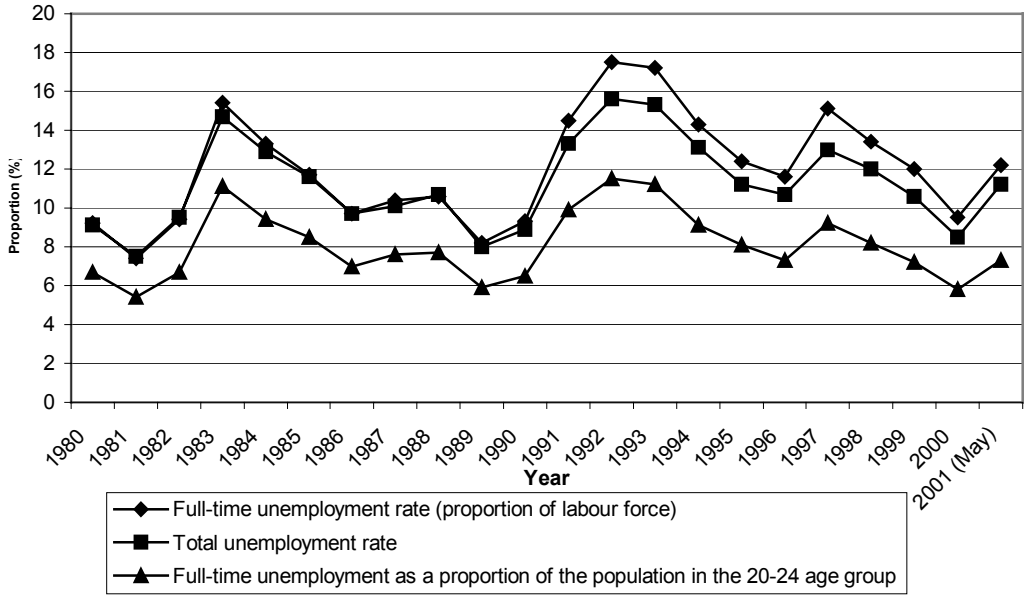


Figure 2: Youth unemployment rate (20 to 24-year-olds), 1980-2001



Source: *The labour force,* Australia, ABS cat no 6203.0, May, 2001

Table 4: Percentage at each IALS Literacy Level for Population Aged 16-65

IALS literacy level[(a)]	1	2	3	4 and 5
Sweden	6	19	29	36
Norway	9	21	41	29
Netherlands	10	26	44	20
Germany	9	33	40	19
Canada	18	25	32	25
Australia	**17**	**28**	**38**	**17**
United States	24	26	31	19
United Kingdom	23	27	31	19
New Zealand	21	29	32	18
Ireland	25	32	32	12

(a) The ILAS literacy levels range from level 1 (very poor skills) to a high of 5

Source: OECD (2000, cited in Selby Smith et al., 2002)

Table 5: Percentage at Each Reading Literacy Levels for 15 Year Olds in Australia

ILAS Literacy Levels	Australia (%)	OECD Average (%)
Below 1	3	6
1	9	12
2	19	22
3	26	29
4	25	22
5	18	9

Note: In Australia, the Programme for International Student Assessment (PISA) was based on a survey of almost 6,200 students across 231 schools.

Source: Australian Council for Educational Research (2001)

Educational Attainment

Table 6: Participation in Education

		Year										
	Units	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
School students[(a)]												
-Primary	'000	1786	1804	1816	1826	1833	1848	1856	1870	1886	1904	1912
-Secondary	'000	1289	1295	1282	1273	1276	1295	1316	1329	1341	1343	1356
Total	*'000*	*3075*	*3099*	*3098*	*3099*	*3109*	*3143*	*3172*	*3199*	*3227*	*3247*	*3268*
Year 12[(a)] apparent retention rate												
-Males	%	66.1	72.5	71.9	69.6	66.7	65.9	66.2	65.9	66.4	66.1	68.1
-Females	%	76.7	82.0	81.4	79.9	77.9	77.0	77.8	77.7	78.5	78.7	73.4
Total	*%*	*71.3*	*77.1*	*76.6*	*74.6*	*72.2*	*71.3*	*71.8*	*71.6*	*72.3*	*72.3*	*77.4*
VET students	'000	985.9	1042.5	1121.4	1131.5	1272.7	1347.4	1458.6	1535.2	1647.2	1749.4	1756.8
of 15-64 year olds	%	8.5	8.9	9.5	9.5	10.6	10.9	11.8	12.2	12.7	13.2	13.1
Females – of all VET students	%	45.1	45.1	45.9	45.9	47.2	47.6	48.1	47.3	48.7	49.0	48.7
Higher education students	'000	534.5	559.4	575.6	585.4	604.2	634.1	658.8	671.9	686.3	695.5	726.2
of 15-64 year olds	%	4.6	4.8	4.9	4.9	5.0	5.2	5.3	5.4	5.4	5.4	5.6
Females – Of all Higher Education students	%	53.3	53.4	53.4	53.5	53.9	54.3	54.4	54.7	55.0	55.2	55.0
Education participation of 15-19 year olds	%	70.6	72.8	73.4	72.9	73.9	74.0	77.4	76.9	77.8	77.6	77.4
Education participation of 20-24 year olds	%	25.0	27.1	25.8	26.6	28.0	31.5	31.0	32.1	34.4	34.4	34.8
15-24 year olds studying VET	%	11.1	11.8	11.5	9.8	12.2	12.5	12.1	12.6	13.0	13.4	11.8
15-24 year olds studying higher education	%	12.7	13.7	13.1	14.9	14.2	15.5	16.4	16.4	17.6	17.2	18.4

(a) In Australia, schooling is compulsory between the ages of 5 and 14 years.

(b) The year 12 apparent retention rate is calculated by dividing the number of students in year 12 by the number of students in the base year (the first year of secondary school), which is either year 7 or year 8 depending on the State or territory.

Sources: Australian Bureau of Statistics 2002c, *Schools Australia* ABS cat no 4221.0, various issues

Table 7: Completed training course or received on the job training[(a)]

	Proportion of people undertaking training in previous 12 months (percent)		
	1993	1997	2001
Completed a training course	30	42	45
Received on the job training	71	72[(b)]	69

(a) Data comparisons are based on people the Australian population aged 15-64 who are in, or marginally attached to the labour force who were not attending school.

(b) This figure is a percentage of wage and salary earners

Source: Australian Bureau of Statistics 2002a

Table 8: Educational attainment of working age population (1991-2001)

	Proportion of people with a non-school qualification (percent)					
Highest Qualification	1991	1993	1995	1997	1999	2001
Bachelor degree or above						
15-24	3.6	4.5	5.4	6.2	7.0	7.1
25-34	12.5	13.1	14.3	17.5	20.1	24.0
35-44	13.1	14.7	16.5	18.0	19.1	19.8
45-54	8.7	10.9	13.5	14.4	17.9	19.2
55-64	5.1	5.5	8.2	9.7	10.5	13.3
Total	*9.0*	*10.1*	*11.9*	*13.6*	*15.4*	*17.0*
Advanced diploma or below						
15-24	17.6	16.3	16.9	15.5	15.6	17.0
25-34	37.9	34.0	34.1	31.4	32.8	33.6
35-44	37.3	34.1	33.3	31.7	33.9	34.4
45-54	35.2	32.8	32.2	29.7	30.7	31.6
55-64	28.5	27.7	29.2	24.6	27.4	27.7
Total	*31.8*	*28.9*	*29.1*	*26.8*	*28.3*	*30.2*
Total with non-school qualifications						
15-24	21.5	20.8	22.3	21.7	22.7	24.6
25-34	51.0	47.2	48.5	48.8	52.9	58.9
35-44	50.9	48.8	49.8	49.6	53.0	55.5
45-54	44.5	43.7	45.7	44.1	48.5	52.1
55-64	34.1	33.2	37.3	34.3	37.9	42.3
Total	*40.8*	*39.1*	*41.0*	*40.4*	*43.7*	*47.2*

Source: Australian Bureau of Statistics 2002c

Expenditure on Education

Table 9: Expenditure on Education and Training as a proportion of GDP (1991-2001)

Year	Proportion of gross domestic product %		
	Government	Private	Total
1991	4.7	0.7	5.4
1992	4.9	0.7	5.6
1993	4.9	0.7	5.6
1994	4.7	0.7	5.4
1995	4.6	0.7	5.3
1996	4.5	0.7	5.2
1997	4.5	0.8	5.3
1998	4.4	0.8	5.2
1999[(a)]	5.2	1.6	6.8
2000	5.1	1.6	6.7
2001	5.2	1.5	6.7

(a) Due to the introduction of accrual accounting for Government Finance Statistics during the 1998/99 financial year, figures from 1999 onwards are not comparable to the previous years cash-based estimates.

Source: Australian Bureau of Statistics 2002c

Table 10 : Government Expenditure on Education (1991-2001)

Year	$A billion (% of total)		
	Schools	Tertiary	Total
1991	10.7	5.9	16.6
	(64.5)	(35.5)	(100.0)
1992	11.6	6.4	18.0
	(64.4)	(35.4)	(100.0)
1993	12.0	6.9	18.9
	(63.5)	(36.5)	(100.0)
1994	12.2	7.1	19.3
	(63.2)	(36.8)	(100.0)
1995	12.5	7.6	20.1
	(62.2)	(37.8)	(100.0)
1996	13.0	7.6	20.6
	(63.1)	(36.9)	(100.0)
1997	13.9	8.1	22.0
	(63.2)	(36.8)	(100.0)
1998	14.7	8.0	22.7
	(64.8)	(35.2)	(100.0)
1999[(a)]	17.3	11.7	29.0
	(59.7)	(40.3)	(100.0)
2000	18.2	12.1	30.3
	(60.0)	(40.0)	(100.0)
2001	19.5	12.8	32.3
	(60.4)	(39.6)	(100.0)

(a) As with Table, the figures from 1999 onwards are not directly comparable to prior figures due to the different accounting methods used.

Source: Australian Bureau of Statistics 2002c