

# VOCATIONAL EDUCATION AND TRAINING THROUGH ONE'S LIFETIME

## NEW APPROACHES AND IMPLEMENTATION - AUSTRALIA

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# **1. Introduction**

## **Demographic Background**

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 but very urbanised. As of 2001, the total population of Australia was 19.4 million. The majority of Australians live in cities that are concentrated in coastal areas (approximately 64% of the population live in capital cities). Australia also has an ageing population, although not to the extent of many European countries.

## **Overview of Education and Training System**

Australia has a comprehensive education system that is divided into three formal sectors: schools, vocational education and training (VET) and higher education (universities). 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 in either VET or higher education. Programs of higher education typically lead to a range of Bachelor degrees and postgraduate awards. The VET sector provides a range of programs that can commence after schooling, or can commence while still at school. The VET sector also provides apprenticeships and traineeships. Programs offered by the VET sector are competency<sup>1</sup> based and are primarily aimed at skilling people for the workplace.

Enterprises are also a large contributor to education and training in Australia. For 1998, investment in training by enterprises was about \$4.8 billion (Australian National Training Authority, 2001b). Additionally, the Adult and Community Education sector has a great diversity of training providers and organisations that deliver a variety of both vocational and non-vocational courses. During 1998, some 1.2 to 1.4 million people (around 9% of the adult population) were involved in some form of adult and community education. While the majority of students in this sector are in personal enrichment programs, around 40% are involved in VET related activities (Borthwick, Knight, Bender and Loveder, 2001).

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<sup>1</sup> Competency refers to the 'ability to perform tasks and duties to the standard expected in employment' (National Centre for Vocational Education Research, 2002b).

## Participation in Education and Training

Some broad indicators of education and training in Australia are provided in Table 1 below<sup>2</sup>.

**Table 1: Participation in formal education and training in 2001, persons aged 15-64 years**

Indicators	Numbers of people	Proportion of population (%) <sup>(a)</sup>
Participation in Schools	700 800	5.4
Participation in publicly funded VET <sup>(b)</sup>	1 760 000	13.1
Participation in higher education	614 400 <sup>(c)</sup>	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) Figure does not include privately funded students.

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

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

Australia has a large proportion of people of working age with non-school educational qualifications (see Table 2 below). This proportion has been gradually increasing over the last decade.

**Table 2: Educational attainment of working age population (1991-2001)**

Highest Qualification	Proportion of people with a non-school qualification (per cent)					
	1991	1993	1995	1997	1999	2001
Bachelor degree or above <sup>(a)</sup>	9.0	10.1	11.9	13.6	15.4	17.0
Advanced diploma or below	31.8	28.9	29.1	26.8	28.3	30.2
Total with non-school qualifications	40.8	39.1	41.0	40.4	43.7	47.2

(a) In Australia, Bachelor degree or above qualifications are usually obtained in the higher education sector.

Source: Australian Bureau of Statistics (2002b)

## Forces for Change

Australia's VET system is faced with considerable challenges if it is to continue to remain relevant to the needs of Australians into the 21<sup>st</sup> century. Forces for change can be grouped under two main headings: demand side and supply side.

On the demand side globalisation, technological change and workplace change have had a major impact on the way work is done and the types of skills required. In particular, the advent of the

<sup>2</sup> The figures do not include the very large numbers of workers who are engaged in on-the-job training, or who had completed work-related training courses.

knowledge economy has meant that higher level skills are required to compete successfully on the global market (Robinson, 2000). There is indeed evidence that there is an increasing demand for higher level skills in Australia 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 labourer and related workers has dropped from 14.5% in 1996 to 9.4% in 2001 (National Centre for Vocational Education Research, 2002b). Additionally, further evidence that Australia is moving towards a knowledge-based economy can be found by looking at employment structure of Australia's economy. 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.

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, approximately 25% of the total export market (Department of Foreign Affairs and Trade, 2002b).

Concurrent with the demand for higher skill levels is an increased requirement for information and communications technologies skills. Enterprises are becoming increasingly dependent on information and communications technology. Indeed, Australia has by world standards a very large information and communications technology market, with investment (as a percentage of GDP) ranked third in OECD countries (Department of Foreign Affairs and Trade, 2002a). 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 or employability skills include teamwork ability, problem solving skills, the ability to use technology and communication skills (Robinson, 2000).

On the supply side, Australia has an ageing workforce (in common with many other OECD countries). Whereas in 1991, 25% of the workforce were over 45, by 2001 32% of the workforce were over 45. Furthermore, projections of Australia's population to 2020 indicate that this trend is likely to

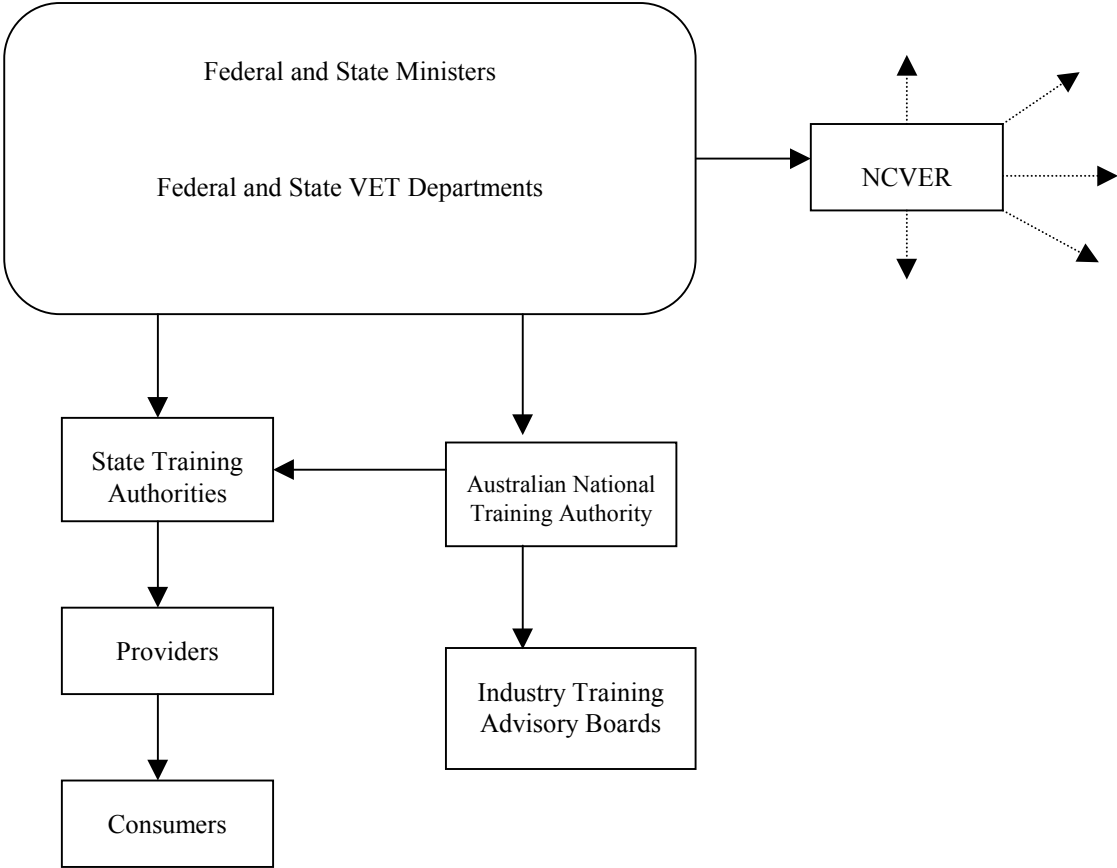
continue (National Centre for Vocational Education Research, 2002b). As such, in addition to preparing the youth of the country for work, there also needs to be an emphasis on reskilling the adult workforce (Robinson, 2000, Smith and Misko, 1999). Increasing numbers of persons obtaining university qualifications will also affect the numbers seeking vocational education and training.

**2. Overview and Involvement of Stakeholders in VET**

Australia has a large and complex VET system involving different levels of government and meeting the needs of a diverse range of users (Alto, Isaacs, Knight and Polestico, 2000). The system reflects Australia’s federal system and is a shared responsibility between the commonwealth government and the eight state and territory governments. The major organisations that have an involvement in VET and the major components of the learning framework that underpin it are described below.

Figure 1 shows the relationships between the major organisations involved in VET in Australia.

**Figure 1: Major organisations in Australia’s VET system**



The central organisation in Australia’s VET system is the Australian National Training Authority, which has the major responsibility for policy on VET in Australia. This organisation is also

responsible for administering national programs and the funding of the VET system. It is a Commonwealth Statutory Authority established in 1992 and reports to a board. Among its core roles are the development, management and promotion of the National Training Framework. The two elements of this framework, training packages and the Australian Quality Training Framework are described in Figure 2 below. The authority also has a ministerial council that it advises on policy, strategy, goals and objectives on a national basis and on plans for the States and Territories. This ministerial council is the national decision making body for the VET sector. It comprises Commonwealth, State and Territory ministers who have the responsibility for VET. It is the body that sets overall strategic directions for the VET sector. Currently, this is set out in *A bridge to the future: Australia's national strategy for vocational education and training 1998-2003*. It outlines a vision of a skilled Australian labour force that supports internationally competitive commerce and industry and a VET system that provides individuals with opportunities to optimise their potential. The mission statement is supported by five objectives—

- equipping Australians for the world of work;
- enhancing mobility in the labour market;
- achieving equitable outcomes in VET;
- increasing investment in training; and
- maximising the value of public VET expenditure.

Below the ministerial levels are State and Territory Training Authorities. These authorities administer VET within their jurisdictional boundaries. They report on operational issues to their Minister and Parliament and on policy issues to the Australian National Training Authority's ministerial council. Importantly, these authorities are responsible for implementing the National Training Framework. They are also responsible for registering training organisations and for accrediting courses.

In addition to the above organisations, National and State and Territory Industry Training Advisory Bodies also provide advice to the VET system. Their boards are comprised of employer, employee and VET representatives. These bodies are important, as they are the major link between employers and the VET system. Their major role is to provide advice on the skills that are needed in Australian enterprises.

Another player in the system is the National Centre for Vocational Education Research. This Centre has the responsibility for the national collection of VET statistics, as well as being responsible for a program of surveys measuring graduate outcomes and employer satisfaction. The Centre also manages a national research and evaluation program. In addition, the centre carries out its own

program of research and also publishes a wide variety of material including research findings, conference papers, a magazine on training and various statistical data relating to the VET sector.

VET in Australia is delivered by a wide variety of training providers. These include both government sector providers, such as institutes of Technical and Further Education and other private sector providers such as private business colleges and enterprises providing training to employees. A feature of the sector is competition between training providers, with about 15-20% of places being contestable. The remainder is reserved for public training providers.

There is also a large variety of students participating in the VET system. Segments of students include school leavers, new entrants to the workforce, people in the workforce requiring skills upgrading and people undertaking preparatory education and training before going on to specific VET courses (Cowan, 2002).

The number of people participating in publicly funded VET has been increasing over recent years and as of 2001, the number had reached 1 756 800 (Table 3). This does not include considerable numbers of students attending privately funded institutions<sup>3</sup>.

**Table 3: Participation in formal publicly funded VET over the last 10 years**

<b>Year</b>	<b>Numbers of Students ('000)</b>	<b>As a proportion of 15-64 year olds (percentage)</b>
1991	985.9	8.5
1992	1042.5	8.9
1993	1121.4	9.5
1994	1131.5	9.5
1995	1272.7	10.6
1996	1347.4	10.9
1997	1458.6	11.8
1998	1535.2	12.2
1999	1647.2	12.7
2000	1749.4	13.2
2001	1756.8	13.1

Source: Australian Bureau of Statistics (2002)

<sup>3</sup> There is no regular statistical collection covering the private sector. It has been estimated that the private sector has similar numbers of students to the publicly funded sector (Australian National Training Authority, 1998b), although the courses tend to be less intensive.

It is useful to distinguish between the organisations having a role in VET in Australia and the learning framework. The framework shown in Figure 2 below, is are discussed in more detail in the section on the assessment and recognition system for learning and training outcomes.

**Figure 2: Learning framework for VET**

<b>Australian Qualifications Framework<sup>4</sup></b>		
A nationally consistent set of qualifications for all post-compulsory education in Australia		
Schools sector	VET sector	Higher education sector
		Doctoral Degree Masters Degree Graduate Diploma Graduate Certificate Bachelor Degree Advanced Diploma Diploma
Senior	Certificate IV	
Secondary	Certificate III	
Certificate of Education	Certificate II	
	Certificate I	
	Statement of attainment (part qualification)	
<b>National Training Framework (relating to VET specifically)</b>		
<b>Australian Quality Training Framework</b>		
Nationally agreed recognition arrangements for the VET sector. It specifies the requirements for registered training organisations, the auditing of these organisations to ensure that the requirements of the framework are met and provides standards both for registered training organisations and State or Territory registering bodies.		
<b>Industry Training Packages</b>		
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.		
<b>Other Further Education Courses</b>		
Courses and subjects (modules) accredited by State and Territory Training Authorities and formally recognised across Australia.		

<sup>4</sup> Source: Australian Qualifications Framework Advisory Board (2002)

### **3. Improving Systems to Provide VET through One's Lifetime**

One very noticeable aspect of Australia's VET system is its size and comprehensiveness. As noted earlier, the formal publicly funded sector trains more than 1.7 million students over a twelve month period, out of a 15-64 year old population of 12 870 600. One of the reasons it is so large is that it spans much more than initial vocational training. However, it is noticeable that its coverage of older persons has increased significantly over the last ten years or so and this trend is expected to continue. For example, whereas people over 40 comprised 18% of VET students in 1990, by 1998 they comprised 27% of VET students (Schueler, 1999).

Reforms in Australia to the VET sector have not in general explicitly focused on lifelong learning. Rather, they have been aimed at developing a high quality and responsive system to meet students' and industries' needs. Such a system needs to be able to meet the needs of students (most of whom are working) irrespective of age and employers who increasingly will need to look toward older workers as a source of new skills.

The major reforms over the last decade or so have included—

- an introduction of a competency-based approach to training;
- development of the training market, with an aim on focusing on both the needs of students and industry;
- mechanisms to enhance learning pathways;
- reform of apprenticeship training through the introduction of the New Apprenticeships scheme;
- an introduction of a national framework for quality assurance and nation-wide recognition of training providers.

While these reforms were not explicitly motivated by a lifelong learning perspective, all are consistent with it. Specifically, the reforms under the heading mechanisms to enhance learning pathways are directed at meeting the goals of students over all ages, from the last years of secondary school to those of older workers. Similarly, the reform of apprenticeships has boosted the numbers of adult apprentices.

#### **Competency Based Training**

Competency Based Training is an outcomes based approach to training focused on what students can actually do and was introduced in the late 1980s (Misko, 1999, Misko and Robinson, 2000). The emphasis is on developing skills and knowledge in the workplace. One of the features associated with

this type of training is the implementation of assessment strategies based on nationally consistent industry or enterprise specific competency standards. These standards are 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).

### **Development of the Training Market**

In conjunction with the roll out of competency based training during the 1990s were the development of the training market and the establishment of competition among training providers. Traditionally, publicly funded VET has been provided by Technical and Further Education colleges and other public training providers. However, this situation is changing with a significant number of private organisations providing VET courses. Indeed, as of 2001, there were 87 government providers of VET operating in 1,322 locations, 985 community education providers and 5,645 other registered providers (National Centre for Vocational Education Research, 2002a). Nevertheless, public providers still account for the major proportion of publicly funded VET in Australia. The increased competition for funds among training providers has several espoused benefits including—

- a competitive environment focused on the needs of both individuals and industry;
- providing a greater choice of providers to both individuals and industry;
- cost efficiencies in the provision of training; and
- an expansion of areas serviced by training providers (Alto *et al.*, 2000).

Nevertheless, there have been some criticisms revolving around quality issues, with critics saying that the competition policy has been mainly focused on costs (Alto *et al.*, 2000).

### **Mechanisms to Enhance Learning Pathways**

Associated with the aim of enhancing learning pathways are several trends, most of which are systems for providing credits to student. These trends outlined below.

#### ***Recognition of Prior Learning***

Recognition of Prior Learning grants credit in a course, acknowledging 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 and Gibb, 1996). The objectives of recognition of prior learning are the elimination of duplication of education and training and an improvement in equity in accessing qualifications (Australian Qualifications Framework Advisory Board, 1997). This form of credit was originally introduced in conjunction with the competency based approach to training in Australia (Misko and Robinson, 2000).

Since the granting of credit through recognition of prior learning 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 an account an individual's skills and knowledge regardless of how they were obtained (for example. formal study and experience). 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, assessment of this type of credit can be a complex and time-consuming exercise. This is a deterrent to some institutions offering credit by recognition of prior learning (Misko and Robinson, 2000). Once assessed, students in the schools and higher education sectors can obtain credit for part of a qualification through recognition of prior learning. However, 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, 2002). Additionally, in the VET sector students can also get statement of attainment based on recognition of prior learning. During 2001, recognition of prior learning was granted for 2.5% of all subject enrolments in VET (National Centre for Vocational Education Research, 2002a).

### ***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. 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. Students need to have documented evidence of achievement in prior studies.

According to Carnegie (2001), 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. Carnegie argues that 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, resulting in a more standardised and efficient process.

Credit transfer may be available to students going from senior secondary education to VET, VET to higher education and higher education to VET. In addition, credit transfer may be available between courses in the VET sector and between courses in higher education. Credit transfer arrangements are

usually negotiated between institutions, however occasionally, state-level agreements may be negotiated between sectors (for example Queensland, South Australia). During 2001, credit transfer was granted for 3.5% of all subject enrolments in VET (National Centre for Vocational Education Research, 2002a).

### ***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.

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).

### ***Integrated Dual Sector Awards***

A more recent model is the integrated dual-sector award. 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, integrated dual sector awards 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. This integration of awards across sectors has obvious benefits for students by its mixing of theory and practice under one coherent structure (Carnegie, 2001). An example of an integrated dual sector award in Australia is the University of Canberra and Canberra Institute of Technology awards in design.

### ***VET in Schools***

Although much of the description above has revolved around arrangements between the VET and higher education sectors, or within the VET sector, increasingly VET topics are 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 (discussed below) while still at school.

### **New Apprenticeships**

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-apprentices. The New Apprenticeships combine work and structured training that lead to nationally recognised qualifications (see discussion of Australian Qualifications Framework later in the paper).

One of the key aims of New Apprenticeships was to widen the base of occupations covered by contracts of training. This has indeed occurred largely due to the introduction of training packages (to be discussed later). 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%. 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. 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 (National Centre for Vocational Education Research, 2002b). This change is associated with the broader set occupations covered by the new arrangements

The New Apprenticeship scheme has a number of purported flexibilities incorporated into its design including—

- the ability to combine different amounts of on-the-job and off-the-job training;
- flexibility in the choice of registered training organisations used and as to 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.

Financial subsidies and incentives are provided to employers of new apprenticeships (Alto *et al.*, 2000).

There has been a marked increase noticeable since the introduction of New Apprenticeships in 1998. Figures available 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 (National Centre for Vocational Education Research, 2001a).

The other major recent reform, the National Training Framework, is described in the section below.

#### **4. Assessment and Recognition System for Learning and Training Outcomes**

A key nationally focused initiative that has been implemented in Australia to provide a fully integrated and quality VET system is known as the National Training Framework. This framework comprises of the Australian Quality Training Framework and training packages. Linked to these is the Australian Qualifications Framework. The major concepts and features of these arrangements are discussed below.

##### **The Australian Quality Training Framework**

The main emphasis of this framework is, through a set of nationally-agreed standards, the provision of *quality* VET services throughout Australia. The framework, which was fully implemented as of 30<sup>th</sup> June 2002, replaces what was known as the Australian Recognition Framework (Australian National Training Authority, 2001a). It—

- *raises and more clearly specifies, requirements of registered training organisations;*
- *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 this framework for a period of five years to provide training and/or to conduct assessment services. The registered organisations (known as Registered Training Organisations) can then issue nationally-recognised qualifications in accordance with the Australian Qualifications Framework (described in more detail below).

A second key aspect of this framework is that it aims to improve the auditing of Registered Training Organisations to ensure that they meet the requirements of the framework. State or Territory registering/course accrediting bodies will audit relevant organisations in terms of them being able to offer the services for which they are seeking accreditation. Thirdly, the framework provides nationally-agreed standards for both Registered Training Organisations and for State or Territory registering bodies. The framework builds on previous arrangements by clarifying the rights and responsibilities of all relevant 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 are *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* (National Centre for Vocational Education Research, 2000, p. 39).

A central feature of training packages is that they are based on competency standards. These 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. As such, this type of training is focused on outputs (competencies) rather than on how people should be trained. As an example, a unit of competency for the Fire Service Technician Level 1 qualification is to maintain and use portable fire-fighting equipment. Types of performance criteria used to measure competence here include items such as correctly classifying fires and confirming with relevant people when in doubt, selecting the appropriate extinguisher to attack the fire and extinguishing the fire with a minimum of secondary damage (Rutherford, 1996).

Consistent with the competency approach is that training packages are industry-specific. They are developed by industry through industry training advisory bodies, other bodies recognised by, or enterprises, so as to meet the training needs of particular industries or industry sectors. Once a training package has been developed 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 useful support materials such as assessment tools, learning strategies and professional development resources.

The take up rate of training packages has been significant. Between 1999 and 2001 the number of students and hours associated with training packages has quadrupled as a proportion of total VET activity (National Centre for Vocational Education Research 1999-2001 national collection). As of September 2002, seventy-five training packages had been endorsed, eight of which are geared around the needs of specific enterprises (see Appendix 2).

### **Australian Qualifications Framework**

Linked to the National Training Framework is the Australian Qualifications Framework, which is a national and consistent set of qualifications issued for all post-compulsory education, ranging from Senior Secondary School Certificates through to Doctoral degrees. 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 and aims to be a flexible system allowing for articulated pathways between the sectors (refer earlier discussion on reforms to the VET sector). There are currently twelve qualifications represented under this framework (Australian Qualifications Framework Advisory Board, 2002). Figure 2 showed these qualifications grouped by sector.

One of the major aims of the Australian Qualifications Framework is to allow learners to start at a level that suits their particular needs and then build up qualifications as needed. Crossing State or Territory boundaries theoretically will not affect the person's ability to progress their qualifications. Learners also have the ability to cross between the different sectors in building their qualifications. As such, one of the main intentions of the framework is to promote learning pathways.

In VET, attainment of qualifications under the Australian Qualifications Framework is based on achieving a set of competency standards in training programs (see discussion above on training packages). Units of competency completed by students accumulate on a record of achievement and assist in allowing people to move 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. To enable qualifications to be verified, the framework has established two public registers of authorities that are empowered to accredit and issue qualifications. The first Register relates to authorities empowered to *accredit* compulsory education and training and the second to bodies which have the authority to *issue* qualifications<sup>5</sup>.

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<sup>5</sup> Further details about these registers can be obtained from [www.aqf.edu.au/accred.htm](http://www.aqf.edu.au/accred.htm)

## **Issues**

Despite the implementation of the National Training Framework as a vehicle to facilitate lifelong learning, it has been the subject of criticism. These criticisms centre on the competency-based approach to learning underlying the framework and, more specifically, the training packages.

One criticism is that the packages are too narrow in the range of skills and knowledge they provide (for example, Smith, 2001). In particular, training packages are seen as being focused on technical skills. As such, some have argued for a greater component of generic or employability skills such as communication, team-work, customer service, information technology and problem solving skills to be incorporated into training packages (Ballenden, 2001).

Concerns have also been raised regarding the limited role of teachers and educators in the development of training packages. Concern has also been raised that the workplace assessment component of training packages may limit access and equity for some students. That is, students who are unemployed or changing careers may face difficulties in meeting the requirements of workplace assessment (Technical and Further Education Directors Australia, 2001).

Finally, there have been some tensions between VET and higher education. These 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. Hence, there has for example been some reluctance in granting credit transfer for students going from VET to higher education and vice-versa (Smith, 2001).

## **5. Financing Mechanisms for VET**

VET in Australia is funded by both government and private sources. Students are also required to pay some fees. In addition industry invests a considerable amount of money in employee training.

Revenues for the publicly funded VET system in 2000 totalled approximately \$4 billion (Table 4).

**Table 4: Recurrent revenues for publicly funded VET for 2000**

<b>Revenue classification</b>	<b>\$ '000</b>	<b>Percentage</b>
State government	2 278.6	57.6
Commonwealth government	835.0	21.1
Fee-for-service	426.9	10.8
Student fees and charges	171.0	4.3
Ancillary trading and other	246.8	6.2
<b>Total</b>	<b>3958.2</b>	<b>100</b>

Source: National Centre for Vocational Education Research (2001b)

As can be seen from the table, funding for the publicly funded VET system is dominated by the States and Territories. In addition to the above amounts, there is also a considerable amount of investment in training by private enterprises. In 1998 this investment was estimated to be approximately \$4.8billion (Australian National Training Authority, 2001b).

### **Overview of Funding Arrangements**

At the provider level, State Training Authorities make funding allocations to Technical and Further Education Institutes and other public providers of VET. Some of this funding is competed for by training organisations. Both State and Commonwealth government funds are provided to the State Training Authorities by the Australian National Training Authority. The money is provided subject to approval of State and Territory training plans by the Australian National Training Authority's ministerial council.

The delivery of VET is funded on the basis of student contact hours. The number of contact hours to be delivered, areas delivered and Australian Qualifications Framework levels at which they are to be delivered are negotiated with State Training Authorities, following which a profile agreement is negotiated. Funds generally can only be used in accordance with this agreement, limiting the ability of institutions to move funds around. The age distribution of students is not a consideration in the profile agreements.

Funds are also gained through student 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 and there can be considerable variations between the states. Fees are calculated per course contact hour and there is usually a maximum fee payable in any one year. Students of VET may also have to pay other fees such as student amenities fees, course material fees and enrolment fees.

### **Tensions in Funding Arrangements for Cross-sectoral Programs**

There have however been tensions regarding the funding arrangements in terms of developing cross-sectoral programs. This is because the funding arrangements across the three education sectors (Schools, VET and higher education) are fundamentally different.

Chapman, Doughney and Watson (2000) and Watson, Wheelahan and Chapman (2001) in discussions of cross-sectoral funding models, have summarised some of the difficulties encountered because of the different funding arrangements between the university and VET sectors. These include—

- the differing accountability and reporting requirements of each sector;
- 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;
- institutions involved in both the delivery of higher education and VET can face some difficulties because of the differing funding structures. This has implications for the development of information systems and allocations of administrative staff. The different capital funding mechanisms between the sectors can also present difficulties;
- students involved in cross-sectoral programs face different financing options. In VET students are subject to modest up-front fees, while in the higher education sector students contribute substantially to the Higher Education Contribution Scheme. However, this scheme allows for fees to be deferred until the student has the capacity to pay through the taxation system.

The VET in schools development has also led to debate about which sector should pay. In the main, funding for VET in schools comes from the schools sector. However, schools also access funds made available to State Training Authorities through the Australian National Training Authority. In addition, Registered Training Organisations involved in delivering apprenticeships and traineeships to school students access user choice funds made available to the States.

### **Funding Tensions within VET**

Within the VET sector, the funding arrangements can also present tensions. As was mentioned, funding within the VET sector is based on student contact hours and, as such, is input-based. However, the curriculum model for VET is competency based, which is an output-based system. 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).

## 6. Using Information and Communication Technology in VET

In recent years, information and communication technologies and the internet have become an essential feature of the workplace. New technology has also had a significant impact on VET. In particular, changes in technology have allowed greater flexibility in the way VET is delivered, with a greater emphasis on on-line learning. The way education in VET is thought of has also changed, with for example students taking a greater role in determining their learning activities and also taking a more active approach in their learning process. As such, technology has enhanced the delivery of VET and in addition has also enabled students a greater level of access (Booker, 2000). This access is particularly advantageous to older students.

The state of on-line delivery in VET in Australia is still very much in a developmental stage (Harper, Hedburg, Bennet and Lockyer, 2000). Governments have been keen to promote on-line learning and flexible delivery. A key initiative is the Australian Flexible Learning Framework<sup>6</sup>. Through its mission: “To help our industries and citizens make a rapid and successful transition to the information economy by adding value to Australia’s VET system of flexible learning” the framework seeks to achieve—

- creative, capable people;
- supportive technological infrastructure;
- world-class on-line content development, applications and services;
- VET policies facilitating the uptake and usage of flexible learning; and
- an appropriate legal and regulatory framework for flexible delivery in VET.

A variety of supporting projects are scheduled each year to assist in achieving these goals. However, the framework has already achieved results in its first two years. For example, the Flexible Learning Leaders program developed e-learning skills and knowledge of leading VET practitioners, so that they could then support training organisations in adopting flexible delivery approaches. Another example is the development of toolboxes, which are multi-media training resources to facilitate on-line delivery of VET. The toolboxes are based on accredited training programs (Australian National Training Authority, 2002a)<sup>7</sup>.

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<sup>6</sup> The framework was developed through collaboration with the Commonwealth, States and Territories and the Australian National Training Authority. The framework is overseen by the Flexible Learning Advisory Group. Comprising senior VET people, this advisory group advises on nation-wide issues regarding directions and priorities for flexible learning and in particular on-line learning.

<sup>7</sup> For further information on these, see <http://flexiblelearning.net.au/toolbox/index.htm>

Evaluation of the framework suggests that significant achievements have been made in three areas (Australian National Training Authority, 2002b). Firstly, it has been successful in developing VET practitioners to the extent that their skills, knowledge and confidence in using flexible learning technologies has grown considerably. Secondly, there is now a large variety of resources available to implement flexible learning. Finally, the framework has fostered the development of networks and communities of practice across Australia. The evaluation however, also points to three areas where the framework has not met its promise. Firstly, there has been insufficient involvement with industry in the framework's activities. Secondly, the framework has not achieved all of its goals (regarding technical infrastructure, VET policy and legal and regulatory environment). Finally, there has been insufficient systematic attention been given to communicating the benefits of the framework to VET stakeholders.

The National Centre for Vocational Education Research has been managing a number of projects on behalf of the Flexible Delivery Advisory Group. One recent project has attempted to address the gap in research regarding support for students undertaking on-line learning (Choy, McNickle and Clayton, 2002). The resulting report identified numerous support strategies for students centring on pre-enrolment/enrolment support, teaching/learning support and IT support. The report also developed a set of guidelines that can be regarded as a minimum for providing on-line support.

Another project has examined the important issue of the cost-effectiveness of on-line learning as compared to more traditional face-to-face classroom teaching (Curtain, 2002). Overall, the research based on six case studies found that while on-line delivery approaches tended to be more effective than more traditional approaches, in some instances they were more expensive.

McKavanagh, Kanen, Beven, Cunningham and Choy (2002) looked at developing a model for evaluating web-based flexible learning. One outcome has been the development of tools to aid the evaluation of web-based flexible learning. A potential benefit of these tools is that they can assist in instructional design as well as teaching methods.

Other projects currently under-way include an investigation of the state of on-line learning in regional Australia and an investigation of the current and potential connections between e-business (the use of information technology in business environments) and on-line learning in VET.

Another important issue in on-line learning in Australia is that of access and equity. For example, households with low incomes are less likely to be able to afford up to date computers and internet access. Hence, on-line technologies may exclude students who are on low incomes or not working.

Others who may be affected by access to on-line learning include people with poor information technology skills, people with poor literacy skills, people in remote areas and people with disabilities. In the context of lifelong learning, access to on-line technology is important. However, more important is that students have access to flexible modes of delivery, that is. students that are unable to access on-line courses have other learning options open to them and this has been a focus of the Australian Flexible Learning Framework (Australian National Training Authority, 2002a).

## **7. Conclusion**

Globalisation, technological change and consequent changes in the nature of work have considerable implications for education and training systems in Australia. Demographic trends will also have important implications. Recent reforms in the VET sector, including the implementation of the National Training Framework, are aimed at providing a flexible training system that provides opportunities for re-skilling and enable lifelong learning to take place. This builds on a long tradition of provision to adult learners, as well as training prior to entry into the labour market. An important part of the system is the development of learning pathways that aim for smooth transitions between one qualification level and the next and also between the education sectors. However, many major challenges remain, including—

- continued development of cross-sectoral linkages and learning pathways between the education sectors. This may include the development of newer models of cross-sectoral linkages such as partnerships between individual institutions or between consortiums. It would be expected that the development of VET in schools will continue;
- improvement of current funding arrangements to reflect the philosophy of lifelong learning and to facilitate cross-sector linkages;
- continued development in the area of on-line learning. While much has been it is still to reach maturity in Australia. On-line learning is vital in facilitating flexible delivery that in turn is an important element in facilitating lifelong learning;
- making VET more accessible to areas that have traditionally had low levels of formal training. In particular, small business has traditionally not been a big user of formal training due to cost, questions of relevance and a concern with immediate business need. However, small business accounts for a large proportion of private sector employees in Australia. Opportunities exist for VET to forge partnerships and have a greater level of involvement with areas of employment such as small business. As an example, on-line learning could be utilised to provide short, specific training courses relevant to the needs of small business.

Finally, it is worth noting that the VET sector is looking forward actively. Ministers have agreed that it is time to develop the next national strategy for VET, to build on the current one *A Bridge to the Future 1998-2003* (Australian National Training Authority, 1998a). The Australian National Training Authority is leading a process *Shaping our Future to build a shared vision and direction with our clients and stakeholders across the country based on the proposition that this will contribute to the social well-being, economic success and environmental sustainability of the nation* (Australian Training, September 2002)

## References

- Alto, R, Isaacs, I, Knight, B and Polestico, R 2000 *Training Systems in South-East Asia*. National Centre for Vocational Education Research, Adelaide.
- Australian Bureau of Statistics 2001 *Australian Demographic Statistics*, June 2001, Catalogue 3101.0, Canberra.
- Australian Bureau of Statistics 2002a *Education and Work, May 2001*, Catalogue 6227.0, Canberra
- Australian Bureau of Statistics 2002b *Australian Social Trends: 2002*, Catalogue no. 4102.0, Canberra.
- Australian National Training Authority 1998a *A Bridge to the Future: Australia's National Strategy for Vocational Education and Training 1998-2003*, Australian National Training Authority, Brisbane.
- Australian National Training Authority 1998b *Annual national report of the Australian Vocational Education and Training System 1997*, Volume 3, Australian National Training Authority, Brisbane.
- Australian National Training Authority 2001a *What's the AQTF?* (Accessed from Australian National Training Authority website [www.anta.gov.au/aqtfWhat.asp](http://www.anta.gov.au/aqtfWhat.asp) on 27/5/02).
- Australian National Training Authority 2001b *Annual national report of the Australian Vocational Education and Training System 2000*, Volume 3, Australian National Training Authority, Brisbane.
- Australian National Training Authority 2002a *Strategy 2002: Australian Flexible Learning Framework for the Vocational Education and Training System, 2002-2004*, Australian National Training Authority, Brisbane.
- Australian National Training Authority 2002b *Evaluation of the Australian Flexible Learning Framework 2000-2001*, Available at: <http://www.flexiblelearning.net.au/>
- Australian Qualifications Framework Advisory Board 1997 *Recognition of Prior Learning (RPL)*, Victoria.
- Australian Qualifications Framework Advisory Board 2002 *Australian Qualifications Framework Implementation Handbook (3<sup>rd</sup> Ed)*, Victoria.
- Australian Training*, September 2002, p. 3.

- Ballenden, C 2001 Skills for the 21<sup>st</sup> Century: The Limits to Training Packages. In F Beven, C Kanes and D Roebuck (Eds.) *Knowledge Demands for the New Economy: Proceedings of the 9<sup>th</sup> Annual International Conference on Post-Compulsory Education and Training: Volume One*, pp. 39-45.
- Booker, D 2000, *Getting to Grips with On-line Delivery*, National Centre for Vocational Education Research, Adelaide.
- Borthwick, J, Knight, B, Bender, A and Loveder, P 2001 *Scope of ACE in Australia: Implications for improved data collection and reporting Volume*, National Centre for Vocational Education Research, Adelaide.
- Carnegie, J 2001 *Pathways to Partnerships: ANTA/AVCC Report and Draft Policy Guidelines*. Australian Vice-Chancellor's Committee, Canberra.
- Chapman, B, Doughney, L and Watson, L 2000 'Financing cross-sectoral education and training in Australia: Some issues' *9<sup>th</sup> Annual Vocational Education and Training Research Conference*, Coffs Harbour, 6<sup>th</sup> July 2000.
- Choy, S, McNickle, C and Clayton, B 2002 *Learner Expectations and Experiences*, National Centre for Vocational Education Research, Adelaide.
- Cowan, P 2002 The Australian Federal government and vocational training and lifelong learning. In G Burke and J Reuling (Eds.) *Vocational training and lifelong learning in Australia and Germany*, National Centre for Vocational Education Research, Adelaide.
- Curtain, R 2002 *Online Delivery in the VET Sector*, National Centre for Vocational Education Research, Adelaide.
- Department of Education, Science and Training 2002 *Students 2001: Selected Higher Education Statistics*, Department of Education, Science and Training, Canberra.
- Department of Foreign Affairs and Trade 2002a *Australia: Well placed in the new global economy. Innovative Australia Fact Sheet 3*. Available from [www.dfat.gov.au/facts/innovative/index.html](http://www.dfat.gov.au/facts/innovative/index.html)
- Department of Foreign Affairs and Trade 2002b *Australia's productive economic framework. Innovative Australia Fact Sheet 2*. Available from [www.dfat.gov.au/facts/innovative/index.html](http://www.dfat.gov.au/facts/innovative/index.html)
- Harper, B, Hedberg, J, Bennet, S and Lockyer, L 2000, *The On-line Experience: The State of Australian On-line Education and Training Practices*, Review of Research, National Centre for Vocational Education Research, Adelaide.
- Kenyon, R, Saunders, J and Gibb, J 1996 *Improving RPL: A workplace perspective*, National Centre for Vocational Education Research, Adelaide.
- McKavanagh, C, Kanes, C, Beven, F, Cunningham, A and Choy, S 2002 *Evaluation of Web-based Flexible Learning*, National Centre for Vocational Education Research, Adelaide.
- Maglen, L 2001 *Australians working in a global economy and what this means for education and training*. Working paper no. 39. Monash University-ACER, Centre for the Economics of Education and Training, Melbourne.
- Misko, J 1999 *Review of Research: Competency-based Training*. National Centre for Vocational Education Research, Adelaide.

- Misko, J and Robinson, C 2000 Competency Based Training in Australia. In A Arguelles and A Gonczi (Eds.) *Competency Based Education and Training: A World Perspective*, pp. 61-83. Editorial Limusa, Mexico.
- National Centre for Vocational Education Research 2000 *A glossary of Australian Vocational Education and Training terms*, Adelaide.
- National Centre for Vocational Education Research 2001a Australian Apprenticeships and Trainee Statistics Annual 2000: At a Glance, Adelaide.
- National Centre for Vocational Education Research 2001b *Financial Data Statistics 2000*, Adelaide.
- National Centre for Vocational Education Research 2002a *Australian VET Statistics 2001*, Adelaide.
- National Centre for Vocational Education Research 2002b *Issues Affecting Skill Demand and Supply in Australia's Education and Training Sector*, Adelaide.
- Robinson, C 2000 *New Directions in Australia's Skill Formation: Lifelong Learning is the Key*, . National Centre for Vocational Education Research, Adelaide.
- Rutherford, P D 1996 *Competency-based assessment: The assessor's guide*. Pitman Publishing, South Melbourne.
- Schueler, J 1999 Older people in VET. In A Smith (Ed.) *Creating a future: Training, learning and the older person*. National Centre for Vocational Education Research, Adelaide.
- Smith, E 2001 Training Packages: Ticky-Tacky Boxes or a Brave New Worker's Paradise? In F Beven, C Kanen and D Roebuck (Eds.) *Knowledge Demands for the New Economy: Proceedings of the 9<sup>th</sup> Annual International Conference on Post-Compulsory Education and Training: Volume Two*, pp. 232-245.
- Smith, A and Misko, J 1999 *The imperative for lifelong learning: A view from Australia*. National Centre for Vocational Education Research, Adelaide.
- Technical and Further Education Directors Australia 2001 *Training Packages: A Position Paper*, Canberra.
- Watson, L, Wheelahan, L and Chapman, B 2001, 'Fair and feasible?: the scope for a cross-sectoral funding model for post-compulsory education and training'. *10th National Vocational Education and Training Research Conference*, Geelong Victoria, 10-13 July 2001.
- Wheelahan, L 2001 Unwrapping Training Packages, *Campus Review*, July 18-24, p. 18.

### Glossary of Terms

**ANTA** *Australian National Training Authority*

This body is responsible for policy on VET in Australia. It is also responsible for administering national programs and the funding of the VET system and the management and promotion of the National Training Framework.

**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 is the nationally agreed recognition arrangements for the VET sector. It specifies the requirements for registered training organisations (RTOs), auditing of RTOs to ensure they meet the requirements of the AQTF 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.

**ITABs** *Industry Training Advisory Boards*

These are organisations representing a particular industry that provide advice to government on VET needs for their particular industry.

**NTF** *National Training Framework*

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

**NTIS** *National Training Information Service*

This is an on-line database (found at [www.ntis.gov.au](http://www.ntis.gov.au)), which contains information such as details of training packages, competency standards, courses, qualifications, assessment guidelines and registered training organisations.

**RTO** *Registered Training Organisations*

These are organisations that are registered by 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 VET 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.

More complete glossaries can be found at [www.anta.gov.au](http://www.anta.gov.au) or at [www.ncver.gov.au](http://www.ncver.gov.au)

### Training Package Names

Aeroskills  
Agriculture  
Assessment and Workplace Training  
Asset Maintenance  
Asset Security  
Australian Meat Industry  
Australian Red Cross Blood Services (CONFIDENTIAL - Not all detail is accessible)\*  
Automotive Industry Manufacturing  
Automotive Industry Retail, Service and Repair  
Black Coal  
Business Services  
Caravan Industry  
Chemical, Hydrocarbons and Oil Refining  
Civil Construction  
Community Pharmacy  
Community Services  
Conservation and Land Management  
Correctional Services  
Drilling Industry  
Electricity Supply Industry - Generation  
Electricity Supply Industry - Transmission and Distribution  
Electrotechnology Industry  
Entertainment Industry  
Extractive Industry  
Film, TV, Radio and Multimedia  
Financial Services  
Floristry  
Food Processing Industry  
Forest and Forest Products Industry  
Funeral Services  
Gas Industry  
General Construction  
Hairdressing  
Health  
Horticulture  
Hospitality  
Information Technology  
Kodak (Australasia) - (CONFIDENTIAL - Not all detail is accessible)\*  
Laboratory Operations  
Lifts Industry  
Local Government  
Manufactured Mineral Products  
Maritime  
Metal and Engineering Industry  
Metalliferous Mining  
Museum and Library/Information Services  
Music  
National Beauty  
National Community Recreation Industry  
National Fitness Industry

National Outdoor Recreation Industry  
National Public Services  
National Sport Industry  
Off-Site Construction  
P & O Ports\*  
Plastics, Rubber and Cablemaking  
Printing and Graphic Arts  
Property Development and Management  
Public Safety  
Pulp and Paper Manufacturing Industries  
Qantas - (CONFIDENTIAL - Not all detail is accessible)\*  
Queensland Rail - Civil Infrastructure (CONFIDENTIAL - Not all detail is accessible)\*  
Racing Industry  
Retail  
Ricegrowers' Cooperative Limited - (CONFIDENTIAL - Not all detail is accessible)\*  
Seafood Industry  
Service Technician Portable Fire Equipment (Chubb Fire)\*  
Telecommunications  
Textiles, Clothing and Footwear  
Tourism  
Transport and Distribution  
Veterinary Nursing  
Water Industry  
Wholesale  
Woolworths (CONFIDENTIAL - not all detail is accessible)\*

\* These packages are enterprise specific

Source: National Training Information Service (NTIS) Database. Available at: [www.ntis.gov.au](http://www.ntis.gov.au)