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Linkages between vocational education and training **providers** and **industry**

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UNESCO

ISBN 087397 699 1 print edition
087397 700 9 web edition

TD/TNC 66.01

Published by
National Centre for Vocational Education Research Ltd
ABN 87 007 967 311
252 Kensington Road, Leabrook, SA 5068
PO Box 115, Kensington Park, SA 5068, Australia
www.ncver.edu.au

Foreword

The concept of joint activities between the National Centre of Vocational Education Research (NCVER) and the Korea Research Institute for Vocational Education and Training (KRIVET) had its genesis in the establishment of a memorandum of understanding (MOU) between the two organisations on 29 April 1999 which took place at KRIVET. Mr Mu-Keun Lee was the signatory for KRIVET, Mr Chris Robinson was the signatory for NCVER.

The Memorandum of Understanding between KRIVET and NCVER comprised an agreement to co-operate in:

- exchanging published policy, research and technical reports and other published information produced by each organisation
- exchanging training statistics and other quantitative information
- exploring the possibility of staff exchanges between the two organisations
- exploring the possibility of jointly sponsored vocational education research in the Asia Pacific Region
- exploring the feasibility, in the longer term, of joint cooperation for relevant consultancy work in the Asia Pacific Region

In August 1999, the then President of KRIVET (Mr Mu-Keun Lee) met with the Managing Director of NCVER, Mr Chris Robinson, in Adelaide to discuss the possibility of conducting joint research projects. These research projects were to be based on a comparative methodology and were to include visits to KRIVET by Australian researchers, and to NCVER by Korean researchers. A joint seminar in which researchers presented preliminary findings was also to be included as part of the project outcomes. Issues like the duration of the study, number of researchers involved, publication of the report and the budget for each project were also discussed at this meeting.

The project 'Linkages between vocational education and training providers and industry' has been launched with this background, and carried out at every step through discussions between members of the project teams both at KRIVET and NCVER.

Since the commencement of this project KRIVET and NCVER have become United Nations Education, Scientific and Cultural Organisation Regional Centres of Excellence in Technical and Vocational Education and Training. NCVER holds this title jointly with the Adelaide Institute of TAFE.

I would like to thank the members on the research teams at KRIVET and NCVER for their efforts. Particularly I would like to thank KRIVET for its continuous support to make this joint project a fruitful one.

Chris Robinson
Managing Director, NCVER

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Executive summary

This study reports on the general and vocational education and training (VET) systems in Korea and Australia with a particular focus on the role of training providers and industry in the delivery of entry-level vocational education and training in both countries. In addition, the study analyses the nature of the linkages established between VET institutions in the two countries and their respective tourism and hospitality, electrical/electronics and information technologies sectors.

Because of the differing cultural, economic and social factors which have an impact on the direction of general education and vocational education and training systems in both countries, straightforward comparisons are not always easy to make. However, it is clear from the findings of this study that better linkages between providers and industry would improve the quality of workplace and theoretical training available to students.

Linkages between training providers and industry

The role of training providers and industry in the delivery of entry-level VET in Australia differs from that of Korea. In Australia, industry is expected to take a leadership role in identifying the competencies to be delivered by the training system. In Korea on the other hand, industry people are not directly involved in developing course curriculum. However teachers in secondary schools and post-compulsory education institutions develop the course curriculum based on consultations with advice from industry.

In Australia, the school–industry linkages established at the secondary school provider level are manifested through the provision of VET-in-School programs where employers work with vocational program co-ordinators to provide workplace learning for students. Linkages established between post-compulsory education institutions and industry are generally reflected in a formal sense in the development and implementation of industry training packages, the composition of course advisory groups, and partnerships between employers and registered training organisations in the delivery of apprenticeship and traineeship training. In addition, in order to keep abreast of new developments and current practices, staff in institutions are very active in developing and maintaining informal networks with industry.

In Korea, linkages between schools, vocational colleges, junior colleges and industry also revolve around the provision of workplace training for students or trainees. Junior colleges, however, generally have a stronger relationship with industries and enterprises because of their specialised industry courses. Furthermore, students in junior colleges are also at an age where they have, in most cases, already decided on their career direction, and establishing linkages between institutions and industry is more straightforward. Students in vocational high schools on the other hand, are generally in the 16–18-year-age group. These students are still exploring their career options and many decide to follow the higher education pathway following the completion of their training at a vocational high school.

Major benefits

A number of benefits are derived from the development of industry linkages for training providers, for students, training institutions and enterprises in both countries.

In Australia, the benefits of establishing linkages between secondary and post-compulsory education providers and industry for students include:

- national recognition and portability of qualifications via the implementation of industry-developed training packages
- provision of opportunities to students to develop vocational skills and a heightened awareness of suitable occupations and organisations
- provisions of flexible and articulated pathways

For industry, these benefits are derived from:

- opportunities for enterprises to influence the off-the-job training programs of their apprentices or trainees
- streamlining and centralising of arrangements for work placements so that employers are not overwhelmed by requests for placements from local schools
- opportunities to recruit new employees from student trainees
- opportunities to fulfil their community obligations and present a positive corporate image to the public

Providers also stand to benefit from closer linkages with industry. In working with employers to identify suitable workplace training for students, or to customise off-the-job training to meet employer needs, teachers develop positive relationships with enterprises, and maintain their awareness of current industry skills and developments. In addition, these networks can help them to assist their students to obtain jobs once their training is over.

In Korea, the benefits of establishing such linkages for students also revolve around the provision of workplace training for students in industries. There is no formal responsibility given to Korean industry similar to that given to Australian industry to determine the competencies that certain programs will deliver. However, providers in Korea also make it their business to keep regular contact with industry to ensure that curriculum is informed by current trends and new developments. In both countries the quality of the training delivered at the workplace is also varied, with larger companies being better placed to provide structured training than smaller companies.

For Korean students, the main benefits of close linkages between industry and providers are the opportunities for them to develop specific vocational and occupational skills, and if they are in the 'two-plus-one' program, by spending substantial amounts of time in industry. If they are interested in moving into jobs once their training is over they also have an opportunity to enter employment with the same companies.

For industry the benefits of these linkages mean that they are able to recruit skilled workers who have been trained according to the culture and standards of the enterprise. By providing trainees with specific enterprise skills, enterprises also have available to them a pool of skilled workers. This makes it much easier for them to develop employee loyalty. In addition, close linkages between providers and industry also mean that industry can inform curriculum development.

The development of effective relationships with industry does not only revolve around the delivery of appropriate entry-level training; providers are also involved in developing and providing training programs for existing workers.

Concerns

Although the benefits derived from healthy linkages between training providers and industry generally outweigh the difficulties, the linkages established between these two bodies have raised a number of concerns for the Australian and Korean vocational education and training systems.

In Australia, these concerns primarily relate to the implementation of training packages. Training packages have been perceived to have limitations in terms of meeting the needs of school leavers in institutional pathways. This is because these students have generally not had the workplace experience to help them fully understand the relevance and importance of certain concepts. In addition, providers are also concerned that, where training programs are developed for individuals in traineeship programs, it is possible for trainees to enrol in specialist courses before they have acquired other necessary and basic underpinning or foundation knowledge. In addition, as employers are able to customise training programs to suit their workplace needs, it is believed that this customisation may not provide trainees or apprentices with appropriate skills applicable to other workplaces.

In Korea, the difficulties in establishing linkages between training providers and industry are experienced by many representatives from VET institutions. Not all industries in Korea are willing to provide training to trainees. Small- and medium-sized industries do not always have the necessary resources to provide trainees with appropriate training. Although large enterprises generally have the training facilities available, the costs involved in training a student often prevent them from taking on trainees.

Because Korean students on the whole aspire to professional and scholarly occupations, those entering the 'two-plus-one' system participate in the first two years of the program delivered in the vocational high school. However, they tend to avoid the last year of the program which includes in-depth practical training in industry, preferring instead to spend this year preparing themselves for university entrance exams.

Policy implications and recommendations

The Australian perspective

The following policy implications and associated recommendations are derived from findings from the Australian case studies describing the linkages between providers and industry.

1. Continuing and expanding the funds available for school–industry programs

It is recommended that a review of funding allocation processes be undertaken so that funds allocated to programs will better match the responsibilities undertaken in the different programs

2. Encouraging industry to support linkages in active ways

It is recommended that information about successful partnerships created by industry-driven initiatives be provided to industry so that they can consider ways their industries can initiate partnerships with local secondary schools, technical and further education (TAFE) institutes and other VET providers.

3. Reviewing training packages to meet the needs of students in institutional pathways and other pathways

It is recommended that in their review of training packages, industry training advisory boards (ITABs) develop strategies to allow school leavers in institutional pathways to develop the knowledge required before the competencies outlined in the training package are attempted. It is also recommended, that ITABs streamline qualifications available under training packages to avoid overlap.

4. Training for transfer

It is recommended that reviews of training packages implement strategies which will allow training in skills and knowledge which are considered to be of benefit to the apprentice or trainee, not only in their current workplaces, but in their future employment.

The Korean perspective

The following policy implications and associated recommendations are derived from findings from the Korean case studies describing the linkages between providers and industry.

1. Providing incentives and subsidies for industry to participate in vocational training

It is recommended that financial and organisational support be provided to companies who are willing to provide practical training for students, and that government incentives or subsidies be provided to encourage enterprises to engage in co-operative activities with schools for the provision of workplace training to students.

2. Providing subsidies for students

Because students in regional areas need, in many cases, to relocate to different cities for practical training, it is recommended that government subsidies or financial support be given for students to relocate for practical training.

3. Increasing the time students spend in practical workplace training

It is recommended that students spend a substantial amount of time (about one semester) in practical training in workplaces for programs which are not part of the '2+1' system.

Concluding remarks

The findings of this study have shown that effective comparisons between the Australian and Korean general and vocational education and training systems must consider the impact of differing social, economic and cultural factors. However, it is also clear that the nurturing of linkages between training providers and industry in both countries is essential to the provision of adequate and relevant skill development for students.

1 Introduction

Purpose of the study

International comparisons of vocational education and training (VET) systems are important in order to benchmark one country's system against that of another. The objective of undertaking a comparison of the Australian and Korean training systems is to identify those methods that have proved successful in one country with a view to applying them in the other country. Despite the advantages that can accrue from international comparison, any international comparison needs to take account of the differences in the socio-economic contexts of the countries under review. A system which works well in a particular institutional setting in one country, may not easily be transferred to another country with a different institutional setting. In addition socio-economic structures themselves can influence the development of different types of education and training institutions.

The objective of this study is to investigate the alternative approaches to entry-level vocational education and training practised in Korea and Australia. In particular, the role of the VET provider and industry in delivering vocational education and training will be examined. Another purpose is to review the key features of the VET systems in the two countries, Australia and Korea, to survey the nature of the linkages the VET institutions have with industries, and to evaluate the kinds of effects different linkages have on the outcomes of VET.

Vocational education and training plays an important role in filling the gap between the general educational system and the labour market. Its original function is to provide people with opportunities to learn the skills and knowledge required in the labour market, skills and knowledge often not provided by the general educational system. For this reason, the nature of linkages between VET institutions and industries is critical in determining the outcome of vocational education and training.

Most people agree that close co-operation between VET institutions and industries is a key to the successful delivery of vocational education and training. However, the nature of these linkages is itself affected by various institutional factors (for example, historical background and funding sources).

The linkages between vocational education and training institutions and industries will play a particularly important role for young people entering the labour market since this group has often had no previous experience of work, and are known to experience difficulties adjusting to the workplace. This is because a gap exists between the skills they have learnt at school and the skills demanded at the workplace. To narrow this gap, there needs to be close co-operation between school and industries regarding what should be taught at school and how schools prepare students for job markets.

Although linkages between schools and industries are generally important, linkages between institutions providing VET and industries are especially important. This study focuses on the provision of entry-level vocational education and training, which aims to prepare young people to enter the workforce. It reviews the different institutions adopted and developed by each country in order to provide this training, and focuses on the nature of the linkages between VET institutions and industries for the delivery of VET. In particular, it will examine differences in the practical training that is provided by VET institutions (that is, the two-plus-

one dual system of technical high schools in Korea and the apprenticeship and traineeship system in Australia).

Outline of the study

Institutional differences

The major proposition of this study is that differences in key institutions and pathways will generate differences in VET outcomes between the two countries. It is most likely that these key institutions are school systems, vocational education and training institutions, and different transition to work pathways. In this study, we are comparing alternative approaches in delivering entry-level vocational education and training for young people. Therefore, various institutional settings which affect the entry-level vocational education and training need to be examined and understood as well as the different pathways and different options available in school-to-work transition. In this study, the differences in the school system, in the VET system and in the transition pathways will be described.

Types of linkage to industry

The nature of the linkage between VET institutions and industries in each country will be compared in general terms. It will also be explored at different school levels and across different industry sectors. In particular, the role of VET institutions and industries in forming the linkage will be assessed. Funding sources of VET institutions in determining the nature of linkage will also be considered.

Case studies

The major part of this study is composed of case studies. Individual cases are investigated in order to identify the nature of the linkage and its effect on VET outcomes. In this study, the cases relate to individual VET institutions and specific programs within these institutions. Case studies will explore how school and industry collaborations take place. Selection criteria and other details involved in case studies are explained later in this report.

Comparison of the linkage between two countries and its implications

Based on the institutional differences and findings from case studies, we will discuss the connection between the nature of the linkages and the outcomes of vocational education and training. A comparison will be made with respect to the connection at different school levels and at different industry sectors. This comparison will be made first of all for the Australian component and secondly for the Korean component. The report will conclude with a section on international comparisons and lessons learned.

Methodology of the study

As already mentioned the purpose of this study was to examine the linkages between training providers and industry at the secondary and post-secondary levels in the Australian and Korean vocational education systems and to draw implications for policy for both systems. The three industry areas chosen for the study were electrical/electronics, hospitality and tourism, and information technology.

The study was conducted in five major phases. These phases are outlined below.

Phase 1: Familiarisation exercise

During phase 1 researchers from the Korea Research Institute for Vocational Education (KRIVET) and Training and from the National Centre for Vocational Education Research

(NCVER) conducted site visits to selected institutions in both Australia and Korea. The aim of these visits was to provide researchers with some background knowledge of the two systems.

Phase 2: Describing the two systems

This phase comprised researchers identifying and describing the major features of the respective education systems. In addition, Australian researchers used information from student outcomes surveys, employer satisfaction surveys and apprentice and trainee statistics collected by NCVER.

Phase 3: Field work

During this phase, Australian researchers collected information via face-to-face interviews with department heads in technical and further education (TAFE) institutes and non-government private providers, vocational placement co-ordinators and teachers responsible for vocational programs in secondary schools.

Korean researchers collected information via face-to-face interviews with department heads, and principals in vocational schools and junior colleges. They also conducted a questionnaire survey of a small number of students and employers.

Phase 4: Preparing preliminary reports

This phase comprised researchers analysing the data, writing up the case studies, and drawing some conclusions and implications for action.

Phase 5: Sharing the findings

A seminar in Korea was held for researchers from both countries to share the results of their research findings with educators from the relevant education sectors, researchers from KRIVET and representatives from industry.

Phase 6: Preparing the final report

Once researchers had discussed the findings of their research they returned to their countries to complete final reports.

2 Comparison of key institutions between the two countries

The Korean system

The school system

The Korean education and training system is similar to that of Australia in many ways. In Korea, formal schooling starts with kindergarten as early as the age of five. However, unlike Australia, compulsory education in Korea does not start until the person enters primary school, typically at the age of seven. A typical education in Korea starts at the age of seven with six years of primary schooling, followed by three years of lower secondary schooling, and three years of upper secondary schooling. This yields the pattern of 0:6:3:3 in primary and secondary schooling compared to the pattern of 1:6:4:2 or 1:7:3:2 in Australia. In Korea, compulsory schooling includes primary schooling and lower secondary schooling. The typical age at which compulsory schooling ends is therefore 15. However, due to the higher educational aspiration of people in Korea, most people continue through upper secondary schooling, and finish high school. Also, increasing numbers of people who finish high school, both graduates from general high schools and vocational high schools, enter institutions of higher education.

The right of Koreans of equal access to educational opportunities is written in the following provision of the Education Law:

> *All citizens have the right to receive education according to their ability; all should receive at least primary education and such education as may be prescribed by law; compulsory education is guaranteed in such manners as shall be prescribed by law; the state is responsible for promoting lifelong education; and basic matters related to the management of systems of school education and lifelong education, financing of schools and the status of teachers are prescribed by law.*

Based on this law, educational institutions are established at four different levels of education: pre-school education, primary education, secondary education, and higher education. Kindergartens are institutions providing pre-school education; primary schools and civic schools provide primary education. Major institutions providing secondary education are middle (junior high) schools and high schools. However, other types of schools also function as middle and high schools. These middle schools are attached to industrial firms, trade schools, civic high schools, special classes, and other miscellaneous schools at the middle school level. Also, at the high school level, there are such schools as air and correspondence high schools, high schools attached to industrial firms, special classes, trade high schools, and miscellaneous schools. These schools are not formal schools and are mainly for those who can not afford to attend formal middle and high schools and for those who are usually too old to attend formal schools. However they play a role in providing every citizen with opportunities for learning, regardless of their age, physical well being, and economic conditions.

Types of institutions providing higher education in Korea are four-year colleges and universities. Universities of education and colleges of education are institutions established with the purpose of educating and training teachers for the future. Air and correspondence universities are established for those who need to work and study at the same time and for those who want to go back to college after they have graduated from high school. Furthermore, junior colleges and polytechnic colleges are institutions of higher education

established with the purpose of providing technical and vocational education at the higher education level.

VET institutions and different pathways

Vocational education and training in Korea is largely governed by two different government agencies: the Ministry of Education and the Ministry of Labour. The Ministry of Education governs mainly institutions of vocational education, and the Ministry of Labour vocational training institutions. Recently, efforts have been made to integrate vocational education and training in order to deliver more effective vocational education and training to the users. In the following section, we describe the chief vocational education and training institutions and their major characteristics.

Programs implemented in institutions of general education include aspects of technical and vocational education at different school levels. Middle school programs include subjects such as technology and industry, home economics, and computer science which are related to work. For instance, the technology and industry subjects cover broad topics ranging from technology used in manufacturing, construction, communication to career guidance. Curricula in general high schools involve programs in the field of vocational education. In general high schools vocational education and home economics-related programs are required subjects nationwide. These programs include courses in technology, home economics, agriculture, industry, commerce, fishery, housekeeping, information, industry, and careers.

Academic high schools also have special vocational education programs designed for those students who want to enter the labour market upon graduation. These programs were established in 1974. The third year students in the vocational track take technical–vocational programs either at their own school or at other institutions, such as vocational schools, private technical institutes, and attached class of technical high schools and vocational training centers. In 2000 students enrolled in the vocational track in academic high schools numbered 21731 which is equivalent to 5% of the total student population in academic high schools.

We now turn to major institutions offering vocational education and institutions offering vocational training. Although, there are numerous institutions of vocational education and vocational training beside the ones described below, for the purpose of this study, we focus on introducing representative vocational education and training institutions in Korea whose major function is to provide entry-level vocational education and training for young people who intend to enter the labour market. These institutions are vocational high schools, junior colleges, polytechnic colleges and vocational training institutes.

Vocational high schools

Vocational high schools (VHSs) in Korea occupy a unique position as institutions of vocational education. Students enrolled in vocational high schools obtain vocational education and training. At the same time, those who graduate from vocational high schools obtain a formal high school diploma. Historically, vocational high schools have been strategically established and supported by the central government as part of the plan to build a strong industrial state. Graduates from vocational high schools have played an important role in filling labour shortages as technicians and mechanics.

As shown in the table 2.1, graduates from VHSs have maintained quite high employment rates since 1990. They also have diverse career options. They may go on to institutions of higher schooling such as universities and junior colleges, enter the workforce, or join the army. As table 2.1 shows, increasing numbers of graduates from VHSs are choosing to enter institutions of higher schooling. In 1985, only 13.3% of the graduates chose this pathway. In 2000, over 50% of the graduates from VHSs are chose to continue their formal education. This high rate of advancement comes from the increase in the number of graduates entering junior colleges. However, recently, the proportion of VHS graduates choosing to go to universities is also increasing.

Table 2.1: Different pathways of vocational high school graduates (in person, %)

Classification	85	90	95	96	97	98	99	00
Graduates	276 535	274 150	259 133	274 696	273 912	302 416	290 892	291 047
Entrants to higher-school	36 910	22 710	49 699	60 373	79 961	107 824	112 130	122 170
Enlisted in the army	2 528	1 402	333	313	375	847	797	523
Employed	143 214	210 113	190 148	196 403	177 532	164 075	148 478	149 543
Unemployed	44 162	16 108	7 582	6 973	4 691	16 468	16 007	18 811
*Employment rate	60.4	84.0	90.9	91.8	91.7	84.7	83.7	88.8

Note: Employment rate =Number of Employed/(Number of Graduates minus Entrants to Higher Schooling minus Those Enlisted in the Army)×100

Source: Ministry of Education, Statistical Yearbook of Education, various years

Junior colleges

Junior colleges are institutions of higher education. However, junior colleges in Korea also occupy a unique position as institutions of vocational education and vocational training. table 2.2 shows the relative importance of junior colleges as higher educational institutions. In terms of the number of institutions, junior colleges comprise 46% of the total number of higher educational institutions in 1999. The number of entrants to junior colleges accounted for 44% of the number of entrants to the entire higher schooling institutions in the same year. Entrants to junior colleges are mainly graduates from vocational high schools. The advancement of vocational high school graduates to junior colleges is particularly encouraged since, by obtaining vocational education in junior colleges in the same or similar field, they are able to further develop their vocational skills.

Table 2.2: Distribution of institutions of higher education and their new entrants (in establishments & person)

Types of institution	Number of institutions		Number of new entrants	
Colleges & universities	158	(45.1%)	311 240	(41.6%)
Junior colleges	161	(46.0%)	294 250	(44.0%)
Polytechnic universities	19	(5.4%)	31 065	(4.4%)
University of education	11	(3.1%)	4 285	(0.6%)
Air & correspondence universities	1	(0.3%)	6 400	(9.4%)
Total	354	(100%)	707 240	(100%)

Source: Ministry of Education, Statistical Yearbook of Education (1999)

The transition pathways of the graduates show not only the destinations of the graduates, but they also give information about the transition stages of the graduates from school to the labour market. Although graduates from junior colleges have diverse pathways, the major pathway is that of entering the labour market, with the proportion of graduates choosing this pathway ever increasing. In 1990, 73.7% of the graduates entered the labour market, while the figure increased to 85.7% in 2000. The number choosing to continue on to higher educational institutions is increasing while the share remains stable among the graduates. However, there is a growing tendency for those who enter the labour market upon graduation to choose to continue on to university after they have gained experience in the labour market (see table 2.3 on page 8).

The rates of employment of graduates from junior colleges, remains quite high over the years and are particularly high when compared to that of graduates from four-year colleges. In 1998 and 1999, the employment rate of junior college graduates dropped to around 60% due to the International Monetary Fund (IMF) crisis. Nevertheless, the numbers are high compared to those of university graduates during the same period. The rate of university graduates during this period was as low as 50%.

Vocational training institutes (VTIs) and polytechnic colleges

Vocational training institutes (VTIs) and polytechnic colleges in Korea are major institutions of vocational training. The major entrants to vocational training institutes are graduates from general high schools, although there is no specific requirement of educational qualification for entering vocational high schools. The regular training course for VTI trainees lasts usually one year. Those who finish these courses have high chances of employment. They also have high levels of qualification acquisition.

Polytechnic colleges evolved from vocational training institutes. Like VTIs, polytechnic colleges offer one- year programs and short courses to increase the numbers of skilled workers. Different from VTIs, polytechnic colleges have two-year programs in diverse fields of vocational education with graduates from these programs obtaining an associate degree. The large number of graduates from polytechnic colleges indicates the popularity of the colleges (see tables 2.4A and 2.4B on page 9).

Table 2.5 (page 9**)** shows the increase in the total number of trainees in VTIs since 1980. The number of trainees enrolled in diverse vocational training institutes increased from 104 480 people in 1980 to 481 595 in 1998. The increase in the number of trainees is observed across all the three types of VTIs: public, in-plant, and authorized. In terms of the share, trainees attending in-plant VTIs constitute the largest proportion. The sudden increase in the number of trainees in VTIs in 1998 is a direct result of the participation in training of unemployed workers who lost their jobs during the IMF crisis in late 1997.

Table 2.3: Different pathways of the junior college graduates (in person, %)

Classification	90	91	92	93	94	95	96	97	98	99	00
Graduates	84 762	90 304	102 523	106 500	124 011	140 211	151 735	171 877	196 551	212 726	223 489
Entrants to higher-school	6 599	7 293	7 695	8 402	10 421	11 872	15 929	15 570	16 591	16 867	14 817
Enlisted in the Army	15 680	13 244	14 078	13 110	13 460	13 038	10 615	9 155	7 973	7 459	7 149
Employed	51 861	60 407	69 340	70 426	81 993	97 638	109 207	124 351	114 035	128 308	159 960
Unemployed	10 662	9 360	4 410	14 562	18 136	17 663	15 984	22 801	57 952	60 092	31 729
Employment rate	82.9	86.6	85.9	82.8	81.9	84.6	87.2	84.5	66.3	68.1	79.3

Note: Employment Rate =Number of Employed/(Number of Graduates minus Entrants to Higher Schooling minus Those Enlisted in the Army)×100

Source: Ministry of Education, Statistical Yearbook of Education, various years

Table 2.4A: Employment rates and national technical qualifications acquired—Polytechnic college & VTI graduates vocational training institutes (in person, %)

Year	Number of graduates	Employment		Qualification acquisition	
		Number	Rate	Number	Rate
1995	8 295	7 366	88.8	7 765	93.6
1996	7 828	6 783	86.7	6 373	81.4
1997	6 556	5 350	81.6	6 244	95.2
1998	6 470	4 674	72.2	6 103	94.3
1999	7 592	4 440	58.5	7 140	94.0

Note: *After 1997, the number of polytechnic college graduates in short-term (less then 1year) courses is excluded.

Source: Ministry of Labour, Yearbook of Vocational Training, various years

Table 2.4B: Polytechnic colleges (in person, %)

	Number of graduates	Employment		Rate of qualification acquisition	
		Number	Rate	Number	Rate
1995	15 121	13 475	89.1	13 697	90.6
1996	12 889	10 935	81.9	10 135	78.6
1997	10 141	7 863	77.5	8 702	85.8
1998	9 338	6 937	74.3	8 134	89.1

Note: *After 1997, the number of polytechnic college graduates in short-term (less then 1year) courses are excluded.

Source: Ministry of Labour, Yearbook of Vocational Training, various years

Table 2.5: Number of VTI institutions and trainees by institution type (1980–1998) (in establishments & in person)

	Public		In-plant		Authorised		Total	
	VTIs	Trainees	VTIs	Trainees	VTIs	Trainees	VTIs	Trainees
1980	90	31 131	472	66 213	28	7 136	590	104 480
1985	78	22 583	185	23 876	49	8 926	612	55 358
1990	79	24 441	122	25 690	109	17 571	310	67 702
1991	80	25 950	211	43 304	106	24 249	397	93 503
1992	81	26 131	220	122 457	106	30 276	407	178 864
1993	87	26 206	232	122 151	132	35 677	451	184 034
1994	90	31 671	239	152 030	139	29 304	468	213 005
1995	89	30 508	233	160 413	128	36 739	450	217 660
1996	92	36 644	219	151 303	133	26 312	444	214 259
1997	96	49 257	242	173 686	139	22 101	477	245 044
1998	95	182 853	237	258 037	178	40 705	510	481 595

Source: Ministry of Labour, Yearbook of Labour Statistics, various years; Review of Vocational Ability Development Training Project, 1999.

Linkages between VET institutions and industry

Vocational high schools (VHSs)

Low degree of specialisation

Vocational education and training programs in vocational high schools generally have a low degree of specialization in VET compared to those in junior colleges. Consequently, the linkages between vocational high schools and industries are generally weaker than those between junior colleges and industries.

Problems frequently encountered in vocational training

In terms of practical training in industry, there are a number of vocational high schools doing well (for example Sudo Electronic High School). But, in general, vocational high schools do experience problems associated with practical training. One of the problems is that often there is not a clear distinction between the period of practical training in an industry and the period of employment in the industry. In many cases, practical training turns to employment, thereby leaving no chance for students to continue their learning. This is because companies, in particular small ones, have difficulty in recruiting workers. Another problem is quite the opposite: students avoid getting jobs in the field where they have received practical training. This happens because, normally, young people these days tend to avoid manual and technical jobs and look for employment in other sectors.

There is a common problem faced by VET institutions at all levels in Korea. Enterprises which offer opportunities for practical training to students, tend to view the students not as trainees, but as objects to be used for cheap labour. This was a major concern expressed by most teachers during interviews.

Funding of vocational high schools

The ratio of publicly-funded schools is higher among vocational high schools than among general high schools. The number is 48% among general high schools while the number is 58% among vocational high schools.

Among vocational high schools, technical VHSs and Vocational VHSs have a high proportion of publicly funded schools, while all of fishery and machinery VHSs are publicly funded. On the other hand, all agricultural schools are privately owned and funded, while commercial VHSs have a relatively low proportion of publicly funded schools.

Table 2.6: Funding of high schools: general and vocational high schools, 1999 (in establishments %)

	Total		National or public		Private	
General high schools	1181	(61.0)	571	(48.3)	610	(51.7)
(%)	(100.0)					
Vocational high schools	762	(39.2)	443	(58.1)	319	(41.9)
(%)	(100.0)					
Total	**1943**	**(100.0)**	**1014**	**(52.2)**	**929**	**(47.8)**
	(100.0)					

Source: Ministry of Education, Statistical Yearbook of Education (1999)

Table 2.7: Funding of vocational high schools by school type, 1999 (in establishments %)

	Total		Agricultural		Technical		Commercial		Fishery/Marine		Vocational		Comprehension	
National or public (%)	443	(58.1)	0	(0.0)	120	(61.2)	103	(41.7)	9	(100.0)	67	(81.7)	116	(58.0)
Private (% distr.)	319	(41.9)	28	(100.0)	76	(38.8)	144	(58.3)	0	(0.0)	15	(18.3)	84	(42.0)
Total (% distr.)	762	(100.0)	28	(3.7)	196	(25.7)	247	(32.4)	9	(1.2)	82	(10.8)	200	(26.2)

Note: Percentages specified in the second & third rows are column percentages and those in the fourth row are now percentages.

Source: Ministry of Education, Statistical Yearbook of Education (1999)

Junior colleges

Junior colleges in Korea occupy a unique position as educational and vocational training institutions. As educational institutions, junior colleges offer associate degrees to their graduates. As vocational education and training institutions, they provide their students with vocational education and training. Those who are entering junior colleges are primarily graduates from vocational high schools. There are advantages for graduates from vocational high schools. At the government level, there is an effort to maintain vertical integration between vocational high schools and junior colleges, so that the knowledge and skills accumulated in the field of vocational education and training at the VHS level can be linked to those at the junior college level.

According to the VET teachers and administrative staff interviewed at the junior colleges, the biggest problems faced by junior colleges can be summarized as follows.

Recruiting students

The first problem relates to recruiting students. With the increase in the demand for higher schooling in the labour market, more high school graduates are choosing to attend four-year colleges and universities instead of going to junior colleges. With this trend, vocational high school graduates, who used to be major junior college entrants, are increasingly choosing universities and four-year colleges instead of junior colleges. The situation is not as extreme among the colleges located in Seoul and other large cities. However, among the colleges located in provinces and less populated areas, this problem is very serious.

Locating funding sources

Junior colleges, which are not financially supported by government, have to search for funding sources. Normally, the major sources of funds for junior colleges are tuition and other fees from students. Therefore, if colleges can not recruit sufficient numbers of students, they have to search elsewhere to fund the deficit. This is a serious issue because the majority of junior colleges are privately owned and privately funded. Ninety per cent of junior colleges are privately funded. The figure is slightly lower for four-year universities.

Table 2.8: Funding of junior colleges and universities (1999)

	Total		National or public		Private	
Junior colleges	161	(100.0)	16	(9.9)	145	(90.1)
Universities	158	(100.0)	26	(16.5)	132	(83.5)

Source: Ministry of Education, Statistical Yearbook of Education (1999)

Furthermore, teachers and administrators in junior colleges are very sensitive to employment rates among their graduates, since these rates are directly associated with their ability to attract students to their schools. For this reason they are keen to place students in jobs. In addition the employment rate of junior colleges determines their ranking in the junior college system.

Polytechnic colleges and vocational training institutes

Polytechnic colleges and VTIs have both similarities and differences. Firstly, vocational training institutes offer a one-year (or 12-month) course, while polytechnic colleges offer a two-year course. Secondly, polytechnic colleges now offer associate degrees while VTIs do not.

Historically, polytechnic colleges developed from vocational training institutes with the aim of providing students enrolled in VTIs with more systematic training programs. Instead of a one-year course in the major field of vocational education and training offered in VTIs, most polytechnic colleges offer courses of a variety of lengths, ranging from short courses of less than one month's duration to two-year courses leading to associate degrees.

VTIs are also functionally different from polytechnic colleges; students entering VTIs are generally those who graduated from high schools and require vocational training to get a job. They are in a period of transition from school to work. These students are those who have a high school diploma, but lack the skill to enter the labour market.

The students enrolled in polytechnic colleges can be divided into two groups according to their reasons for enrolment. One group is there to obtain the degree rather than the vocational education and training offered by the institution. The other group is there to get the skills they need to get a job. At times, however, the distinction between these two groups is not always clear.

The Australian system

The Australian context

Introduction

Education and training that lead to qualifications in Australia are delivered across three major sectors: compulsory and post-compulsory schooling, VET (vocational education and training), and higher education. In addition there are also systems of pre-school education and adult and community education (ACE). Compulsory and post-compulsory schooling is provided in primary and secondary schools or senior colleges. Vocational education and training is provided by publicly funded institutes of technical and further education (TAFE), government and non-government secondary schools, and non-publicly funded or private training providers. There is also some provision by the ACE sector. Higher education is generally provided in public universities. To date there are three private universities—Bond University, Notre Dame University and Melbourne University – Private..

A federal system of government

Australia has a federal system of government in which there is a separation of legislative, judicial and executive powers. Its government and parliamentary systems are governed by the Australian Constitution which, in 1901, established federation among the six formerly separate States.

The six States comprise:

- New South Wales
- Victoria
- South Australia
- Western Australia
- Queensland
- Tasmania

The two mainland Territories comprise:

- The Australian Capital Territory
- The Northern Territory

The Federal Government has sole responsibility for specific powers including: defence, foreign affairs, trade and commerce, immigration, taxation, customs and excise, pensions, and postal services. The States and Territories are responsible for the remaining powers. These include education, health, law enforcement, transportation, and land management within their own boundaries and any other areas not specifically identified as Federal Government responsibilities. However, when there is a conflict over concurrent powers the Federal Government prevails.

Education and training—State and federal responsibilities

The Australian education and training system has evolved in an environment where constitutional responsibilities for education and training have remained with the States and Territories. However, the Federal Government has also retained some shared fiscal and administrative responsibilities for certain functions.

Because of these arrangements, variations in the administration and organisation of school systems exist across State boundaries. However the Federal Government continues to have shared responsibilities for identifying and promoting national educational priorities and providing extra financial assistance to meet these priorities.

Education for all

Australia has a long history of compulsory education for all and Federal and State policies have been long accustomed to working out ways of providing access to education and training for all students whatever their backgrounds, abilities and geographic locations. Keeping in mind that Australia is an island continent with a land mass equal of that of the USA (not including Alaska) and that large distances lie between the capital cities and regional and remote communities in all States and Territories, this is no mean feat.

To cope with these distances, the Commonwealth and State departments of education have had to build schools and colleges, or develop innovative ways of providing primary and secondary schooling and technical and further education and training in regional and remote areas. Schools of the air, and correspondence schools were early responses to these conditions. Today on-line education, video-conferencing and teleconferencing, and mobile training facilities all represent specific strategies to bring education and training to all students who need or desire to participate in education and training wherever they may be.

In keeping with government's philosophy of providing education for all, the Ministerial Council on Education, Employment, Training and Youth affairs (MCEETYA) has established a set of common and agreed national goals for schooling in the nation. These are aimed at providing a relevant and excellent education system which develop the full potential of students, whatever their physical and intellectual ability, social and economic circumstances, and cultural backgrounds. As well as developing in students key skills (literacy, numeracy, problem-solving), the educational system aims to develop in students the skills which will help them to become skilled and flexible workers to increase national competitiveness in global markets.

State responsibilities

Because the States and Territories have their own parliaments and constitutional powers for education, they are able to introduce and enact legislation that affects education and training. Under the Constitution, State governments have major legal, financial and administrative responsibility for providing school-based primary and secondary education. Policies and practices on matters of curriculum, course accreditation, student assessment, resource allocation and utilisation and teacher employment and professional development are determined by ministers, individual schools and departments of education. States and Territories also take responsibility for providing programs for increasing access and equal

opportunities for all students (regardless of social or ethnic background and geographic location).

Federal responsibilities

The Ministerial Council for Education Employment and Training and Youth Affairs (MCEETYA 1999) has also specified the Commonwealth Government's responsibilities in education. These were to work 'in co-operation with the States and non-government authorities… to identify national priorities, promote national consistency and coherence in the provision of schooling across Australia and in identify the strategies for achieving these aims' (p.1). The Commonwealth Government also provides some financial support to States and non-government authorities to implement these priorities and strategies. In addition it shares the responsibility for programs related to disadvantaged students (Aboriginal and Torres Strait Islanders, and special migrant groups). The Commonwealth also has specific responsibilities for providing financial assistance to students, and for supporting Australia's commitment to international programs. It also has shared responsibilities for schooling in non-mainland territories—Christmas Island, the Cocos Islands and Norfolk Island.

Compulsory and post-compulsory schooling

Public and private education

Because education has remained under the power of the States, the school systems of the States and Territories have retained a similar but separate focus. All States are committed to providing education to all children of compulsory school age, whatever their physical and intellectual ability, social and economic circumstances and cultural background and beliefs.

Each State and Territory has a government school sector and a non-government school sector with parents able to choose the schools that their children attend. Government schools are the direct responsibility of the State minister for education. Non-government schools must be registered by the government and must show that they can provide 'certain minimum education standards and satisfactory premises' (MCEETYA 1993, p.3). Where government schools are secular, non-government schools generally have some religious affiliation. Students in Catholic schools comprise the majority of students in the non-government school sector.

However where education in government schools is for the most part free, education in non-government schools incurs fees. Typically parents at government schools pay minimal fees, often to cover the costs of school excursions, stationery and extra-curricula activities. Parents at non-government schools pay full fees for tuition and for all other extra-curricula expenses. At government and some non-government (mainly Catholic schools) there are also systems for waiving or reducing the fees for those less able to pay. At all non-government schools there is also a system of scholarships based on merit. These scholarships will cover the full or partial cost of school fees for scholarship holders. Typically the scholarships offered by schools are few in number.

Although non-government schools obtain financial support from fee-paying students and other income sources (rents for facilities, foundations, fundraising activities etc.), they also receive government funds from the Commonwealth Government and State governments.

Public funds for private school education

Commonwealth funds

Prior to 2001 Commonwealth funds were allocated to non-government schools according to where they were located on a 12-tiered ranking system. This ranking system ranked schools according to an education resources index (ERI). This meant that the most affluent of the

schools (those which received a number 1 ranking) received a smaller percentage of the funds than the schools that were less affluent. Typically Catholic systemic schools received a number 12 ranking. This system was changed in 2001 when schools were ranked according to a measure of the socio-economic status (SES) of their school communities. The SES arrangements involve linking residential address data of students to the 1996 Australian Bureau of Statistics census data to obtain a measure of the capacity of the school community to support its school.

Commonwealth funds are available to help schools meet operating expenses which may include teacher salaries, teacher professional development activities and curriculum development. Capital grants are also available for schools to supplement funds for the improvement and refurbishment of buildings and facilities, and for the building of new schools in view of new and demographic enrolment trends. Funds are also available for implementing targetted and other programs. These include programs dealing with vocational education and training in schools, indigenous education, assistance to isolated schools, and promotion of Asian studies.

State funds

State government funds are also made available to non-government schools on a school and student needs basis, with the schools in most need of financial support receiving a greater percentage of these funds. However each State will have its own specific way for allocating funds. In South Australia, state funds are available for helping schools to meet the needs of students with special needs (work placements those of non-English-speaking-background, indigenous origins, and lower socio-economic backgrounds). State funds are also allocated to schools to help meet their interest payments on outstanding debts, recoup some monies for the fees lost through the offering of scholarships, and meet the costs of accommodating students in boarding schools.

Years of schooling

In all States excepting for Tasmania schooling is compulsory from the age of six to the age of 15 years. In Tasmania attendance is mandatory up to the age of 16 years. Typically, however, students in Australia will commence school at about five years of age and complete between seven and eight years of primary schooling.

In New South Wales, Victoria, Tasmania and the Australian Capital Territory primary schooling comprises about seven years of attendance. This includes a year of kindergarten or preparatory school. In these States students exit primary school after they have completed Year 6. Here they then enter secondary school and complete six years of secondary schooling.

In South Australia and the Northern Territory primary schooling comprises eight years of schooling with students exiting primary school at the completion of Year 7. The first year of schooling is called reception in South Australia and transition in the Northern Territory. Students complete five years of secondary school. In some cases they are also able to do a Year 13 to improve their opportunities to go to university or further education.

In Queensland and Western Australia students complete seven years of primary school and exit primary school at Year 7. They then complete five years of secondary school.

During primary schooling they are exposed to a wide variety of subject areas including mathematics, written and oral communication, reading, a foreign language, social sciences, science, health, physical education, sport, music, and art and craft, and computers. In some cases there is also special training in their own language for students whose first language is not English.

Compulsory secondary schooling

Once students have completed their elementary or primary schooling they will undertake between five and six years of secondary schooling depending on the State in which they live. Most students are either 12 or 13 years of age when they commence secondary schooling. They are about 17 or 18 years of age when they complete secondary schooling.

Many schools divide the secondary school years into two major components—the junior school and the senior school. During the junior school years (up to and including Year 10) students are provided with a broad range of subject options. These generally include subjects which are aimed at developing skills in a broad range of areas including English, mathematics, social sciences, environment, physical education, foreign languages, music, art, technical studies, drama, computer studies, careers, general science, and home economics. In some schools students in year 10 are also able to access some school–industry (VET in schools) programs.

During their junior school years students are also introduced to the world of work. Programs which enable students to learn about work, and have a taste of different careers or industry environments through work experience in companies are available and may take place for one week during school term or in school holidays. Almost all students in government and non-government school systems are involved in work experience at some time during their secondary schooling.

Because many students complete their 15th birthday in Year 10 it is possible for students to leave school and enter apprenticeships or traineeships (a form of part-time study and part-time work leading to a trade or other VET qualification). In the past this was the natural pathway for male students who wanted to undertake an apprenticeship and follow a trade. Today these students tend to stay on until Year 11 or Year 12.

Post-compulsory secondary schooling

The last two years of secondary schooling (Years 11 and 12) are undertaken in what is generally known as the senior school. For many students this constitutes their post-compulsory schooling. In some states including Tasmania, the Australian Capital Territory, and Victoria these last two years can be undertaken in what are called senior secondary or senior colleges. Although there are some examples of senior secondary colleges in the other States, the senior years are usually completed in high schools. It is also in these last years that students who wish to undertake further studies directly after completing their compulsory schooling take up subjects which lead them to follow an academic (university bound) pathway or a technical and vocational pathway.

Although subject options available are narrowed in the senior school there is quite a range of such options for students to choose from. According to Lamb and Ball (1999) these options can be divided into the following groupings including:

- arts and humanities
- business studies
- business studies and humanities
- business studies and sciences
- sciences and maths
- sciences and humanities
- health sciences and physical education
- vocational education and technology

In addition, there are colleges that specifically cater for mature students and students who have completed or left school but want to return to improve their tertiary education rank

score (TER) or its equivalent to enable them to gain entrance to universities or VET programs that require certain marks for admission.

Government and non-government senior schools and adult campuses prepare students to complete their secondary school certificates, and to undertake public examinations. Results of these assessments are then ranked to provide students with a tertiary entrance rank score. Access to university and TAFE courses is based on these TER scores. The adult and community education sector also provides some programs to enable students to prepare for university entrance.

School-based vocational education and training

Since the early 1990s it has also been possible for students to undertake school–industry programs (which include structured industry placements) during the last two years of their secondary schooling and to be given formal recognition and credit towards their secondary school certificates and towards a VET qualification.

Almost one in nine secondary schools in Australia was involved in providing VET-in-Schools programs in 1998. In 1998 VET-in-Schools program enrolments across Australia totalled 116 991. Projections for 1999 were 129 473 (MCEETYA 1998).

Participation and retention rates

The Australian Bureau of Statistics publishes national statistics on government and non-government schools, students and staff. According to the bureau (ABS, 2000) there were 9590 schools in Australia in August 1999. Of these, almost three-quarters (73%) were government schools. The remainder were non-government schools.

In 1999 there were just over three million (3 226 650) full-time students with 70% of these attending government schools, and 30% attending non-government schools. However, non-government schools experienced a 2.1% increase from the previous year as compared to a 0.4% increase for government schools.

The age participation rates for full-time 1999 students across Australia was 92.7% for 15-year-olds, 80.8% for 16-year-olds and 61.8% for 17-year-olds.

Apparent retention rates

The apparent retention rate of secondary school students from Years 7/8 to Year 12 was 72.3% with the apparent retention rate for girls (78.5%) being substantially higher than that for boys (66.4%). The apparent retention rate of secondary school students from Year 10 to Year 12 was 74.4%, with the apparent retention rate for girls (79.9%) being substantially higher than that for boys (68.9%).

Increasing federal impact on education and training

Because of the substantial financial assistance that the Commonwealth Government provides to States and Territories for implementing programs which relate to national priorities, there is sometimes a blurring of State and Commonwealth spheres of influence. This is especially the case in relation to publicly funded programs whether it be in the government school sector or in the non-government school sector. Nowhere has this increasing influence of the federal government been more obvious than in the implementation of vocational education and training (VET) reforms which have had major consequences for the content, organisation and administration of the VET programs in each of the States.

The vocational education and training system

The Australian VET system represents an approach to the delivery of vocational education based on major industry involvement in the development of national education and training policies.

An industry-led approach

The Australian vocational education and training system has experienced major reforms during the last decade or so. These reforms have been focussed on delivering to Australian industry the skills that it requires for effective competition in world markets. They have also been aimed at developing a pool of flexible, adaptable and skilled workers required for emerging industries based on enhanced and advanced communications and information technologies.

The Australian VET system is an industry-led system. This means that when we talk about industry in the context of VET reforms in Australia we are referring to representatives from employer and employee groups (unions) from different industry groupings. Typically however, there is also a tri-partite arrangement on many national committees which also includes representation from government bodies.

A national strategy

Although the Australian VET system has a national policy focus, the six different States and the two Territories have developed separate but broadly similar ways for implementing these policies.

Ministerial responsibility for the VET system is located with the Ministerial Council for Vocational Education and Training (MINCO). It receives advice from the Australian National Training Authority (ANTA) which was established in 1992 and became operational in 1994. Its major role is to set up and prepare a national strategy for vocational education and to report on outcomes. Its responsibilities are to establish a national training framework, distribute national government funds, review policy and undertake evaluation and research on national training priorities. The ANTA Board comprises industry representatives to ensure that training policies are centred around the needs of industry. In addition each State and Territory has its own Training Authority.

This National Training Framework identifies the competency standards for the different qualifications and sets out the arrangements for the recognition of training. In addition, it establishes regulatory and monitoring arrangements to ensure that the system is implemented according to nationally agreed quality standards.

National recognition of qualifications

The Australian Qualifications Framework

The new Australian Qualifications Framework (AQF) was established in 1995. At this time arrangements for the national recognition of competencies and qualifications were put in place. Under the AQF six different core vocational education and training qualifications are offered under a comprehensive system which encompasses university and senior school qualifications as well as vocational qualifications. A seventh qualification, the senior secondary certificate, is also offered by a number of TAFE institutes. Under the AQF students may obtain a statement of attainment for partial completion of a full qualification.

The AQF was designed to improve arrangements that had been made under a more cumbersome and confusing framework, the Australian Standards Framework. This

framework comprised eight levels of qualifications ranging from operatives through to tradespersons and supervisors and managers.

The AQF was developed to achieve consistency in the recognition of outcomes from vocational education and training and across senior secondary schooling and universities.

The Australian Recognition Framework

This framework establishes requirements for the registration of public and private providers of training and assessment services. Initial registration will depend on the ability of these providers to meet the national core and relevant product/service standards and other requirements established by the State or Territory training authority. These registered training organisations (RTOs) will be able to issue qualifications and statements of attainment. RTOs who meet national standards for quality endorsement will be able to accredit their own courses in areas where no training packages exist. Continuing registration is based on compliance with State requirements through monitoring and audit.

Where organisations want their products and services nationally recognised they must operate in partnership with an RTO. The RTO will then be the body, which takes responsibility for assuring the quality of these products.

In addition, States and Territories will recognise the registration decisions of other States and Territories. This means that qualifications and statements of attainment will be portable across State and Territory boundaries. RTOs may also provide training and assessment services in other States and Territories; however, qualifications and statements continue to be issued under the auspices of the primary recognition authority.

Competency-based training

Competency-based training (CBT), based on competency standards established by industry has been the major strategy for delivering industry-required skills and developing a flexible and adaptable workforce. To this end industry has provided both a formal and informal leadership role in the identification of competencies and standards for its particular occupational groups and industry areas. Enterprises have also been involved in identifying enterprise specific competencies.

During the initial reforms industry competency standards bodies were established to identify national industry competency-standards. These competency standards formed the basis of national curricula for different industries or enterprises.

The early implementation of CBT was based on the identification of minimum standards and the use of a criterion-referenced approach to assessment. This meant that in theory there was to be no differentiation between the levels of competence achieved by students. Although this concept was accepted by CBT purists, many training providers began to realise that it did not meet student needs for recognition of extra effort or higher levels of performance, and employer needs for identifying how well their particular employee was progressing. In response to these needs many providers have implemented systems for differentiating and reporting on competent performance.

Although there has been widespread implementation of the competency-based approach, there are still pockets of resistance to applying CBT principles to all aspects of training and assessment. This is especially so in courses which service occupations whose training requires a lot understanding of in-depth underpinning knowledge and theory, and those who need to develop creativity (drama, performance, fashion design, creative arts etc.).

In addition, a competency-based approach means that in theory qualifications can be obtained by the acquisition of specific competencies, rather than by the amount of time required to complete a course. Accelerating the movement of students through a course based on his/her acquisition of competencies and the speed with which qualifications can be obtained is easier for those programs which are not attached to a contract of training. For example, an

apprentice has to serve a specific amount of time to complete an apprenticeship and to gain a trade qualification. During this time he/she needs to complete the theoretical training and the on-the-job training. Under the framework it should be possible for him/her to be accelerated through this time through the early acquisition of skills. In practice, it is not always possible. Although it is easy to accelerate apprentices or trainees through the off-the-job components of their training, many industries still insist on apprentices serving the specific time set out in the contract of training before tradesman status is granted.

Training packages

In the early years of VET reform national curricula were developed around the competency standards established by industry. In 1994, the Commonwealth Government commissioned a review of the implementation of the new reforms (Allen Review 1994). The review found that training providers had been slow to implement the reforms and that competency-standards that had been developed were overly prescriptive. A move to simplify the standards and to make them more relevant to industries and enterprises provided the direction for the development of training packages. They identified as an effective means of incorporating competency standards, qualifications and ways of measuring skills into one package.

Training packages comprise competency standards, assessment guidelines, and qualifications for a particular industry or enterprise. These components must be endorsed by ANTA. Training packages may also include non-endorsed components such as learning materials, assessment resources, and professional development materials. Typically national groups of industry representatives or industry training advisory bodies (ITABS) are responsible for developing these training packages. Training packages have replaced national curricula for the delivery of qualifications. By January 2000 there were 64 formally endorsed Training packages (comprising industry and enterprise packages).

Flexible delivery of training

In tandem with the introduction of competency-based training and assessment there was a push to free up the delivery process and to provide clients with more choice in how, when and where they do their training. This has meant a move away from the traditional lock-step method of delivery towards self-paced learning. There has also been an increased focus on providing access to remote and rural students and students who do not want to attend classes on-campus through the use of advanced technologies (for example videoconferencing, audio-graphic, and on-line strategies).

Although there has been a conscious effort to provide alternative methods of training at all levels and in all locations, the overwhelming majority of course enrolments across the system is for courses which are reported by providers as being delivered in traditional classroom-based formats.

Qualifications under the framework can be obtained in a variety of ways and settings. These include:

- traditional face-to-face courses delivered by TAFE or other registered training organisations
- structured training programs delivered in the workplace
- courses delivered in an industry training centre
- courses delivered through off-campus (that is, distance, on-line) forms of study
- various combinations of methodologies and settings

National targets for elevating skills and qualifications

In 1991, ministers for vocational education and training established targets for participation and attainment of post-compulsory education and training. These were known as the Finn Targets and applied to 19-year-olds and 22-year-olds.

The targets for 19-year-olds stated that by 2001, 95% of 19-year-olds:

- will be participating in or have completed Year 12, or
- will have completed Years 10 or 11 and be participating in recognised education and training, or
- will have completed Year 10 or 11 and will have completed some formally recognised education and training

The targets for 22-year-olds stated that by 2001, 60% of 22-year-olds:

- will be participating in education and training programs leading to AQF level 11 qualification, or
- will have attained AQF Level III qualifications or above, or
- are participating in, or have completed, higher education studies such as degrees and diplomas

The 2000 annual report of the Australian National Training Authority (ANTA 2000) indicates that even though there has been some improvement, the system may not achieve the Finn targets by 2001.

Major VET providers—an open training market

Today vocational education and training is available to any individual in city, metropolitan, regional and remote location, who would like to develop work-related skills, or to improve or refresh already existing skills. It may be delivered by government- funded and non-government funded providers (RTOs), in secondary schools, TAFE institutes, and in community-based groups and centres in the Adult and Community Education sector. A breakdown of providers in government and non-government sectors is provided in table 2.9.

Table 2.9: Major providers of vocational education and training by sector

Government sector	Private sector
TAFE institutes	Private secondary schools
Agricultural colleges	Private business colleges
Higher education institutions	Enterprises providing training to their employees
Multi-sector providers and campuses	Suppliers providing training in product use
Public secondary schools	Unregistered and registered community providers
Registered community providers	
Aboriginal education providers	
Private providers under contracts to governments	

Training providers in Australia must operate in an open training market where public providers such as TAFE institutes compete with private providers for public funds under the user-choice program. This means that public funds will flow to the provider selected by employers and their apprentices or trainees to deliver the off-the-job components of their training and to deliver the qualification. Public providers must also become more enterprising in meeting client needs and identify niche markets for the delivery of their training. This means that for certain programs they are able to provide fee-for-service courses to augment

funds. Although the focus in VET has been to open up the training market and to allow different players to provide vocational training, the major providers of training continue to be TAFE institutes which are responsible for over 80% of all provision.

Apprenticeships and traineeships

A legal contract

An apprenticeship or traineeship refers to a training arrangement covered by a legal contract between employers and apprentices or trainees (or their guardians) where individuals are indentured to employers for a specific amount of time. Today, as in the past, Australian employers and employees who would like to be involved in an apprenticeship or traineeship arrangement, must sign a contract of training or training agreement (formerly called indentures). A contract of training, or training agreement, specifies the obligations of employers for training delivery, and responsibilities of apprentices and trainees to undertake the training that has been agreed to. It also specifies the term of the contract and other responsibilities of employers and apprentices and trainees with respect to how they behave in the workplace.

The aim of the VET reforms which were initiated in the early 1990s, was to incorporate and expand on the features of the apprenticeship and traineeship systems that were already in place. The rationale for the introduction of the reforms was that the apprenticeship and traineeship systems were not meeting the needs of industry for the present or for the future. This was also hampering the creation of the clever country and affecting its competitive advantage in global markets.

Before we can understand the impact of training reform on entry-level training, it is important to understand form of training was in the past generally undertaken by young men who were entering the traditional trades (for example printing, manufacturing, building and construction, and engineering trades). Young women who entered apprentices had, in the main, entered the hairdressing trades.

Typically young men or women who wanted to follow a trade vocation would leave school when they were 14 or 15 years old and look for an employer who would be prepared to offer them an apprenticeship. Once employed and indentured (employers and apprentices and their guardians signed a contract or indentures) they could then undertake the training with a public technical or trade college which delivered training. This training might mean that an apprentice would attend college one day per week, or in blocks of time throughout the year. In some cases it also meant that apprentices would attend Tech (abbreviation for technical college) or Trade school at night.

During the 1970s these technical colleges or trade schools became colleges of technical and further education (TAFE) and not only delivered training for apprentices and trainees but also delivered a variety of further education courses. However, they continued to have a monopoly of delivering training to apprentices and trainees. Breaking the TAFE monopoly of this form of training and opening-up the training market to a diversity of providers was another major aim of the VET reforms.

New apprenticeships

Today apprenticeships and traineeships go under the banner of 'New Apprenticeships'. However in practice people still speak about apprentices and trainees. New Apprenticeships comprise training programs which are negotiated between employers, and apprentices and trainees, and validated by State training authorities. The training program is developed to enable apprentices and trainees to obtain a national qualification under the AQF through paid work and through structured on-and off the job training. In addition it makes allowances for some traineeships to be delivered fully at the workplace. However, in most States employers must work in partnership with RTOs for the development of the training program, and the

assessment of competencies. Qualifications are awarded by the RTO that helped to negotiate the training program.

Whereas apprenticeships in the past were mainly in the traditional trades attached to manufacturing, hospitality, electrical, engineering, printing, hairdressing, building and construction and automotive industries, today New Apprenticeships can be undertaken in a range of emerging industries and service and business industries. In the past apprentices were engaged in the program on a full-time basis, under New Apprenticeships individuals may be involved in the scheme on a part-time basis, and while they are still at school. These contracts will refer specifically to the qualifications in a relevant training package.

Level of educational attainment prior to entering VET

Although there are and have been some entrance requirements for admission into some VET programs, in practice, admission to a New Apprenticeship is based on an applicant being in employment and having signed a contract of training. Courses not attached to these apprenticeships may or may not have entrance requirements, depending on the type of course, the college offering the course, and the availability of placements. Typically courses which are high in demand may employ selection procedures to ensure they have the best applicants.

Transition and entry-level training

Transition pathways

In the Australian VET context transition refers to the process of moving from school to employment or to further education and training. Pathways refer to the 'various combinations of education, training and employment activities which individuals undertake over time to reach a certain destination, for example a desired qualification or type of employment (Australian Education Council Review Committee 1991). In the past the concept of pathways generally referred to the diverging routes that students could take once they had journeyed through primary and compulsory and secondary schooling. These routes or pathways either led them straight to full-time employment or apprenticeships, or to further studies in preparation for university or further technical education.

Today these transition pathways are less direct. Sometimes the school-to-work pathway may be accompanied by spells of unemployment. For some, especially early school-leavers (those who do not complete all their secondary schooling), these transition pathways do not seem to lead to work or further training as they drop out of the formal labour- market altogether. That is, they do not become registered as unemployed and cease to look for work.

Sometimes the school-to-university or TAFE pathway may also be accompanied by short spells of full-time or part-time employment, or extended vacations as students opt to defer commencement of tertiary studies or further training. In addition students may opt for combinations of full-time work with part-time study, part-time work with full-time study, as pathways to a qualification or to employment in the occupation of their choice.

In Australia those who are not in employment or further studies and are registered with Centrelink (formerly the commonwealth department in charge of social security) are eligible for government unemployment benefits and concessions. Unemployment benefits are generally referred to as the dole. Recently the government has introduced the principle of mutual obligation with respect to the awarding of the dole or unemployment benefits. This mutual obligation refers to those who receive the benefits, opting to engage in work for the dole schemes. Such a program has been implemented to provide the unemployed with a pathway which may eventually lead to increased training and work. It can also help to decrease the reliance on social security benefits for people who have no genuine interest in looking for work.

There is still some resistance to the government's promotion of the mutual obligation principle especially from groups representing social welfare lobbies. This resistance is predicated on the belief that work for the dole does not provide long-term answers to the question of unemployment. Social welfare lobbies object to the principle of mutual obligation, because, they believe it punishes the unemployed for their plight, that is for not finding jobs when there are 'still eight unemployed people for every one job available in the cities, and fifteen unemployed people for every one job available in rural or regional Australia' (ACOSS 2000). These groups suggest that rather than focussing on unemployed people trying to survive on $163.00 per week, the government should be providing them with positive assistance in the form of skills training which will lead to real jobs.

The duration of the transition period

The duration of the transition period is not uniform. It is often related to Year 12 completion, to levels of literacy and numeracy and socio-economic family backgrounds. High achievers in terms of literacy and numeracy do well in education, training and the labour market.

Literacy and numeracy and Year 12 completion

Lamb (1997), found that for boys early school achievement (literacy and numeracy skills measured at age 14) had a significant impact on whether or not they completed school. Only half of the low-achieving boys completed high school as compared to almost all (90%) of the high-achieving boys. Girls tended to complete Year 12 at higher rates than boys, however, almost a half (43%) of those who had low achievement in numeracy left school before they completed Year 12. This is compared to less than 5% of the highest achievers who left school before they had completed Year 12. Girls who lacked reading skills also left school prior to completing Year 12 at higher rates than girls who were average or high achievers in reading.

Lamb also found that whereas low achievement in literacy and numeracy, (regardless of socio-economic background, attendance at government or non-government schools) increased the chance that boys would not complete Year 12, this was not the case for girls. For girls, socioeconomic background and non-government schooling was the main predictor.

Transition to full-time work

Transition to full-time work seems to take longer for early school-leavers and for those who have not completed Year 12. Young people who leave school early and do not complete Year 12 are far more likely to find themselves in insecure part-time and casual jobs for extended periods of time. They are also more likely to be found outside the labour force.

Lamb (1997) found that for boys the amount of time spent in unemployment from the time they left school to 19 years of age, depended on level of numeracy and literacy at age 14. The average amount of time for low achievers was almost twice that for average achievers, and two times that of high achievers.

Ainley (1998) also found that just under a tenth of Year 12 completers who were not in further education were either unemployed (not in work but seeking work) or not in the workforce (not in work but not seeking work). This figure increased four-fold for those who did not complete Year 12 and did not go on to further training. McLelland, MacDonald and MacDonald (1998) report data to show that those most represented in the group of school-leavers who were not in the labour force and not in further education were young women aged 18–19 years.

Number and type of jobs held

The number of jobs held by young people also presents a picture of heightened turbulence. Studies which have looked at the number of jobs held by young people after they leave school have found that young people (males or females) who left school at Year 10 and did not go on

to further training are likely to have five jobs in the first seven years. In addition females who left school at Year 10 had the greatest difficulties in finding a stable job (DEETYA 1997).

There is also a decline in the quality of the full-time jobs that young people obtain. Wooden (1998) has found a visible decrease in the earnings available to young people from full-time jobs. In addition, Landt and Scott (1998) found there to be a fall in the earnings of young people from part-time jobs. Lamb also found that the greatest differences in types of jobs obtained and wages were also related to literacy and numeracy achievement, with low achievers being predominantly found in labouring or unskilled jobs.

Entry-level training

Entry-level training is the term originally attributed to training individuals for entrance into an occupation or industry area. It typically related to the training undertaken by apprentices and trainees before they were qualified for their trades or occupations. Today it refers to any vocational education and training required for entry into employment. Lundberg (1995) reports the eight basic principles adopted by the Employment and Skills Formation Council, the major arbiter of training reform of the Australian Apprenticeship and Traineeship system.

Eight basic principles for entry-level training

Entry-level training in the Australian VET context is based on eight major principles. These principles formed the basis of the early reforms of the VET system, and continue to be important today. These include the following.

Competency-based training and assessment: these arrangements provide training in the competencies identified by industry and assessment to the standards established by industry. They also include providing opportunities for the recognition of prior learning.

Multiple linked pathways: these pathways should be flexible and linked in ways which allow for articulation, credit transfer and recognition of prior learning between all pathways. It also includes those pathways, which lead on to higher education.

More vocational education and training opportunities: this refers to improving the opportunities for further vocational education and training for those who were not university bound. It also opens up access to apprenticeships and traineeships for those of mature age.

Fair participation in vocational education: this principle supports the responsibility for governments to provide fair access to all who would like to avail themselves of training and vocational education. It supports the rights of those from identified disadvantage groups to partake in vocational education and training. These groups include women, people from non-English-speaking-backgrounds, indigenous groups, people with a disability, sole parents, early school-leavers, homeless and unemployed persons, and people from remote and rural locations.

Integrated delivery networks: such networks allow secondary schools and TAFE, private and community providers to build partnerships and to collaborate in the sharing of expertise, and facilities for the delivery of accredited vocational training.

A common flexible framework: this framework allows students in Years 11 and 12 opportunities to undertake extra vocational courses with a work-based training component. It also allows for the combination of half-work and half-study arrangements for early school-leavers.

Responsiveness to industry and individual clients: this is the driving force of the entry-level training system. National industry and enterprise competency standards developed by industry form the basis of entry-level training. An open training market means that there is a diversity of training providers. In addition incentives were to be provided to employers to engage employees in entry-level training.

A combination of incentives: this includes incentives for industry, education and training providers, and students and trainees. Employers receive benefits in the form of better trained staff, discounted training wages, subsidies for engaging in the training of apprentices and trainees. Students receive training allowances, competency-related pay, and recognised qualifications.

Labour market changes and transition

During the last two decades or so there have been significant changes in the Australian labour market. These changes have changed the nature of the opportunities available to young people for employment and for continued education beyond the compulsory years. Norris and Wooden (1996) and Wooden (1998) have looked specifically at how the changing nature of the Australian labour market has affected the ability of young people in Australia to access full-time employment and make the transition from school to work. They have identified the increased participation of married women, the increased levels of participation in education, declining levels of full-time employment opportunities for young people. Wooden has also postulated that, although there is a close relationship between higher participation and declining full-time opportunities for teenagers, the latter factor has contributed to elevated levels of participation in education.

Increased participation for married women

Since the mid-seventies the Australian labour market has undergone significant changes. The labour-force participation rate of married females has increased dramatically from just over 40% in the late 1970s to over a half (56.7%) in July 2000 (ABS 2000).

Increased levels of participation in education

During the last two decades or so there has been an increase in the proportion of students who stay on at school until Year 12. Apparent retention rates have increased from just over one third (35.3%) in 1977 to just over three-quarters (77%) in 1992 (DEET 1991, ABS 1997). By 1999 (ABS 1999) however, they had begin to show observable if small declines (72.3%).

The Australian National Training Authority annually monitors how the system is travelling towards meeting the Finn Targets described earlier. It does this by using ABS statistics collected via the transition from education to work surveys. The findings indicated that although there has been an increase in the rates of participation in post- compulsory schooling, the majority of 17-year-olds are doing education and training in schools. It also showed that there is a continuous decline in the percentage of young people in education and training as they move out of school. For example about three-quarters of 18 year-olds were in education and training in 1999. However, this percentage dropped to about a quarter for 24-year-olds.

The report also found that although the percentages of 18–24-year-olds in vocational education and higher education (university) were almost equivalent, there were more 16–24-year-olds in vocational education and training than at university, with participation in vocational education being highest for the 16–18-year-age group.

The report found that although, the participation in education or attainment of qualifications for 19-year-olds and 22-year-olds had improved, the trends indicated that the targets would not be met by 2001.

Declining full-time employment for young people

Using figures from the Australian Bureau of Statistics, Norris and Wooden note that for young people, the increase in educational participation has also been accompanied by a decline in full-time employment. They also note, that the collapse in full-time employment has been most heavily experienced by people in their teens, that is, 15 to 19-year-olds. Where in 1980 just under a half of this age group was in full-time work or actively seeking full-time

work, this figure had declined by almost half fifteen years down the track. In 1995, about a quarter (25%) of this age group was in full-time work or actively looking for full-time work. By 1999 this figure had risen to about 27.1% (ANTA 2000).

This decline in full-time work opportunities for teenagers has been accompanied by an increase in part-time work for this group. Norris and Wooden's analysis of ABS figures indicate that the increase in participation in education has been responsible for this change, with full-time students comprising a substantial share of the part-time youth labour force. The ANTA report also indicated that by 1999 over two-thirds (68.9%) of the 15 to 19 year-olds in 1999 were in education while a quarter (24.6%) were in part-time work and education (ANTA 2000).

Although there has been a dramatic increase in part-time share of total employment for teenage boys, it has been more dramatic for teenage girls. Wooden notes that in 1997 this rate for boys was 52%, for teenage girls it was almost 75%.

Declining jobs and increasing participation in education

The increases in participation in education have been influenced in part by the creation of extra places through extra government funding. However Wooden believes that there is a strong linkage between these increases and declines in the opportunities for full-time jobs. He believes that higher retention rates and rates of participation in education beyond the compulsory years 'disguises a rise in hidden unemployment among teenagers' (p35).

Functions played by VET institutions and industries in transition

VET institutions—schools

The Australian VET institutional landscape extends from secondary schooling (generally the last two years of secondary schooling, but sometimes earlier) to post-compulsory education. In addition, enterprises themselves may also become registered training organisations and so assist in the transition process.

Apart from preparing students for their secondary school qualifications, the main ways that schools help in the transition process is to provide opportunities for students to experience the world of work either through general work experience or through structured work-placements (vocational placements) which are tied to specific VET courses. Sometimes schools and institutions of technical and further education will form partnerships to provide specific training for students. Often this training will count towards secondary school qualifications as well as to further VET qualifications.

Where schools have combined as clusters for the purposes of providing a broad range of VET programs for students, the establishment of these programs and placements is generally done by vocational co-ordinators. These co-ordinators have close liaison with vocational teachers within the schools who provide the off-the-job VET training for students.

Although the roles of vocational co-ordinators vary, they are charged with developing the networks or links with enterprises for the purposes of placing students in work placements. In addition many play a vital role in making applications for funds, and in developing programs and assessment methods for these placements.

VET institutions—group training companies

Group training companies are bodies which are often sponsored by a particular industry to hire apprentices and trainees, and to establish a program of off- and on-the-job training for these trainees. The company is responsible for wages, work-cover costs, sick pay, holiday pay etc of the apprentices and trainees and for locating enterprises which will host the apprentice or trainee and provide them with on-the-job training and experience in the workplace.

Most recently group training companies have also worked in conjunction with schools to provide opportunities for students to be involved in part-time traineeships and apprenticeships. This means that they take responsibility for setting up the on-the-job training components and schools take responsibility for the off-the-job training components. At times the companies may also provide some of the off-the-job components.

VET institutions—post-compulsory training providers

Public and private providers of vocational training are also involved in assisting students to make the transition from training to work. Apart from delivering the specific vocational training required by the training packages or national curricula, these institutions also have in place departments which specifically deal with preparing students for seeking employment. For example these units provide students with skills in preparing applications, developing appropriate interviewing techniques, exploring possible career options and locating possible placements.

Industry bodies

It is also not unusual for ITABS to set up their own training facilities or group training companies and assist in the transition process in this manner. Their most important role in assisting the transition process is their heavy involvement in the development of national curricula and training packages. They have been instrumental in getting industry personnel together to identify competencies and establish the guidelines for the assessment of these competencies.

Enterprises

Enterprises themselves have been very heavily involved in assisting the transition process, either through providing work experience and work placement opportunities for secondary school students or for students undertaking VET courses in other institutions. Most recently however they have also worked in conjunction with registered training organisations to provide what have been called on-the-job traineeships where the great majority of the training (practical and theoretical) happens on the job.

To increase the participation of enterprises in the training of young people for transition to full-time employment, the Federal government has made available to enterprises special monetary incentives. These incentives include reduced trainee wages and special monetary rewards. In return for these employers must promise to set aside time to allow trainees to be involved in structured training arrangements for students.

Linkages between providers and industry

Nature of the provider—industry linkage

As has already been noted, the nature of the provider–industry linkage in Australia will vary according to provider sector and industry concerned. At the secondary school level (whether it be government or non-government provider) the linkage generally relates to the location and provision of opportunities for work experience and structured vocational placements.

Funding sources for different types of VET providers

In 1999 recurrent revenues for publicly provided VET totalled $3.751 million dollars. These funds related to all VET activity by providers who were in receipt of public funds and were required to report on this activity to each State training authority. Well over half was derived from State and Territory governments, almost a quarter from the Commonwealth Government, and about a tenth from fee-for-service activities. A small percentage was derived

from ancillary trading and other activities, and student fees and charges. This information is provided in table 2.10.

Table 2.10: Funding sources for publicly funded VET provision (in %)

State and Territory governments	59.3
Commonwealth Government	22.1
Fee-for-service	9.1
Ancillary trading and other activity	5.2
Student fees and charges	4.3

Summary of the Australian system and its outcomes

The school system

Historically, the Australian educational and training system has been based on the following principles:

- compulsory education from ages 5 to 14 years
- largely free primary and secondary education
- the need to impart basic skills and competencies in key areas
- (work placements social development, literacy, numeracy, technological awareness)
- equality of access and opportunity for all groups in the community

More recently greater emphasis has been placed on the teaching of work-related skills in schools, and on increasing the responsibility of individuals to contribute to the cost of their education. Although the introduction of 'user-pay' policies and increases in basic charges for education and training may somewhat diminish the ability of some groups to have equal access to education, there are relatively few barriers to educational and training opportunities which allow individuals to develop their interests and potential.

Traditionally, the Australian education and training system is composed of the following levels:

- pre-school (up to 2 years, usually for children)
- reception or kindergarten (one year)
- primary school (Year 1 to Year 6, six years, or Year 1 to Year 7, seven years)
- lower secondary school (Year 7 to year 10, four years or Year 8 to Year 10, three years)
- upper secondary school (Year 11 and Year 12, two years)
- vocational education and training (no fixed duration, may begin at secondary school)
- higher education (three to five years for a degree or honors degree)
- post-graduate higher education (no fixed duration)
- adult and community education (no fixed duration)

Table 2.11 summarizes the Australian school system. Here, school levels are listed approximately according to the age span in which most people stay at the specified school level. In Australia, primary schooling usually starts at the age of 5. However, many children attend pre-school for one or two years before starting primary school. To describe primary and secondary education in Australia, a typical education starts at the age of 5 with 1 year of kindergarten, followed by 6 years of primary school, 4 years of lower secondary schooling, and 2 years of upper secondary schooling. This yields the typical pattern of 1:6:4:2. But

depending on the territory, this pattern changes to 1:7:3:2 with 7 years of primary school, or 0:7:3:2 where primary schooling takes place for 7 years and there is no kindergarten period.

Table 2.11: Various education and training levels in Australia

School levels	Ages (typical)	Class levels (primary and secondary)	Duration	Note
Pre-school	3 to 4			
Kindergarten	5			
Primary school	6 to 11	Year 1 to Year 6	6 years	
Lower secondary school	12 to 15	Year 7 to Year 10	4 years	
Upper secondary school	16 to 17	Year 11 to Year 12	2 years	
Vocational education & training			No fixed duration	May begin at secondary school
Undergraduate higher education			3 to 5 years	
Post-graduate higher education			No fixed duration	
Adult & community education			No fixed duration	

Attendance at school in most States is compulsory until a person reaches the age of 15. This means the compulsory education ends typically at the completion of Year 10. Consequently, the focus of education and training policies is placed on the destination of young people who have reached the age 15, on those who have competed 9 to 10 years of schooling. In the early 1990s, the proportion of young people proceeding from Year 10 to Year 12 (the completion of upper secondary schooling) peaked at around 90%. It has since fallen to around 70%.

In Australia, the term 'school education' refers to schooling which occurs in elementary and secondary schools. The term 'post-school' education refers to education received after the completion of, or participation, in secondary education. This includes higher education, and vocational education and training. Vocational education and training programs (which can also be undertaken while students are still in secondary school) can last for just a few months. to several years.

VET institutions

Unlike Korea, institutions providing vocational education and training in Australia are distinguished from institutions providing formal education. TAFE (Technical and further

education) accounts for over 90% of the publicly funded vocational education and training in Australia. TAFE's role is similar to that of vocational high schools, junior colleges, and all other VET institutions in Korea. However, since the Australian VET system is quite different from that in Korea, it is difficult to draw realistic comparisons. The role of TAFE however, is similar to that of community colleges in the United States of America.

TAFE institutes, which are now the major providers of vocational education and training in Australia, started out as VET institutions which mainly provided off-the-job training for apprentices and trainees. Today TAFE plays a crucial role in preparing young people to enter the labour market, and providing continuing and lifelong education opportunities for individuals across the age groups. Furthermore the number of TAFE enrolments by adults is also increasing with about 40% of the total enrolment being accounted for by those who are 25 years old and over. In addition, new pathways are emerging in which university graduates enter TAFE to obtain the skills required of them in the job market, and TAFE graduates enter universities to build on the qualifications they have obtained in TAFE.

Education and qualifications rather than seniority and tenure are the two major factors which influence wage levels and promotion chances in Australia. Because of this increasing numbers of people are opting to participate in vocational training to obtain the qualifications and skills that are valued in the workplace.

School to work transition: Different pathways

Since compulsory education continues to approximately Year 10, transition starts to take place in Year 10. Generally speaking, there are three different transition pathways beginning in Year 10. This yields the pattern of 0:6:3:3 in primary and secondary education in Korea compared to the pattern of 1:6:4:2 in Australia.

On the whole, three major pathways exist in school-to-work transition in Australia. They are described in the following.

Transition from Years 10/11/12 to the workforce

This is also called school-to-work pathway, ('school' here means secondary school). Transition from school to work is possible in Years 10, 11 and 12. In any of these school years, students can leave school to enter the labour market, either in order to work or to search for work. ABS figures show that students have a larger share of part-time and casual work than workers who are not in education. Part-time work is also very common among Year 11 and 12 students with a third of Year 12 students working part- time. Whether a student who is in part-time work should be considered to have completed transition is questionable.

Transition from Year 12 to higher education

This is also called 'school-to-higher education' pathway. Over a third of the students who completed year 12 in 1996 were in university in May 1997, with many of them also being engaged in a part-time job (Misko, 1999). In the last few years this transition pathway has become increasingly popular.

Transition from Years 10/11/12 to vocational education and training (including apprenticeships and traineeships)

This is also called the school-to-VET pathway. As in the school-to-work pathway, students can leave school from Years 10 to Year 12 to go to VET institution. Almost a quarter of the students who completed Year 11 or Year 12 in 1996 and over a third of those who completed Year 10 in 1996 were in TAFE in 1997. A point worth mentioning in relation to this pathway is the VET-in-school experience in which school students can participate in school–industry programs. These programs are formally accredited and require them to spend structured time in the workplace.

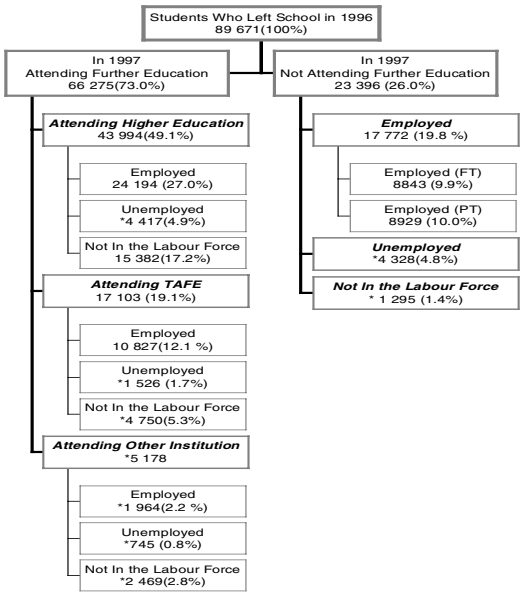
Although vocational colleges are beginning to emerge, there are no formal vocational high schools in Australia as exist in Korea. However the VET-in-schools program in secondary schools provides students with an opportunity to pursue a vocational program. This way, students can obtain formal vocational education and training while they are enrolled in school. The proportion of students which participate in these programs are slightly over 10%. (Misko, 1999).

Examples of transition pathways (from Year 12)

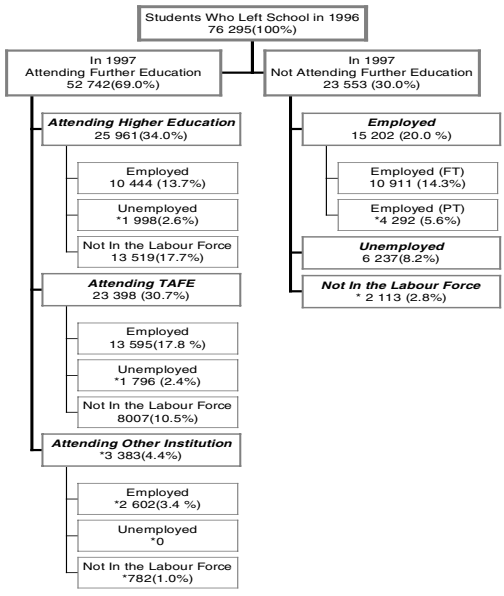
Figure 1 provides an example of a transition pathway from Year 12. The figure shows transition pathways for males and females aged 15–19. In the case of males, the destinations are largely divided into 'in further education' and 'not attending further education' groupings. The further education group is divided into higher educational institutions (universities), TAFE, and other VET institutions. The not attending further education group is composed of the group entering the labour market and the group that is not in the labour force. Among the male students who completed Year 12 in 1996, approximately 70% continued with further education and training, while 28% entered the labour market. Among those who continued with further education, 34% of the total graduates entered higher education while those attending TAFE reached 34%. The figures in figure 1 relate to students who left school in year 12. However these figures will change according to the year level at which the student left school. Misko (1999) provides similar diagrammatic representations for students leaving at Years 11 and 12.

Figure 1: Destinations of school leavers in Year 12, aged 15–19 (May 1997 status of 1996 school leavers at the end of Year 12)

Females



Males



Note: *Denotes relative standard error of over 0.25, care must be taken in interpreting this data.
FT= full time; PT = part time

Source: Australian Bureau of Statistics 1997

Training activity and results of student outcomes and employer satisfaction surveys

VET training activity

The majority of publicly funded training is conducted in TAFE institutes. In 1999, there were just over 1.5million VET students in training. Just under three-quarters of these were undertaking courses with TAFE and other government providers. These details are provided in table 2.12.

Table 2.12: VET activity by training provider type

Students	Number ('000s)	% of total
TAFE and other government providers	1232.3	74.8
Community education providers	235.8	14.3
Other registered providers	179.1	10.9
Total training activity	**1647.2**	**100.0**

Source: Australian VET: Statistics—At a glance, NCVER, 1999

Apprentices and trainees

The percentage of apprentices and trainees over the age of 21 has steadily increased over the last decade. As at December 1999 there were just over 260,000 apprentices and trainees in training. Of these well over half were aged 21 years or more. Almost 2% of the total of apprentices and trainees were between the ages of 15 and 16 years. These data are presented in table 2.13.

Table 2.13: Apprentices and trainees in-training as at 31 December 1999 by age group

	No.	% of total
15 or less	546	0.21%
16	4 366	1.67%
17	13 753	5.26%
18	23 467	8.97%
19	33 842	12.94%
20	31 818	12.16%
21 or more	153 810	58.80%
Total	261 602	100.00%

Source: Unpublished NCVER apprentice and trainee statistics, June 2000.

The overwhelming majority of apprentices and trainees in training were employed in the private sector. Just over a tenth were employed by a group training scheme, a small number of trainees were employed in government business enterprises, and local, State and Commonwealth (federal) governments. A breakdown of these details appears in table 2.14.

Table 2.14: Apprentices and trainees in training as at 31 December 1999 by employer type

	No.	% of total
Private sector	211 610	80.89
Group training scheme	35 101	13.42
Government business enterprise	1 725	0.66
Local government	3 646	1.39
State government	7 573	2.89
Commonwealth Government	1 473	0.56
Not elsewhere classified	474	0.18
Total	**261 602**	**100.00**

Source: Unpublished NCVER apprentice and trainee statistics, June 2000

Student outcomes survey

Each year the NCVER conducts a student outcomes survey in which they ask graduates and those who had undertaken some training in TAFE courses are asked to provide information on their employment status, income, motivation for undertaking the course and their opinions about the quality and relevance of their training.

In 1999 (NCVER 1999) about 63 000 graduates responded to this survey. About 40% of the graduates included in the study indicated that they were engaged in further studies, their main reasons being to get a job or own a business, to get a better job or promotion, and to get extra skills.

The study also found that there was a great variation among the employment outcomes of students. The percentage of employed graduates aged 20 to 24 years was much higher than for all other age groups and especially aged 55 and over and those aged 35 to 44 years. In addition, older graduates experienced slightly higher unemployment rates than younger graduates; males were more likely to be employed in full-time jobs (56.5%), than females (30.9%). Graduates who were from Aboriginal and Torres Strait Islander (ATSI) backgrounds (47.95%), non-English-speaking-backgrounds (NESB) (62.6%) and graduates with a disability were less likely to be employed than those not belonging in those groups (73.3%, 77.3%, 74.2% respectively).

Graduates who had received a trade or higher-level qualification (for example, diploma, advanced certificate) were more likely to report being employed than those who had received a lower-level certificate. Graduates who had undertaken studies in VET multi-field education, arts, humanities and social sciences were less likely to be in the labour force than those in other fields.

Employer satisfaction survey

The Employer Satisfaction with Vocational Education and Training Survey (NCVER 1997, 1999) is a national survey which is conducted every two years. Its purpose is to collect information from employers about their satisfaction with the VET system, including the availability, relevance and quality of VET in Australia. The 1997 survey which included 2600 employers found that over three-quarters (78%) were satisfied or very satisfied with the VET system. The 1999 survey of employers found that this figure had increased slightly with 83% of employers of a recent VET graduate indicating that they were satisfied or very satisfied with the VET system.

Employers in the 1999 survey were asked to rate their satisfaction on a five-point scale. When data were analysed according to industries, the more satisfied industries (including those who said they were satisfied and those who said they were very satisfied) were:

- communication services (97%)
- mining (91%)
- agriculture (94%)
- government administration, defence (91%)

The less satisfied industries included:

- electricity, gas and water (56%)
- wholesale trade (72%)
- education (70%)
- manufacturing (75%)

Just under three-quarters (73%) of the employers in the 1997 survey indicated that they believed that training paid for itself in terms of increased productivity. This was true for 74% of employers in the 1999 survey.

In addition, well over three-quarters (81%) of employers with or without a VET graduate employee believed that employers should have more input into the course content. About the same percentage of both groups (82% and 84%) believed that qualifications should be based on what the person can actually do than on how many years of training they have completed. Well over one in eight employers from both groups believed that there should be more work experience or work placements.

3 Case studies

Selection criteria

Two different dimensions were used in selecting the cases for this comparative study. The first dimension relates to school levels. VET institutions can be classified into different categories according to their school levels. Here, we classify them into school-based VET institutions and post-school VET institutions. This school-based and post-school taxonomy is borrowed from the Australian school system. According to the Australian school system, 'school' means secondary school, and therefore 'post-school' institutions refer to those institutions people enter after finishing or leaving secondary schools. In table 3.1, different vocational education and training institutions in Korea are grouped according to school level.

Table 3.1: Types of VET institutions at secondary and post-secondary level (Korea)

Level of VET	Secondary	Post-secondary
Institution type	General high schools	Junior colleges
	Vocational high schools	Polytechnic colleges
		Vocational training institutes (VTIs)
		Polytechnic universities

As shown in table 3.1, school-based institutions providing VET in Korea are general high schools and vocational high schools, while post-school institutions providing VET are typically junior colleges, polytechnic colleges, vocational training institutes, and polytechnic universities.

The second dimension used in selecting the cases was industry sector. The reason industry sector was used as a criterion is because in industry–school cooperation, industry sector plays an important role in determining the nature of the linkage. The industry sector also identifies the major field (or program) of interest. This study is concerned with the linkages that exist between specific programs (that is, electronics) within an institution and industries.

In accordance with the agreement made with the researchers from NCVER, we have chosen to concentrate on three major industry sectors in both countries. The criteria used in choosing these sectors were that they should be nationally representative sectors in each country and should include manufacturing and service sectors. The sectors the joint project team has chosen meet these standards. They are electricity/electronics, information and telecommunications, tourism/hospitality. Electricity and electronics are major industries in Korea. In addition, the IT industries are expanding rapidly in both countries. Tourism and hospitality are major industries in Australia, and emerging industries in Korea.

Table 3.2: Cases selected at sector-by-institution level (KOREA)

Industry sector	Secondary	Post-secondary
Electrical & electronics	Su-do Electronics Vocational High School	Choong-Cheong Junior College Incheon-Polytechnic College
Information technology (IT)	Incheon Information Technology Technical High School	Yeon-Am Junior College
Tourism & hospitality	Pusan Han-dok Managerial Information Girls' High School	Hanyang Women's Junior College

We have selected seven Korean and ten Australian VET institutions using these two dimensions with at least one institution occupying each cell in the school-level by industry table. In choosing the institutions, we have made an effort to identify institutions with well-established programs in the particular industry area. To do so, several field visits were made by Korean researchers to identify such institutions and such programs. Australian researchers identified institutions and programs through wide consultations with experts in the field. table 3.2 provides the name of the Korean institutions selected according to school and industry sector and table 3.3 provides the names of the Australian institutions selected according to school and industry sector. The industry sector relates to the programs selected for major investigation.

Table 3.3: Cases selected at sector-by-institution level (Australia)

Industry sector	Secondary	Post-secondary
Electrical & electronics		RMIT University (TAFE division) Box Hill Institute of TAFE NASTEC solutions
Information technology (IT)	Inner-Melbourne VET cluster	RMIT University (TAFE division) NASTEC Solutions (private provider)
Tourism & hospitality	Inner-West TRAC Compact Bayside VET cluster Eastern Suburbs Compact	William Angliss Institute of TAFE (tourism) Regency Hotel School (hospitality) Northern Institute of TAFE Ryde campus (hospitality) New South Wales TAFE (tourism)

Interview schedules

Three different kinds of interviews were conducted for each of the Korean VET institutions selected for the case studies. Appendices 1, 2 and 3 provide information on the names of institutions and participants in the study.

Training provider interview

First, an in-depth interview with a VET provider was conducted. Generally teachers and professors in charge of the selected program for the institution were interviewed. Additional information on the type of linkage between the school and industries was also collected from the administrative staff from school–industry co-operation support offices.

Employer interview

The second type of interview was conducted with the employer. The employer was selected from the group of employers who offer practical training to students enrolled in a particular institution. These employers were also very likely to offer jobs to the graduates from the institution. In many cases, practical training led to employment.

Student trainee interview

The third type of interview was conducted with one or two students in the VET institution. Those students who had already participated in practical training provided information on their experiences with the VET provider and the industry in which they had undertaken practical training.

Major providers of information

The major type of interview was undertaken with the institution providing vocational education and training. Several visits were made to the institution and in-depth interviews were conducted with the people in charge of programs. Interviews with employers and students were relatively shorter and were designed to supplement the information discussed with VET institutions. In Australia information for the case studies was mainly collected from the training providers (see table A3 in appendix 2). In the case of the information on the New South Wales tourism program information was collected from the program manager responsible for tourism training in the State. The results of national employer satisfaction and student outcomes surveys (already reported on in this report) were used in lieu of interviews with employers and students.

The three different interviews conducted for each case study in Korea represent three important actors in vocational education and training: VET providers, industries, and students (or trainees). When the quality and nature of VET is discussed in Korea, the major concern is mainly with the institutions providing VET. Often, the views of the other two parties, students in VET institutions and employers of the graduates from these institutions, are excluded or not considered. However, we must keep in mind that students and employers are not only the main users of VET, they are also the main players in the Korean VET system. Therefore, their views and experiences need also to be considered, analysed and reflected upon in establishing the VET system in Korea. The case studies selected for the comparison incorporate the views of these often overlooked players.

Contents of case studies

In addition to conducting interviews with teachers, professors and administrative staff in selected institutions, key persons who answered the interviews in each institution were asked to provide comprehensive explanations and supporting materials regarding the following topics.

Describing the linkages between VET institutions and industry

Respondents were asked to describe the general linkages between the institution and industry, and the linkages between selected programs (that is, the department of electronics) within the institution and industry. In looking at these linkages, focus was placed on identifying the following:

- History of the linkage
  - commencement of linkage
  - number of cooperating companies
  - introduction to those companies to explain the history
  - organisations initiating the linkage (An industry initiative is referred to as an industry-driven linkage, a school initiative is referred to as a school-driven linkage)
- Specific examples of linkages: school- industry co-operation programs:
  - 2+1 system of technical high schools,
  - customized programs
  - programs under special contracts
  - other kinds of cooperation programs
- Funding sources:
  - government funding
  - industry funding
  - other private sources
  - funding sources for the institution as a whole
  - funding sources for the program

Involvement of school and industry in developing curricula

- Questions were also asked about the:
  - major programs of the institution and their initiation
  - major curriculum used in the designated program within the institution
  - degree and forms of involvement of industries in developing the curriculum

Other examples of school–industry co-operation

Respondents were also asked to specify other forms of co-operation with industries, such as provision of machines, equipment, learning materials from industries. The examples include:

- provision of technological support
- exchange of teaching personnel between the school and the industry
- involvement of teachers in programs offered by industries to renew their knowledge
- if the institution commits student training to industries or trains employees in related
- industries, if it does, specific examples of such programs

Practical training

Respondents were also asked to provide information about the processes involved in practical training including the following:

- determining the training industry which will provide the student with practical training

- the role of schools, industries, and other organisations in the process
- preparation of students for practical training in the training industry
- timing and duration of practical training
- relative importance of off- and on-the-job training
- evaluation of students participating in practical training
- supervision of students during the period of practical training
- evaluation of employer satisfaction with students

Evaluating the institution's VET outcomes

Information was also collected on:

- course (program) completion rates (within the last 5 years)
- practical training completion rates (within the last 5 years)
- rate of employment of the graduates (recent trends) along with the rate of
- employment in the same industry in which they gain practical training
- evaluation of satisfaction of employers who hired the graduates
- (method and degree)

Korean case studies

A. Case study reports

Sudo-Electrical Technical High School (Secondary School: Electrical)

Students entering Sudo-Electronics Technical High take theory and basic practical courses for the first two years of their programs, and spend the last (third) year at the job site for practical training to learn the actual skills required. This is a typical course of study for students at technical high schools, which have been selected as 2+1 model schools. When the school selects the places for practical training for students, they choose only those enterprises which have separate training facilities. The school signs an agreement for mutual co-operation with these selected industries. This serves as a basis for co-operation. Practical training consists of three to six months of off-the-job training and three to nine months of on-the-job training.

To promote more efficient school–industry co-operation, the school has established the '2+1' Operation Committee, which consists of the principal, vice principal, the head and entire staff of the career counseling and education department, and head of each department in the school. This committee is responsible for selecting those industries with which to establish co-operative arrangements and for planning detailed practical training schedules. In particular, it also has responsibility for selecting the industries which will be involved in providing practical training, allocating students to workplaces. Members of the committee make some work place visits to students in practical training.

Co-operation with industries in the process of curriculum development is made as follows. The teachers in the department of electronics conduct a job analysis of jobs in related industries to ensure that students develop the practical skills required. Teachers also make every effort to make sure that the basic theory and practice students receive at the school during the first two years of the program are aligned to the practical training that they will undertake in their practical training year. The teachers at school and the workplace training supervisors gather together to discuss how to run a more effective practical training course.

Teachers visit students at least once a month during their practical training to supervise them and to provide advice. Student practical training results count towards their overall performance record.

The problems occurring in the process of co-operation with industries are numerous. First of all it is hard to identify those enterprises with which to develop a relationship of mutual support. This is because even among the industries that show interest in offering practical training, most do not have practical training facilities. This makes it hard to arrange or provide systematic training for students. Another problem is related to the unwilllingness of some students to participate in practical training, and the reluctance of their parents to send their children to places of practical training. These students are more interested in furthering their education by entering institutions of higher education. To do this, they feel it will be more beneficial for them to spend their last year of the program in preparing for entrance exams than spending it in industry training facilities.

Employer interview

Sindoriko Co. offers practical training to students from Sudo-Electrical Technical High School High. The company recruits people by placing an advertisement in newspapers and on the internet. The company then goes through the process of reviewing submitted resumés and conducting personal interviews. Then, applicants who are successful in these two processes are required to pass a physical examination. For those who are finally employed the company signs a contract with the trainee based on the training agreement under the 2+1 system. The contract is signed under the common agreement of the school, the company, and the trainee.

The company provides an orientation program for new recruits which includes the basic knowledge they will need as a worker in the company. The training is delivered as a mixture of discussion, lecture and practice, and recruits live in a training camp and commute to the training facility.

The training provider in the company believes that school–industry co-operation benefits the company by allowing it to attract capable workers through practical training. It can also benefit students by giving them a chance to learn about real workplaces and about opportunities for employment. The company is satisfied that the current orientation training is providing desired outcomes for new recruits. It is also positive about its co-operative arrangements with schools under the 2+1 system. As a result it intends to continue to offer practical training for practical training to the student trainees.

Amkor Technology recruits trainees from technical vocational high schools implementing the 2+1 system through consultations with the career counselors at the schools. The company sends out an official letter to schools calling for applications for practical training. Subsequently applications are collected and applicants are given a written exam. After personal interviews with the applicants, the company selects the trainees. After these have been given a physical examination, they are finally offered a job.

The company signs an agreement about the training with the school and the student. This agreement is established to provide the student-trainees with opportunities to adjust to the workplace prior to entering the workforce, and to implement cooperative training arrangements with the school.

Training of the new recruits is delivered in two ways. First, in the first three months of off-the-job-training the trainees learn about work ethics and labour laws and take courses in the prevention of sexual harassment and basic processing. The second part of practical training consists of nine months of on-the-job training, in which trainees are actually working at the production site, producing real things and practising what they have learned in the class.

Amkor Technology recruits new employees through the practical training selection process and as a result views the practical training program in a positive light. The company has the opportunity to recruit capable prospective workers and improve their adjustment to the work place before actually providing trainees with offers of employment. This process is not unlike

the apprenticeship system in Australia in which apprentices hired by companies receive practical training during the contract period which may lead to job offers after the completion of the training.

Student interview

Students interviewed while in practical training commented that they chose the school because they believed that the electronics industry offered promise in the future job market, and because they wanted to become professionals in the field. Students generally located companies which would deliver their practical training, on the advice their teachers, and searched for companies which were well-known in the field. In addition, they reported that school grades were important criteria for admission to their preferred practical training company.

Although students commented that they were not particularly well-prepared for their practical training year, they reported that the theory and practice they learned at school during the first two years of the program were of considerable help. They also believed the training they received during practical training helped them to learn the specific skills required for the job. During their on-the-job training students had been helped to acquire skills from various kinds of employees in the company, from heads of the departments, and training supervisors to graduates from Sudo who had now become company employees.

Students reported that they had gained definite benefits from their involvement in practical training and would recommend practical training to others who wanted to learn real skills needed at the job. In addition, practical training had helped them to adjust to real work environments, and had usually led to job offers on completion of the program.

B. Incheon Information Technical High School (Secondary school: IT)

Established in 1995 Incheon Information Technical High School has a relatively short history. Practical training at the school was first implemented in the second semester of 1997, and signalled the beginning of earnest co-operation with enterprises. An agreement of mutual support was signed with two companies in 1998; by 1999, there were 12 companies that had signed similar agreements.

There are also other examples of school–industry co-operation at Incheon. In 1997 one company donated personal computers to the school which had a value of 72million won. Although the exchange of teaching personnel with companies is a rare occurrence, the school regularly sends teachers to industry to update their skills in industry-based training facilities.

The major problems arising from co-operative activities with industries concern practical training. Most IT enterprises located around the Incheon area are small and medium- sized companies which do not have the capacity to provide effective training for students. It is for this reason that teachers interviewed at the school believed that large companies with more financial capacity should take a major role in providing practical training for potential employees including students undertaking practical training.

Employer interview

Prochips and Cross Electronics are among the companies which offered practical training to students from Incheon-Information Technical High School.

Prochips recruits new employees by placing advertisements on the internet and asking schools for recommendations of students. The company has also signed a contract with schools who want to send students to the company for practical training. Prochips trains new employees through a combination of basic training with on-the-job training.

Employers reported that they derive a number of benefits from school–industry co-operation. First, the company benefits by securing qualified workers in advance. Second, students are given the opportunity to gain real skills and obtain employment. Although the company is generally satisfied with practical training, problems do occur when there is a mismatch between student trainees and the workplace. In such a situation there is little that can be done and both company and student must make the best of it.

Cross Electronics recruits workers throughout the year and also uses recommendations from schools. However it does not have a specific training course for new workers. Instead it places them directly on the job so that they can learn from the actual production site.

The respondent from Cross Electronics also identified a number of benefits and concerns. He believed that the focus on the acquisition of practical skills in the practical training year could be used to fill the gap between theory-based education delivered in schools and the practical skills required in the workplace. He also believed that companies benefited from practical training arrangements because it allowed them to secure capable prospective workers. However the lack of practical experience of the student-trainees was perceived to lower the quality of products, and contributed to high defective rates in final products.

Student interview

Students interviewed selected the school in part because of their grades and in part because the school has good facilities. They were also attracted to the IT program because IT was a booming industry. They reported that their teachers usually selected the companies in which they would undertake practical training, and that they had not received any particular training in preparation for their practical training year.

Students also reported that student trainees were offered jobs in these companies depending on their performance on the job during their practical training. Practical training was also perceived to have helped respondents to learn about, and adjust to, the workplace, and to add to their work experience. They would recommend participation in practical training to other students.

C: Pusan Handok Management Information Girls' High School (Secondary school: Tourism)

The school's history of co-operation with industries dates back to 1969 when the students in the home economics course took practical training in fashion industries. At those times it was really unusual to send students overseas (that is, West Germany) to learn about the fashion business. Since then, the school has expanded the courses and curricula it offers.

The tourism program was established in 1979, and gained popularity along with the 1986 Asian Games and 1988 Olympic Games which were both held in Seoul, Korea. The program attracted many prospective students with promising job opportunities upon graduation.

The department of tourism at the school has established linkages with such industries as tourist hotels, traveling agencies, duty-free shops, country clubs (CCs), trendy restaurants, which are all prospective employers of the graduates from the program. According to student preferences, tourist hotels take the first place as prospective employers, followed by duty-free shops, country clubs, and travel agencies.

Students prefer employment in tourist hotels and duty-free shops since they have a chance to practise their foreign languages. They apply for practical training in country clubs because of the high rate of pay. Travel agencies are avoided because of the low wages they offer to students in practical training.

The school maintains a connection with these enterprises and sends students to them for practical training because of potential employment opportunities. In other words, students obtain practical training in those industries because practical training is often linked to

subsequent employment. However, the government funding for the tourism industry is focussed on graduates from junior colleges and four-year colleges. Government support for practical training of students in tourism programs at the vocational high school level is very low. Government financial support for the tourism program for the Pusan Handok school is between one and three million won annually.

Curriculum development for vocational high schools has been undertaken by the local government agencies of education and individual schools do not have many choices in terms of the selection of the courses taught in the program. This also limits the amount of industry input to the development of curriculum and learning materials. However, beginning in 2001, this will change and the department of tourism at Pusan Handok will develop and run its own curriculum. The students will learn the basic knowledge in their major field in the first year, undertake core courses in the major field in the second year, and select the courses in which they will specialise in the third year.

There are no co-operative arrangements between the school and enterprises in the provision of learning equipment. This may be due to the limited need for physical equipment in the tourism program.

The exchange of personnel in the program is being made at a very limited level. Teachers, however, visit industry sites to learn about what is happening. Also, schools invite industry experts to the school to give lectures to the students. This indicates that the school rather than industry is taking the initiative to develop school–industry linkages. It seems that the school wants to link up with industry because the school wants to get students a job; industry wants co-operation with schools so that they can secure semi-skilled workers.

The practical training of students in commercial vocational high schools generally takes place for a period of up to six months, during the second semester of the third year of the course. At Pusan Handok the process of selecting the enterprises which will provide practical training is as follows. The school informs selected enterprises that it is interested in sending students for practical training. If the contacted enterprises accept the request they inform the school of their criteria and standards for accepting the students as trainees. The school then recommends students who meet the standards. These students are given a selection or entrance test. Their personal appearance and school grades are also used as selection criteria. This could be due to the nature of service industries. Those students who pass the test commence practical training.

Until the 1990s students were more interested in such things as working conditions, welfare systems, and the practical training fee when they considered which enterprises they would prefer for practical training. But, recently they have become more interested in completing the practical training itself. This is due to the 7th amendment of the educational curriculum, in which payment of the fee for practical training became optional and practical training became a requirement for graduation.

There are some problems with practical training in tourism programs in vocational high schools. Among these, the largest relates to the mandatory implementation of practical training at the high school levels. Teachers reported that students in vocational high schools were too young to undertake practical training, while program administrators felt that extending the period during which students can take practical training to six months also caused problems. The teachers believed that decisions about practical training in commercial vocational high schools should be left to the schools. Schools should be able to decide when and where they would like to send the students for practical training.

Rather than making the practical training system a mandatory part of the course through regulations, the government should give more attention to reinforcing co-operative arrangements between school programs and industry and provide some kind of legal basis for these activities.

Employer interview

Paradise Hotel in Pusan was selected among the companies offering practical training to the students from Han-Dok. Hotel industries suffer from high employee turnover throughout the year. Therefore, the hotel recruits new employees to fill positions whenever vacancies occur. The hotel selects new employees in the following manner. First, the hotel reviews the applications that are submitted, then it conducts personal interviews with those who are selected from this review. Finally, those who pass the interview are required to undertake a physical examination at designated hospitals. Once a year the hotel conducts a special off-the-job training course for employees with less than one-year tenure. Whenever necessary, the hotel also provides training by in-company instructors in particular areas.

In terms of co-operation with schools, the company provides practical training to students from schools twice a year. The first program is conducted from July to August for 200 trainees, the next program is conducted from December to January for about 50 trainees. In each case, the training takes place for about a month. The hotel also opens the facility throughout the year for on-site visitors from schools upon request, and runs a program for on-site visitors. In addition it is also involved in school-based education by allowing hotel employees to give lectures and teach courses at selected colleges.

A number of benefits are derived from these school-hotel linkages. The company benefits from co-operation with schools in that it can attract good student-trainees as prospective employees, can join schools in developing a joint program to better train students. In addition, the company can access consultations from professors at colleges in the Pusan area which will help them better run their business. Students benefit from practical training in that they have a chance to experience what is going on in the real world in their selected field. They also have a chance to decide on and change their career choices. Even if they decide that the industry is not for them then it is much better for them to do so as a result of practical training than doing so after spending more time at the job. Also, the students are able to learn about their strengths and weaknesses in the job so that they can better prepare for the real job markets.

Practical training can also provide some concerns for companies and schools. Placing inexperienced students directly on the job where they have to deal with customers can be detrimental to the image of the company. Due to the nature of the service industry, this can affect the smooth running of the hotel. Also, the matter of offering a job to the students who have completed training remains a long-standing issue.

What is most important for workers in a service industry such as hotels is to have a 'service mind'. This will help them to provide the service that makes customers want to come back. It also contributes to enhancing the reputation of the hotel. Entry-level training at the hotel should focus on cultivating this 'service mind' in trainees in addition to improving foreign language skills.

Student interview

The chance of getting a job after graduation at a company with which the school has established co-operative relationships works as an incentive for students choosing the school and the program.

The student interviewed in this study had participated in practical training twice while at school. He had selected the Pusan Handok Management and Information High School mainly because the school had relationships with many employers in the field of hospitality, and believed that this would increase his chances of gaining employment after graduation.

Prior to attending practical training, the student was provided with training at school on basic etiquette and the basic service principles that would have to be observe at work. The student interviewed commented that practical training helps trainees in three ways: it helped them to adjust to the on-the-job experience, it enabled them to learn practical skills, and last of all it provided them with the opportunity to get a job.

D. Incheon Polytechnic College (Post-secondary: Electrics)

This school offers an example of polytechnic colleges which evolved from vocational training institutes. The college has both regular programs and non-regular programs. The regular programs are divided into courses for multi-skilled workers which are of two years duration and offer an associate degree and courses for masters which are of one year duration. To provide comparison with other two- year colleges, only the courses for multi-skilled workers will be discussed here.

In developing curriculum for the students and collecting materials for curriculum, the school has access to many industry experts for technical advice. The school hires visiting instructors among industry experts to teach the students the skills needed at the workplace. (However, this is not the case in the department of electrics and computers.) In addition, the professors at the college are required to participate in industry-based training, and this affects their promotion and chances of reappointment.

Practical training at the school is a very important component of all practical courses. It counts toward one quarter of the total number of credits that students have to obtain through practical courses. Students are required to take a total of 12 credits through practical training. The school prepares students for practical training by teaching them such things as resumé-writing, workplace etiquette, and occupational health and safety.

The employment of graduates from this program is very high and most graduates who do not continue on to higher schooling get a job upon graduation. Over the last five years some 65% of graduates have been able to obtain jobs with the same companies in which they took practical training. However a considerable proportion of these graduates change employers within one year of commencing their employment.

E. Choong-Cheong Junior College (Post-secondary: Electronics)

Education in the department of electronics at the college is focussed on customised training, semi-conductors and information and technical education.

The department runs customised courses for industries with which it has established linkages and develops curriculum for trainees in Hyndai Semiconductors. The school also practices vertical integration of vocational education by having a 2+2 linkage system with Cheong-Ju Technical High Schools. In the 2+2 linkage system, students who have completed two years in Cheong-Ju Technical High can enter the college, thereby saving themselves one year to complete high school.

Companies providing practical training for students are selected among those industries which have signed a letter of co-operation with the school, the industries which have made a request for trainees, and the companies where students prefer to undertake practical training. A short preparatory course is held one week prior to students leaving for the places of practical training. The course teaches students appropriate work attitudes, and how to handle any problems and unexpected events that occur during the training period.

The duration of practical training ranges from two to four weeks and it is held during the vacation. Students are evaluated jointly by the school and the company providing the practical training. In addition, the professor responsible for supervising the student will visit the training site to make sure that the student is following the instructions given at the workplace. The result of the evaluation conducted during this visit is reflected on the student's record.

The companies which offer practical training to students, note that the students in practical training lack the precision required to complete experiments and undertake work tasks. They also report that students need to improve their problem-solving skills so that they can fully utilise what they have learnt in school.

The students who have completed practical training report that practical training provides them with a good chance to learn real-life skills. They have also asked for an extension of the training period and changes in the attitudes of companies providing training toward the students.

Employer interview

Hyundai Electronics and T.S.A Electronics Co. are among the companies where students from Choong-Cheong receive practical training. Hyundai Electronics is a large company while T.S.A. Electronics is one of many small companies which maintain co-operative relationships with the school.

Hyundai recruits employees regularly twice a year in June and November or when there are vacancies. It has a general training program for all new employees, and each department offers on-the-job training in various fields specifically designed for new employees. The company does not have particular forms of agreement with schools. But, if there is a request for practical training from schools, the company tries to meet the demand as far as is possible in the relevant department.

Hyundai has a joint project with Choong-Cheong. This project offers a large company like Hyundai an incentive to pursue the improvement of student skills. However, it was noted that the project costs the company a lot of money in comparison with what it stands to gain from the project. Hyundai has a good entry-level training program and is willing to maintain a co-operative relationship with the school for the duration of the project.

T.S.A Electronics recruits employees by placing advertisements in newspapers and subsequently reviewing applications and conducting selection interviews. The company has a training program for new employees which teaches them about the company and the practical skills needed for the job. The company does not have specific agreements with schools. However, it does provide a chance for students to undertake on-the-job training. The company benefits from its involvement in practical training by offering jobs to qualified trainees. However, the process of trying to provide better training for student-trainees can be a burden for the company. The company believes that it needs to improve training programs for new workers, and develop customised programs which meet the various training needs of employees.

Student interview

The student interviewed had chosen the electrics and electronics program because he was interested in electrical circuits. He had chosen the school because it was well-known in Choong-Cheong Province and because it was easy to get to. He was of the opinion, that because the school program was mainly concerned with theory the practical training in the electronics company had given him a chance to learn practical skills. Practical training had also made him realize the difficulties confronted on the job and the skills and abilities that were required. Prior to attending practical training he had received preparatory education from the school. The student also reported being offered a job upon completion of his practical training.

He was strongly in favour of recommending practical training to other students and his reason for doing so was because in the main it provided an opportunity for students to 'practice' what they learn at school.

F. Yeonam Junior College (Post-secondary: IT)

Yeonam Junior College was founded by LG (Lucky Goldstar) which is a major enterprise in the field of IT (information & telecommunication) in Korea. Yeonam Junior College, is also called Yeonam Technical Junior College to distinguish it from Yeonam Animal Husbandry Junior College. It was established by the LG Yeonam Institute with the aim of developing a

skilled technological workforce. With active support from the LG Group, the school represents a good example of school–industry co-operation among junior colleges.

The school is composed of three major departments: the department of computers and electronics, the department of mechanical engineering, and the department of industrial and information design. Each department is further divided into several programs according to major programs. The department of electronics and engineering is divided into six major programs, the department of mechanical engineering into six major programs, and the department of industrial and information design into two major programs. To develop and evaluate curriculum for each detailed major program, the school has established an Advisory Committee for School–industry Co-operation.

Professors at the school visit enterprises during the period of practical training to meet training supervisors, to discuss training programs and ensure that the curriculum meets the needs and standards of these enterprises. They also collect information and obtain supporting materials such as job analyses from enterprise-based trainers.

Enterprises co-operate with the school in various ways. For instance, they will often provide heavy and expensive machinery and equipment required in a detailed major program. During 1999, LG provided the school with equipment and software to the total value of 1.25 billion won. This equipment and software was used to run classes in detailed programs in the departments of computers and electronics and mechanical engineering. In 2000, this figure was increased to 1.59 billion won.

In its exchange of teaching personnel, the school often utilizes industry experts to train students. Professors at the college also have an opportunity for on-site learning to refresh their industry knowledge and to learn about the skills that are currently being used in the workplace. In the main, funds for supporting industry-based learning for professors are provided by the school.

The school also runs courses for LG trainees at the request of the LG group. At LG Electronics - Changwon Factory, the school has a Changwon Factory campus where it conducts a course for the mechanical planning program. In the Jin-Ju Business Nurturing Center, the school also runs courses for those who would like to start up businesses.

The process of linking students with the enterprises in which the students will undertake practical training is as follows. The Center for School–industry Co-operation at the college takes charge in the process. The center first screens the companies which have offered practical training to the students in the past. These include government offices, branches of the LG Group, and small- and medium- sized companies located around the Jin-Ju area. Then, the center sends these companies a letter requesting their co-operation, and encloses materials and information about the detailed major programs offered at the school. These activities are also aimed at securing future employment opportunities for graduates.

Once the center collects the responses from companies it forwards these on to each department and each program. Then, each department distributes the responses from companies among students so that they can apply for the company where they want to have practical training. The department then matches the students with an appropriate enterprise based on their marks, character, interests, and residential districts. Once this process is complete the department informs the Center for School–industry Cooperation of the placement of students for practical training. Practical training is a requirement for students at technical junior colleges and counts towards total coursework units. However, the number of units provided by practical training varies from program to program.

The school prepares students for practical training in career counseling sessions. It also invites human resources personnel from companies to come to the school to give students instruction in occupational health and safety. As a final review process the Center for School–industry Co-operation conducts an orientation program which takes place one week prior to the students beginning their practical training.

Practical training generally takes place during the summer vacation, between the end of June and the middle of August, for three to four weeks depending upon company availability. Students sign up for the practical training course in the fourth quarter of the second year and get a credit for the course. This course is a requirement for graduation and the degree.

Since practical training is a requirement of each program at the college, the rate of completing practical training is almost 100%. Recently, a growing tendency for offers of employment to students on completion of practical training, has further encouraged the greater participation of students in practical training. Companies are in favour of practical training because they tend to believe that recruiting capable students through the process of practical training is an effective way for them to secure skilled workers.

Although the employment rate of graduates dropped due to the International Monetary Fund (IMF) crisis, it has recently picked up again. In 1999 the rate of being employed in jobs that related to the major programs the students had completed was 84%. In 2000, the rate increased to 86%. As a result of the continuous efforts for school–industry co-operation through such programs as customized training programs, the number and rate of graduates being employed in the companies in which they undertook took practical training increased to 70% in 1999, and 72% in 2000.

The overall satisfaction level of employed graduates with the companies of their employment is 64%. The reasons for student dissatisfaction with such companies range from discrimination, unfairness in promotion and job mismatch to low pay levels and organisational disharmony. The main reason seems to stem from what they perceive to be the unfair treatment of 'junior college graduates', rather than from their lack of technical skills required for the job.

When asked if they would transfer to a junior college if the opportunity were provided, 88% of the respondents gave a positive response. This is an indication that there is culture of undervaluing jobs in the technical labour force in Korean society.

G. Hanyang Women's Junior College (Post-secondary: Tourism)

The college has established a department of school–industry co-operation in order to promote close linkages between the college and related industries. These include the development of technology, the provision of education and training in related industries, joint research endeavours, joint instruction in technology, and above all, the provision of practical training where students learn job-related skills in industry.

Although there are many examples of school–industry co-operation at Hanyang Women's Junior College the main emphasis is on two major areas: practical training and the employment of students. Practical training at the school takes place in the second semester, of the second year, for approximately one month. During the practical training period, professors from the school visit the practical training workplaces to make sure that the students are coping on the job, and to meet with the trainers at the work-site.

Funding for school–industry co-operation comes mainly from government sources with any shortfall supplemented by the school fund. Funding from enterprises to support the school–industry cooperation effort is insubstantial. For successful implementation of school–industry co-operative projects, however, there needs to be joint effort between the school and industry in order to obtain the necessary financial support.

The course completion rate among the students in the tourism program is 89%. About 200 students enter the program, while 11% of them drop out along the way. The rate of the students participating in practical training is almost 100% since practical training is a requirement for graduation. The student employment rate upon graduation is about 90%. This is relatively high for schools with similar programs. However, the rate of obtaining employment in the industry in which students undertook practical training is lower than

expected. The level of employer satisfaction with graduates and the satisfaction of employed graduates with their employers are both quite high.

As already noted, the major focus of the school–industry co-operative effort on the part of the school is practical training. Practical training is a very important component because it supplies the students with the chance to learn on the job. At the same time it offers the school an opportunity to identify the needs of industry. However, regardless of the importance of the practical training program, its real effect is less than perfect.

There are institutional problems and management difficulties experienced by schools and enterprises. The school's primary focus in school–industry co-operation is on the period of practical training. Beyond this period, the school's contribution towards school–industry cooperation is not as strong. For their part, most enterprises do not have systematic training programs in place for practical training students. Since this shortage of industry training programs occurs in most industries, students do not have the opportunity for systematic learning.

To improve this situation, the school and related enterprises need to set up a joint co-operative venture through which they can exchange ideas and information and discuss how to provide better training opportunities through practical training. The school also needs to make a greater effort to develop curriculum which can better meet the skill requirements of enterprises while enterprises need to be more concerned with providing the students they have trained with better jobs. In other words, enterprises need to change their perspective. They need to view students as manpower whose skills need development and not as a source of labour for limited periods.

Employer interview

Asiana Airlines, a brother company of the Han-Jin Group, follows the recruitment routine of the group by combining regular annual recruitments with occasional recruitments depending on need. 'Camp training', where they receive off-the-job training is a requirement for all new employees. In addition, the company offers prospective graduates a combination of on- the-job training and theory education in the form of apprenticeships.

The company benefits from providing practical training to student-trainees by ensuring that they identify with the image of the company and by increasing demand for services through in-direct advertising. Practical training also helps the process of entry-level training by filling the gap between what is taught at school and what is being used at work. However, because practical training does not result in employment with the company this affects the desire of students to undertake practical training at Asiana. The company, which is a large and established employer in the field of tourism is concerned about this. It also believes that in order to improve the quality of entry-level training, it needs to extend the practical training period and strengthen the training with a highly intensive off-the-job training course.

Student interview

The student interviewed chose the program because of a strong interest in the tourism industry, and because of the school's relatively low tuition fees. She read an advertisement for practical training on the bulletin board at the departmental office and applied to be accepted as a trainee at Asiana Airlines. She did her practical training at the company for one month during the summer vacation.

She had rosy dreams about doing practical training in a huge airline company. But, in reality, the work was tougher than she imagined. During her practical training, she could learn about general airline tasks in addition to setting up a plan for her future career. As a result of her hard work, she was offered a job. However, there were barriers to her becoming a regular employee. First, the job was offered on a contract basis and second, she did not meet the minimum age requirement. As a result she had to give up the chance of working for Asiana. However, her practical training at the company increased her understanding about the

industry. This indicates that it is very important to have an experience in a particular industry before getting a job in that field.

Summaries, discussion and implications

Summaries and discussion

From a review of seven cases and seven major programs carefully selected with respect to the fields and level of VET, patterns emerge for different institutions and different industry sectors. At the risk of oversimplifying the results, the following typology is suggested from the Korean cases studied.

Vocational high schools versus junior colleges and polytechnic colleges

In general, junior colleges have a stronger relationship with industries and enterprises than vocational high schools. This may be due to junior colleges making more of an effort to develop and maintain co-operative links with industries. However, they are in a better position to develop these linkages because of the ages of their students and their stage of development. They are also in a better position to develop close school–industry linkages because their degree of specialisation in certain industry areas is more pronounced.

In contrast vocational high school students are mainly aged between 16 to 18 years, and are still exploring career options. An increasing proportion of graduates from these schools go on to institutions of higher education. This indicates that for many Korean young people a vocational high school is not their final educational institution before entering the labour market. This affects their attitudes towards the practical training which is supposed to provide them with an opportunity to undertake entry-level training before actually transitioning to the workforce.

This lack of motivation among students along with the lower levels of specialization in programs at vocational high schools compared to junior colleges and polytechnic colleges play a major part in determining the nature of the school–industry linkage established at the vocational high school level. Of course, there are programs which enjoy close co-operation with industries at the VHS level. But, in general, the career stages of the students and the low degree of specialization tends to diminish the level of co-operation between schools and enterprises. Students are less enthusiastic about getting practical training because they have not yet made their minds about their careers. Enterprises are less willing to offer quality training to students because of their high turnover rates and also because the positions they can fill are low-level jobs.

Linkages by industry sector

The industry-sector of the enterprise to which the school program is linked affects the type of linkage that is set up. Industry sectors who maintain close relationships with schools will be able to set up successful co-operative ventures. In addition it is important that to understand that school–industry cooperation is a two-way process between the program and the industries supporting the program. For example, the department of electronics at a school generally experiences strong support from companies in the electronics field. This is because the fields of electrics and electronics, which are representative industries in Korea, maintain a relatively close relationship with schools. Therefore, these programs generally experience a great deal of industry co-operation.

On the other hand, the information technology sector does not seem to have a strong relationship with schools. This may be attributable to the short history of the IT industry. While IT is currently one of the most important industry sectors worldwide, its short history as a sector and its experience in co-operation with schools affects the nature of the linkages that have been established. Also, tourism and hospitality sectors have relatively weak linkages with schools compared to the electrics and electronics sectors. Tourism and hospitality is a

labour- intensive sector in which turnovers are high. The nature of this industry may also have an effect on the linkages it is able to establish with schools.

Linkages by company size

The size of the companies with which the programs at the selected schools maintain a linkage also has an effect on the strength of the linkage. Larger companies usually have more established training programs for entry-level training. They also have the financial ability to invest in training for prospective employees. Small and medium-sized companies usually do not have room to develop training programs designed for student-trainees. In most cases, these companies utilize student-trainees in practical training as substitute labour.

Students reported that during the period of practical training they wanted to be treated as people whose job skills needed to be developed through training, and not as sources of labour. Representatives from industry and teachers in VET institutions commented that when these small companies do not have extra ability to provide quality training to student-trainees, financial and technical support need to be provided by the government.

Implications and suggestions

Information provided by representatives from vocational education and training sites indicate that institutions face more or less similar problems for which they have identified common solutions. Industries in Korea are relatively less willing to provide training to the trainees from schools. Small- and medium sized industries simply do not have the extra room to provide the kind of training student-trainees require. Thus, students in practical training at small companies often feel as if they are being used as 'cheap labour' instead of individuals whose training potential needs to be fully developed through training.

Large companies have the facilities and funding ability to provide such training to student-trainees. However, they still argue that it costs a lot of money to provide organised training to student-trainees. There should therefore, exist an incentive which makes those large companies continue to engage in co-operative activities with schools. For instance, undertaking joint projects of common interest to schools and industry is a good way of keeping large companies involved in providing practical training to student-trainees.

All the training teachers interviewed believed that intervention from more powerful authorities was necessary if active involvement of industries in providing training to students in VET institutions was to be increased. Teachers in vocational high schools, junior colleges, and other VET institutions struggle throughout the year to find enterprises willing to provide practical training to students. This alone is a large burden to training teachers in VET institutions. They commented that financial and organisational support is required from the government and that current government financial support to companies providing practical training to students is too small to cover the cost of providing the training. This also is what training providers in industries believe.

While providing training to student-trainees benefits industry in many ways, from securing qualified workers in advance and increasing the skilled labour force to developing trainees' loyalty to firms, the cost of doing so makes the industries think twice about becoming involved.

Teachers in technical vocational high schools report that large companies usually do not want to provide practical training to students from VHSs, while small companies who have limited facilities and personnel are more willing to do so. However they are unable to provide the systematic training that is required. Training teachers and professors at junior colleges note that the length and timing of practical training is problematic. First the two to four-week period is too short for students to learn about the workplace; second, summer, during which most students commence practical training, is not an appropriate time. As an alternative, training providers at junior colleges suggest that government authorities should consider setting up a semester for practical training for junior college students.

There are also other small problems involved in the implementation of school–industry co-operation. For instance, students in junior colleges in small provinces who usually go to large cities to undertake practical training, find that the flat training fee offered is unrealistically small to cover their living expenses. Because a considerable portion of graduates from junior colleges gain a job with companies where they undertook practical training, it was suggested that government subsidies or financial support be available to those who want to go to different cities for practical training.

There are dilemmas for student-trainees from vocational high schools. If they adjust to work successfully, they often experience conflicts with the full-time employees at the training site. In many cases they cannot accept job offers because of their young age. The training fee is too small and their workload is considerable. Also for students in vocational high schools joining the 2+1 program means spending one out of three years of high school on practical training. This reduces the amount of time they can spend in school. All these factors play a part in producing final outcomes of school–industry co-operation and vocational education and training.

Australian case studies

Case study reports

A. Commercial cookery at Northern Sydney Institute of TAFE-Ryde Campus

Ryde Campus is a campus of the Northern Sydney Institute of TAFE in the State of New South Wales. It provides training in commercial cookery to Certificate levels 3 and 4. In this case study we mainly concentrate on the certificate level 3 program. Certificate level 3 is the trade qualification.

In New South Wales there are 45 colleges that provide training in hospitality. This represents about 405 of the total national output for hospitality training.

The hospitality industry sector served by Ryde comprises cafes, bistros, international hotels, catering companies, institutions (hospitals, nursing homes, clubs, prisons etc) hotels, restaurants, and defence forces.

About the program

Aims

The purpose of the total program is to train and qualify professional cooks to hospitality industry standards as laid down in the training package. Another goal is to train existing cooks to become chefs and to provide cooking skills training so that graduates of the course continue to be employable.

Selection

Priority for selection is given to apprentices (that is, individuals who are employed and have signed a contract of training with their employers). Apprentices are mostly school-leavers. The next priority is for people who are retraining. These are those who cannot be an apprentice or have chosen not to be an apprentice. These individuals must have a letter from their employer stating that this type of training is important in order to keep their job. The next priority is for people wanting to obtain jobs.

Structure

The certificate 3 program is made up of two separate but related components. Apprentices attend college for one day a week (8 hours including breaks) for about 2.5 years. This is

generally referred to as off-the-job training. They spend the remainder of the time (usually four days, sometimes five days, per week) at the workplace. This is generally referred to as on-the-job training.

Off-the job training

The purpose of the off-the-job component is to provide apprentices with the basic theoretical knowledge and skills they will require as cooks in the workplace. It aims to re-create the types of tasks they are likely to encounter on the job. It also aims to ensure that all apprentices receive the fundamentals of cooking and aims to teach apprentices the correct ways of doing things so that they will gain the basic skills for running a kitchen.

According to the Program Manager for the Hospitality Program for TAFE New South Wales, this component gives students the 'opportunity to practise these skills in a first class environment'. That is, it provides adequate facilities for including change rooms, adequate space and kitchen equipment for an effective learning environment. This is considered to be important because there will be some apprentices who may never experience all these skills because of the nature and quality of their workplaces. For example an apprentice cook at Sanitarium may never come in contact with meat because the company does not use meat products. This apprentice will be given this opportunity.

Delivery of training

In the past the off-the-job component was structured so that apprentices had to complete 150 hours of level 1 subjects, 325 hours of level 2 subjects and 350 hours of level 3 subjects. Today the number of total number of hours has been reduced to 777 hours.

At Ryde each day release comprises two hours of instruction and six hours of practical workshop. The two hours of instruction take place in lecture theatres. The practical workshops take place in kitchens. At Ryde there are 15 kitchens which operate twice a day.

The delivery of training at Ryde is generally face-to-face. However a program on CD ROM, developed by another NSW college (Newcastle) can also be accessed by students to learn at their own pace. It is often used by students to review lessons they have missed or for which they require extra tuition, or for preparing themselves for future lessons.

Assessment of training

Assessments are conducted at the end of a module rather than on demand. However at the end of each practical session the apprentice receives a daily mark based on a system of graded competency. This means that once the apprentice achieves a competency, this signifies a pass. If the apprentice also satisfies certain criteria for practical performance then he/she may be awarded a credit or distinction. Should an apprentice not turn up to the assessment they are required to demonstrate their ability to complete the skill.

Although a process for the recognition of prior learning (RPL) is in place, few apprentices take it up. There are also processes in place for the college to be involved in work place practical assessments. However few of these are undertaken. One of the reasons that the college does conduct many of these is that they are costly to undertake. They will also not obtain enough ASH (Actual Student Hours) funding from the government to make it worth their while.

On-the-job training

The aim of the on-the-job training is to enable apprentices to gain experience in the workplace, and learn from their workplace supervisor (supervising chef) and work colleagues. This training is meant to reinforce the off-the-job training that happens in TAFE and to provide apprentices with opportunities to practise skills in a real-life situation. This generally means that apprentices will cook the menu items and prepare ingredients that are specific to their places of work.

Although all apprentices are employed, their workplaces may vary in nature and size. They include bistros, cafes, restaurants, hospitals and other institutions, catering companies and five star hotels, defence forces.

Linkages between industry and providers

The industry reference group

In the past most of the linkages between training providers and industry were established by industry specialists (now called program managers) charged with identifying the needs of industry and communicating these to those charged with establishing national curricula. In addition an industry reference group (IRG) or academic committee also provided input.

The IRG comprised executive chefs (from restaurants, hotels, catering establishments, hospitals, institutions, cafes, bistros), an academics (professor) and food writers, and food critics). The group had to comprise at least one female. As a group the IRG continues to meet three to four times a year to discuss lessons, assessments, conduct and any other aspects that are important to the delivery of training in commercial cookery. The IRG can also re-direct certain aspects of the program and establish guidelines for implementation.

The IRG's role was to assist in the identification of methodology to be used to teach curriculum, and to take part in the assessment of students in class. Practising chefs are also used as mentors to apprentices, part-time lecturers, and assessors. Their role is to infuse modern ideas and techniques to students and teachers.

The Hospitality Training Package

Although the IRG continues to exist and perform similar functions, the formal linkage between providers and industries is directed by the training package. The training package comprises a set of endorsed industry competencies, and assessment guidelines. It may also include a set of learning materials that can be used to implement the training. Providers who want to prepare apprentices and trainees for their trades in this industry must follow the competency standards and assessment guidelines in the training package.

The training package for the Hospitality Industry was developed by the industry training and advisory board (ITAB), with input from private colleges, TAFE institutes, and industry representatives. The ITAB comprises representatives of private and public providers, and human resources managers from large hotels, retail chefs, and executive chefs from international hotels.

Benefits and concerns

Benefits

The major benefit of having close linkages with industry in the form of a formal reference point for training provided by the training package is that it ensures a standardised approach to the development of professional skills to a determined level. It also provides the flexibility required for customising training to the needs of different enterprises within the industry, and the guidelines for establishing assessments which are fair, valid and reliable. However there are also some drawbacks.

Concerns

Although having input from small and large VET providers into the development of the training package is beneficial, there are areas of concern that the training package developers have not appreciated. That is, that implementation of guidelines will present different challenges for training providers according to their size. Larger institutions may experience difficulties not envisaged by developers if there is not enough consultation with these enterprises prior to the development of the guidelines.

There is also some concern that the training package lacks some of the rigour that the former curriculum-based course provided. Because there has been a reduction in the number of hours required, and there is little room for the development of additional skills and knowledge (apart from that set down in units of competency), there is the danger that providers may use a minimalist approach to training. And although nothing prevents the provider from including some extra knowledge which will enhance the different competencies, the added costs may act to limit a provider's willingness to do this.

For example, industry wants TAFE to prepare apprentices who are able to count, speak, market, wash etc. All these needs are well served in the training package, however there are other basic skills and knowledge components that are not included. This includes nutrition, food science and technology, presentation, storage and commodities (ordering). The training package does not focus sufficiently on current techniques being used such as such as cook-chill, cook freeze and sous-vide. These techniques are especially important for armed forces personnel.

There is also some concern about 'who it is' that represents industry. It is sometimes felt, that, those who are most articulate and have more time get to be on national groups (human resources personnel and trainers), and those who have specific trade skills are not always represented.

Tensions between industry needs and practical solutions

There is also tension between what industry wants and what training should be available for apprentices to develop into well-rounded chefs. Work placements industry would like a trades-person to be prepared in the shortest amount of time possible. As far as the TAFE industry specialist is concerned this is an unrealistic expectation from industry.

It is also clear that many of the good practitioners in restaurants want versatile employees who have sound knowledge of the basic skills and will be prepared to teach apprentices and trainees the other skills required. Small restaurants may want their apprentices to focus on presentation as well. If their wishes were to be followed this would mean that the program could very well increase to 1000 hours. This investment is only considered to be worthwhile if the apprentice stays in the industry. However the industry suffers from large drop-out rates.

There is a large drop-out rate among apprentice chefs. This is often due to the hours that are required. There are cases of apprentice chefs being asked to do double-shifts, an exhorbitant number of hours per week (sometimes without additional payment), and personality conflicts between old-style autocratic executive chefs. In addition to extra hours of work they must also attend training. By the time some apprentices reach level 3 they are burnt out and want to get out of the industry.

In addition if an apprentice wants to become a Chef de Partie, or Executive Chef, he/she will need to do another two years of study. Often this pathway is not followed because it requires more hours and more self-discipline. As a result few people are attracted to this pathway.

Improving the linkages between industry and providers

Although there is considerable opportunity for industry to provide comments to the ITAB, and for the IRG to collect information from various sectors of the industry, it is suggested that formal meetings between the IRG and industry representatives should occur much more regularly than they do now. That is they should occur about five or six times per year. In addition it is suggested that a payment be made to ensure that all those who need to attend are able to attend, and meetings be held at times which suit executive chefs. An extensive review of the training package and the way it has been implemented should also occur every five years.

B. Travel and Tourism – TAFE New South Wales

The Travel and Tourism program for public providers in New South Wales is centrally organised.

About the program

Aims

The aim of the program is to provide training for individuals working in or hoping to work in the travel and tourism industry. The industry sectors that are served are:

- retail travel
- tour operation
- tour wholesaling
- meeting and events
- visitor information services
- tourist attractions and theme parks
- tour guiding
- caravan park operations
- events management (shows, big musicals etc)
- eco-tourism

Structure

The program provides training for the AQF certificate levels 2 to 5 to prepare workers for the above-mentioned industry sectors. In addition it provides short courses to meet local needs and training in the generic skills required in any tourism business in regional or rural areas. These courses comprise:

- eco-tourism
- air-fare ticketing
- computer systems
- financial management
- marketing
- customer service

Selection

The program caters for adults wishing to re-train, school-leavers, and those coming back to the industry. It also caters for individuals with hospitality credentials who want to swap over to and focus on tourism and travel.

Selection in the program leading to AQF levels 3 is based on the satisfactory completion of Year 10 or its equivalent. Completion of level 3 will then provide entrance to level 4 and level 5 programs. There is also mature-age entry for those who are 21 years or over with relevant work experience and for whom the course is relevant to the occupations they wish to enter.

Off-the-job training

The majority of this training is delivered in a traditional face-to-face format with some campuses opting for more flexible methods of delivery. There has also been increased use of

simulated environments, role-plays and case study investigation. As yet there is little on-line delivery.

On-the-job training

There has been an increase in the number of traineeships offered for individuals wishing to train for occupations in the tourism and travel industries. This means their training in practical skills and knowledge can either be delivered fully on the job or they can follow a combination of on and off-the-job training. This may mean that the trainee may attend college for two days a week, and the workplace for the remainder of the time. Alternatively, it may mean that the trainee does not leave the work-site and is required to complete all the training on-site. For trainees who are involved in a combination of on-the-job and off-the-job training, the on-the training component is provided, supervised and assessed by a workplace supervisor, the off-the-job training is provided and assessed by a training provider. For trainees involved in totally on-the-job traineeships, all components are delivered and assessed on-the-job. However it is delivered in partnership with a training provider who must be a registered training organisation (RTO). The qualification is awarded by the RTO.

Assessments

Assessment of knowledge and practical skill can be conducted at the college or in the workplace. Tests, case studies, projects, role plays for selling, simulations, practice firm operations are all methods that are used for assessing knowledge and skill. In addition there is an increasing tendency to conduct holistic assessments. This means that skill and knowledge spanning up to three units of competency can be assessed simultaneously. For example the student may be asked to prepare the documentation required for travel, prepare quotes, or prepare projects. For units in the higher certificate levels students may be asked to prepare reports, budgets, plan and manage meetings, take minutes, and perform role-plays.

Teachers will also visit trainees in the workplace to conduct assessments. These are generally done through observation of students work and supplemented with questioning.

Recognition of prior learning

There is RPL available for units or the whole qualification. The assessor identifies the sections, which will attract RPL status and those for which gaps exist. Gap training will then occur. For some courses industry experience will be accepted in lieu of module completion.

Linkages with industry

The major linkage with industry is provided by the training package itself. Developed by the national industry training advisory board (Tourism Training Australia), the package identifies the competencies required for the qualifications that are offered under the AQF, and provides guidelines for assessment. At the institutional level the industry reference groups and program managers provide the linkage. Program managers provide input into decision-making, as part of these committees.

Samples of assessment tools are also developed by industry. For the Travel and Tourism program, the national ITAB has developed what is known as a *green book*, which it makes available (at a cost) to training providers.

When courses are developed they are reviewed and endorsed by the external review panels. If the course is linked to a training package then it is registered. If the course is not linked to a training package then it must obtain accreditation.

Increasingly, providers are being approached by industry clients to provide courses for specific purposes. For example, specific training was required to prepare workers for Stadium Australia (the Sydney stadium established for rugby and soccer games).

Return to Industry Programs

Although in theory there is opportunity for lecturers to return to industry to update skills and knowledge, in practice it does not occur to any great extent. However there are some lecturers who may work as a travel agent on a part-time basis. In addition many lecturers are employed on a part-time basis and work in the industry on a full-time basis.

Benefits and concerns

Benefits

Maintaining formal and strong linkages between providers and industry, as are provided by the training package is beneficial for both groups. It builds networks and trust and helps providers to obtain current information. It also has advantages in that industry has input into training decisions and as a result enterprises can receive customised training to meet their specific needs. In addition this makes industry much more aware of the training available.

The training package also establishes benchmarks for training and allows for the training, and the national recognition and portability of qualifications. It has streamlined the recognition of prior learning and current competencies and provides a standard to evaluate requests for recognition and prior learning, credit transfer and articulation to higher education institutions.

Concerns

Although the training package provides standardised guidelines for training, it is felt to cater more effectively for existing workers or on-the-job trainees. It does not, however, cater comprehensively for people with no experience and who are wanting to enter the industry.

Although the training package allows training to be adapted to specific enterprises and functions, it does not as a result provide the student with a broad range of knowledge and experience.

In addition the training package allows students to choose those courses which are appropriate for their particular streams. As a result there are three diplomas available under the training package. This means that there is a lot of duplication within the qualifications offered.

Improving the linkages between industry and providers

Although the training package has been found to provide effective guidelines for the training or recognition of competencies for existing workers, it is important that there is a focus on the development of programs more appropriate for those school-leavers who are wishing to enter the industry.

In addition there needs to be a consolidated attempt to streamline the qualifications that are available under the training package. Today there are three different diplomas offered. A better solution is to offer one diploma only with students choosing different electives to reflect their particular pathway.

C. Tourism at William Angliss Institute of TAFE

In the past, the tourism industry in the State of Victoria (and indeed across Australia) did not necessarily require people with qualifications. It was normal for industry personnel to progress in the industry based on their industry experience. However this is rapidly changing and today the industry is requiring people who are qualified with specific skills and abilities.

About the program

Aims

The Tourism Faculty of The William Angliss Institute of TAFE aims to provide training for those wishing to work in the travel and tourism industries. In particular it provides training for operational and management roles in all major industry sectors including:

- retail travel
- wholesaling and tour operations
- tourist attractions
- tourist information services
- meetings/conventions
- tour guiding

Although the industry sector serviced by William Angliss is varied and comprises small business and very large players (QANTAS airlines, JETSET TRAVEL, and ANSETT airlines), the majority of training delivered by the institute is for small businesses. These include travel agents, tour operators, tour-bus companies, transport information services, and information centres for local councils. Although most of the large businesses have their own training departments and generally train their staffs, there have been instances where the Institute has provided training in computerised reservation systems for large airlines like ANSETT.

Structure

William Angliss delivers certificate, diploma and advanced diploma programs from the Tourism Training Package, in addition to specialist diplomas including the Diploma of Tourism (Eco-tourism) and the Diploma of Tourism (Alpine eco-tourism). These courses aim to prepare students with the skills, knowledge and experience for employment in industry areas such as adventure tourism, eco-tourism, tour guiding, natural resource management, environmental management and alpine resort operations.

Selection

The majority of students attending William Angliss Institute for tourism training are generally Year 12 school-leavers. Because the courses are popular there are generally more applicants than places. The institute tries to select those students who they feel will be most successful. Selection is generally based on their benchmarked score established by their year 12 results, which comprise a score out of a maximum of 100 points. The institute aims to select those applicants who have achieved a 60+ score. In addition, applicants must undertake a selection interview. The interview explores their knowledge of the industry, career aspirations, part-time employment in any service industries and customer service.

A typical interview comprises a group of students and two or more members of the faculty. Students are asked questions and are given a score. For example one question might be 'Could you describe to me the impact of the Grand Prix race in Melbourne?' If the applicant is aware that some of the major impacts will be an increase in tourism and revenue, or a noisy environment etc, then they will receive a favourable score for that question. If applicants are also aware of the effects of other attractions and events on the tourism environment then this will also receive a favourable score.

Those who choose an intensive course for entry into travel agency work may opt to pay for the course. Students may also opt to pay for the course because they would like to complete the qualification in a shorter amount of time. These courses are conducted by the commercial arm of the institute, the Australian Federation of Travel Agents (AFTA) Travel and Tourism College. This college receives no government funding and is entirely self-supporting.

Off-the-job training

The diploma of tourism is a two-year course and unlike the AFTA course is more general in nature. There is a set of core units that must be completed (for example, Occupational Health and Safety, Customer Service etc) and then units that apply to the particular stream that has been chosen by the student. The majority of school-leavers will enter the diploma course.

The AFTA course for AQF Certificate III in Tourism International Retail Travel Sales can be completed in one semester. The AFTA course is less general than other courses and is primarily focussed on vocational skills for travel agency work. This course is especially sought out by those who want to start up their own travel agent business and need to get a license.

The institute encourages mature-age entry-level students. Courses also cater for mature age students (generally between the ages of 30 and 40) who often no longer find their current work challenging and want to have a change of occupations. These have often chosen to leave full-time employment to attend the course. Many are well-travelled. There is also a shortage of senior staff in the tourism industry and recently there has been a trend for the industry to employ a mature-age, well-travelled graduate if they are looking for a senior staff member.

William Angliss also works in partnership with a number of universities to deliver tourism and hospitality four-year combined advanced diploma/degrees.

Delivery

Although the major form of delivery is traditional face-to-face teaching, there is some flexible delivery for those students who would like to use self-paced learning. However the general approach is to provide a blend of independent learning with teacher-directed learning.

Courses comprise theory and practical sessions. The class size is 20 for theory classes and between 12 to 15 for practical sessions in the computer room.

There is no attempt to segregate the age-groups as a blend of people from all ages is considered beneficial. However there is an attempt to ensure that international students (students from other countries who have come specifically to study at William Angliss) are evenly spread across class groups. The reason for this is to give these students 'an Australian experience'. It seems that they too would like to make the most of studying with Australian students.

On-the-job training

On-the-job training for students is organised by the commercial arm of the institute (AFTA Travel and Tourism College). It has formalised agreements for placements with travel agencies like Flight Centre, State Tourism Authority, Traveland, Perregrin Adventures, American Express, Thomas Cook, and Harvey World Travel.

Most of the programs require ten days of work placements with students having the opportunity to do more should they wish to do so. The placements are established by approaching the Human Resources executives of these companies, at State and national levels to inform them of the benefits of work experience for students and to make arrangements for setting up placements. Some of the placements are done directly with agencies. For example Flight Centre will call the institute and identify the locations of the agencies and provide the telephone numbers of managers. Students will then call employers who are close to where they live and arrange their placements. Traveland placements are organised by students approaching the agencies directly.

In addition, the AFTA College has developed a data-base of employers who will be prepared to offer work experience. This data-base also provides information on possible placements.

Students on work placements are required to undertake general duties and advanced duties. These include activities associated with retail tourism and whole sale tourism, tour operation and travel agencies.

General duties comprise tasks like answering telephone calls, mailing, banking, stamping brochures, filing brochures, typing of itineraries and invoices, handling general counter enquiries, photocopying, sending faxes, correspondence, letter-writing, filing and checking client documents, updating databases. Advanced duties include obtaining quotes from airlines and wholesalers, processing wholesale bookings, assisting with end end-of-month computer input, processing refunds, checking International Air Training Association (IATA) returns, writing airline tickets, preparing domestic tickets, providing support to selling staff and liaising with other travel agents.

Although work experience in industry is encouraged for all students it is not mandatory for diploma and advanced diploma students.

Assessment

The successful completion of a course requires the demonstration of competence in all the skills developed in that course.

Teachers conduct assessments generally at the end of the term. Where possible and where students are able to follow a self-paced program, there are also opportunities for them to apply for assessments when they feel ready to do them.

Recognition of prior learning (RPL)

Students from other recognised institutions who have relevant work experience may also be admitted to William Angliss courses with exemptions through credit transfer and RPL. When students first arrive at the institute they are provided with information about these, and if they feel they will qualify for RPL they will then go to the institute's assessment centre whose staff will inform them of all the evidence they need to collect. Once this is done the assessment centre will evaluate the evidence and notify the faculty of the results.

Although Year 12 students may obtain RPL status for their part-time work, or credit transfer for computer skills developed in schools, RPL and credit transfer are generally applied to mature-age students. Where non-nationally accredited courses have been undertaken by students applying for credit transfer or RPL, they are investigated in depth. If it is felt that these courses have covered similar knowledge and skill, then the application for credit transfer or RPL is successful. In the past such processes have been applied especially in accounting courses for the finance units.

Assessment in AFTA programs

Students undertaking AFTA courses will be assessed by a variety of methods. These include written exams, role-plays, individual and group assignments, presentations, research essays, project work and a successful work placement. Students are able to re-sit exams if they are not successful. Attendance is also expected to be 100% unless there are mitigating circumstances.

AFTA students on work placements must complete a list of daily tasks and sign these tasks off as they are completed. Employers or supervisors must assess students across these tasks and sign off and comment on how well these tasks have been accomplished. In addition lecturers call the employers (at least two times during the work placement period) for their honest evaluations of the student. Should the student be experiencing difficulties in one workplace or industry sector then they will get moved to another workplace or sector. In addition students also provide their evaluations of the suitability of the workplace for training.

Exams are internationally recognised by the IATA (International Air Training Association) UFTAA (Universal Federation of Travel Agents Association). These external exams, comprising theory and practical components, are centrally set by the relevant associations. The lecturers will administer the exams and send these away for marking. In general most students pass the exams.

Linkages with industry

The Institute is always conscious of trying to encourage linkages with industry and has found the networks and relationships it has built up to be invaluable in its own development and success. When the institute recently celebrated its 60th birthday industry representatives were invited to the celebrations. When the State Government was investigating the possibility of William Angliss Institute of TAFE amalgamating with other institutes, the industry was influential in curtailing any amalgamation.

The institute also has links with the indigenous sector. It provides a specialised Eco-tourism course focussed on flora, fauna, conservation, map reading, bushcraft, orienteering, and Australian indigenous culture.

The institute also meets with the national ITAB (Tourism Training Australia, and the State ITAB (Tourism Training Victoria) to discuss information on current trends and to 'catch the mood of the industry'. The training package (containing the competencies and the assessment guidelines which must be followed) is quite flexible.

Because the institute is a member of the Australian Federation of Travel Agents, and the Victorian Tour Operators' Association, this also helps it to keep abreast of industry trends.

The staff of the institute, are also important sources of information on current trends in the industry. Although return to industry programs are available and placements in industry are arranged by the institute's human resources department, there is a sizeable number of staff who are employed on a casual basis in the industry.

In addition, the institute is part of a network of TAFE providers. This network arranges meetings where guest speakers from various organisations are invited to make presentations. Returning students are also encouraged to share experiences of the program with the next group of students.

When a course graduates, the AFTA College sends out a letter to companies in the sector asking them if they are looking for qualified travel consultants. They advise the companies of the nature of the training that the graduates have undergone and the qualifications they will have received.

The training package

The training package was developed in New South Wales by the national ITAB (Tourism Training Australia) with input from industry people and training providers. The Tourism Training Package is now under review.

Benefits and concerns

Benefits

The training package has been developed by industry, is nationally accredited and is the formal reference point for training. As such it allows a paired-down version to apply to niche skills. These can be developed in a short time. The training package is also quite flexible. It allows students to choose electives to suit their particular pathways. It is effective in providing guidelines for the development of vocational skills.

Concerns

It is felt that as it now stands the industry-developed training package does not address basic skills required for entry-level training. The developers seem to have assumed that students have skills such as elementary research and study skills, and are able to go about job seeking and writing resumes. They seem to have also assumed that students have the requisite language, literacy and numeracy skills.

Because these skills have not been included in the training package the institute will not get funding for teaching these fundamental skills. This presents a dilemma for lecturers and students.

Another concern about the training package is that the descriptors are very general and that it is sometimes difficult to identify unit AQF levels. Pre-requisites are rarely suggested yet a lot of the skills are considered by staff at William Angliss to require previous knowledge of the industry.

It is also felt that industry tends to have high expectations of what the institute can produce through its theory and practical training. Industry is perceived to want the Institute to produce prime employees with experience in 'their' particular enterprise systems. However the institute feels that it can only provide students with the generic vocational skills and knowledge to help them enter the industry. It is up to the workplace to provide them with specific enterprise skills and ways of doing things.

Suggestions for improvement

An Industry Advisory Board is set up to advise the program area about the emphasis industry has at any time and what it expects of new employeres.

Another is to make sure that industry is aware of the different actions they can take to ensure that graduates of courses can fit in to the particular culture of their organisations. For example, Qantas Holidays company will employ a William Angliss graduate and then convert them to the Qantas Holiday Way. The same happens with the Thomas Cook company.

The institute is obliged to maintain strong industry linkages and networks and all efforts to do this are strongly encouraged.

D. Hospitality operations at Inner-West TRAC cluster in Sydney

The TRAC (Training in Retail and Commerce) program has operated since 1994. It started off as a program devoted to two major courses dealing with retail and office skills. It has now expanded to include other industry areas. It then expanded to include other industry areas such as hospitality and automotive. Since this time new Industry Frameworks have replaced the older hospitality, retail and office courses and the program's defining feature, the TRAC mechanism of delivery has been maintained.

The TRAC model of delivery is applied to one- and two-year courses in Automotive, Business Services, Hospitality and Retail. It uses a competency-based curriculum in line with national standards. It is an industry-recognised tool for employee recruitment and staff training and development. TRAC programs use the work site as a major site for the delivery of training.

In Australia a cluster refers to a group of schools who come together to deliver programs which are of benefit to all schools. In this case the program being co-ordinated is the Hospitality program. This program is a VET-in-Schools program and applies to students in Years 11 and 12 who are studying for their High School Certificate.

Although it is available to all school sectors, the Inner-West cluster comprises 12 non-government schools (all Catholic bar one) who come together to provide vocational education and training opportunities for their students. This cluster is co-ordinated by a manager who is responsible for organising and coordinating the off-the-job and on-the-job components of the program.

Programs that use the TRAC mechanism of delivery are funded by a combination of employer sponsorship, student fees, and where successful in obtaining a government grant, the federal government.

About the program

Aims

The main aim of any TRAC program is to establish partnerships between schools and industries and to create mutual benefits to both parties. It enables industry to better recruit employees and provide opportunities for staff development of those workers involved in the supervision of students. It enables senior secondary school students to undertake specific skills training with a variety of employers. In addition it allows students to achieve a dual qualification; that is, students can count these courses towards their High School Certificate results, and also be accredited with national qualifications under the AQF. In addition many TRAC graduates are able use these qualifications for the purpose of credit transfer for further studies with the Vocational Education and Training Accreditation Board (VETAB) accredited training providers (included registered training organisations such as TAFE and other registered providers).

The TRAC mechanism of delivery in Hospitality Operations aims to provide entry-level training skills to Years 11 and 12 students who have an interest in pursuing an occupation in the hospitality industry. It also aims to provide students with the opportunity to learn more about their chosen field of study and to decide whether or not they wish to continue in it.

More specifically, the program aims to provide students with opportunities to learn new skills, work as part of a team, accept responsibilities, and gain a nationally recognised qualification. In addition it aims to help students make the transition from school to work.

Structure

The program comprises off-the-job and on-the-job training with about a third of the course being devoted to off-the-job training and the remainder devoted to on-the-job training. The course is a two-year course.

Selection

Recruitment for the program takes place in term 3 of each school year. At this time students from Years 10 and 11 may apply to join the program. They may choose to join for one or two years. The process involves the completion of an application form/parental permission, the construction of a resume and an interview with a TRAC co-ordinator and industry personnel relevant to the chosen industry course.

The main criteria for entrance into the program, is interest in the industry and a sense of responsibility. Applicants must demonstrate to the interview panel that they have an interest in the industry, an interest in working with other people outside the school environment, and a willingness to step outside their comfort zone to the world of work.

Off-the- job training

The off-the-job training comprises about 30% of the program and deals with the knowledge components of the course. It begins with an induction or orientation session held at one of the participating hotels. During this session students are introduced to hotel staff and department managers. They are given a tour of the hotel and given a brief outline of what is expected of them when they come to the hotel for work placement.

The co-ordinator of the TRAC program arranges the off-the-job or knowledge components of the course to be delivered by public and private providers. Students learn about:

- working with colleagues and customers
- working in socially diverse environments
- following occupational health and safety procedures
- communicating on the telephone

- providing a link between kitchen and service areas
- providing food and beverage services
- preparing and serving non-alcoholic beverages
- promoting products and services to customers
- providing housekeeping services to customers
- cleaning premises and equipment
- preparing rooms for guests

In addition they must also develop and update their local knowledge (work placements enterprise information, local transport, local attractions, local customs) so that they will be able to draw on this when knowledge in response to customer enquiries. As well as attending face-to-face training sessions, students are also required to undertake research projects in a variety of these areas.

On-the-job training

The bulk of the program is focussed on developing practical or on-the-job competencies through a series of work placements. Placements are identified and coordinated by the TRAC co-ordinator. Typically these placements are identified and booked up in term 4 of the academic year in preparation for the following year. The TRAC co-ordinator aims to match students to placements.

During the two-year program students must complete seven work placements. Five of these placements will take place in large international hotels. Two will take place in a different environment (boutique hotels). Students will spend a total of between 20 and 28 days in the workplace. Because the hospitality industry does not favour the one-day a week approach to work placements, students will complete their placements in one-week blocks. There are also some hospitality establishments (e.g. Planet Hollywood) which would like to introduce two-week block placements.

These week-long placements take place during the school term. However, because the program has not as yet become part of the mainstream time-table in all schools, students generally have to catch up on the studies they miss while they are on placements.

During each placement the co-ordinator visits students and works in partnership with the qualified assessors from hotels, all the time monitoring each student's skills acquisition. Newer students, that is, those on their first or second placements tend to require the most attention as they adjust from a school-based culture to a work-based culture and the expectations associated with this.

The co-ordinator tries set up the first placement for each student at the hotel which has hosted the orientation session. In this way students have some familiarity with the establishment and will not feel too nervous on their first days at the placement.

The co-ordinator works with employers to ensure that there is a common understanding of the expectations about how things are to be done and how students should be evaluated.

Assessment

These work placements are highly structured. This means that students will have an extensive log-book with a specific list of competencies that must be acquired. Workplace supervisors will be expected to acknowledge the completed competencies once they have been demonstrated. These competencies are taken from the Hospitality Training Package and the skill record book developed by the registered training organisation and the Hospitality Industry Training Advisory Board.

The very extensive log-book is also part of a detailed data-base package used as a main reporting tool. It contains on- and off-job skills, AQF reporting information and attractive printouts for students' portfolios and graduation ceremonies.

Supervisors who are accredited to conduct assessments may do this on their own. However, in the case of supervisors who do not have this accreditation on-the-job assessments are also conducted by the TRAC co-ordinator working in conjunction with the workplace supervisor. The log-book is also used as a main reporting tool.

Linkages with industry

Apart from the industry linkage that is provided by the industry-developed training package, the TRAC co-ordinator works hard at establishing networks with employers so that a structured program can be effectively implemented and students are exposed to the skills required in an international hotel. Typically the co-ordinator will try to set up initial meetings with recruitment or personnel managers from these hotels. At these meetings the co-ordinator shows these workplace personnel the program and briefs them on what is required of them should they want to become involved in providing students with work placements and assessing them on their performance during the placements. To date she has been able to set up strong networks with the ACCOR group of hotels (comprising the 3-star IBIS Hotel, the 4.5-star Grand Mercure Hotel, and the 4-star Novotel Hotel). Her main aim is to ensure that these hotels are committed to providing placements for students in the cluster, and familiarising their staff with the requirements of the particular program.

Another reason why the co-ordinator has focussed on forging strong and enduring links with these large hotels is that they are able to provide students with a broad range of industry experience. Within the Hospitality Operations programs there are strands or functions (housekeeping, food and beverage, kitchen operations etc.) that can be selected as a focus. The co-ordinator has liaised with employers to identify which functions should be covered in this particular program. Employers were in favour of a cross-functional approach. This means that students will be given an initial industry qualification which spans the diverse set of functions.

Personnel from the hospitality industry are also involved in the information evenings that are provided for students, vocational teachers, principals and parents prior to the commencement of any program. In these sessions industry personnel discuss the value of such a program from an employer perspective and outline what it is they hope students will gain from being involved. Current students and their parents also speak about their experiences with the program.

Benefits and concerns

Benefits

The main benefit of doing a VET program through the TRAC mechanism of delivery is that students become more work ready and better networked with industry than they could ever have been without an extensive work placement experience. They understand the world of work and possess a working understanding of the industry within which they have been working.

The advantages of having a cluster approach to the coordination of VET-in-Schools programs is that schools acting independently may not have adequate numbers of students opting to undertake a particular program. The cluster then allows programs to be offered to students across the schools. In addition industry linkages can become healthier and less burdensome for employers if they are only interacting with one main point of contact for requests for work placements.

Because the TRAC model is dependent on large amounts of time spent on the job, students are provided with a realistic expectation of what a particular occupation entails and they have

ample opportunities to practise real workplace skills. In addition work placements allow them to develop contacts with employers which will provide them opportunities for further employment. During the last two years all of the students who have been involved in the TRAC program have been able to gain employment usually as a result of the strong linkages that have been formed during work placements.

Concerns

The main concerns associated with an extensive work placement approach to the delivery of vocational education and training is that each school within the cluster has a different time-table, and that each of the schools has a different view of the value of vocational education and training programs. Furthermore, there are some school that would like to confine vocational education and training to within the 'school gates' preferring not to acknowledge how on-job training brings life to vocational education. The logistics of the school site, particularly with regards to the primacy of the traditional school time-table can dictate and restrict which model of learning each student may have access to. A student may be forced to do almost an entire vocational subject within their school's time-table. However this may not be the best model for both students and employers. The acquisition of skills through real workplace practice is the best method.

E. Information technology at the Inner Melbourne VET cluster

This cluster comprises 25 schools in the inner Melbourne region. It caters for about 500 students and 13 programs. The aim of the cluster is to enable the sharing of resources and ideas in the organisation of VET programs. This enables small numbers of students from individual schools who would otherwise not be able to undertake VET studies in a particular area to join a program. Each program is delivered by a host school, that will make its resources available for the delivery of the program.

Funding for the cluster is mainly provided by the Federal Government through the Australian Student Traineeship Foundation. The role of the co-ordinator of the program is to co-ordinate the program, find work placements, take care of all administrative responsibilities and have input into curriculum.

The program caters for non-government elite private schools as well as for government secondary colleges. Generally the elite independent schools in the cluster do not place a high priority on providing vocational education and training opportunities for their students. However the major part of the interest comes from parents and students.

All 13 programs comprise on- and off-the-job training. This means that students are generally required to attend classroom training (delivered by the a registered training organisation) as well as work placements in industry. However not all programs require students to be involved in work placements. For some programs work placements are mandatory and for others they may be highly recommended but not mandatory.

Students are able to combine their VET studies with their studies for their VCE (Victorian Certificate of Education) awarded to students who have successfully completed their high school education. This means that they are able to obtain an initial nationally recognised qualification in their chosen vocational area as well as their VCE.

In this case study we are interested in the Certificate II program in Multi-media. The program provides students with skills which apply to the traditional industry sectors (for example, graphic design, advertising, publishing, computing, pre-press film/video/TV production, information design, visual and performing arts) and to more recently developed sectors (for example, multi-media design and production, interactive game development, on-line and broadband services).

About the program

Aims

This course aims to provide students with the skills and knowledge to help them to gain employment in the traditional and emerging sectors of the multi-media industry. This includes providing them with opportunities to develop a portfolio of work, and developing the skills necessary to obtain freelance employment. It also aims to prepare them for further studies in the field in universities or institutions of TAFE.

Structure

This program consists of four units divided into 12 modules and delivered over two years. It is designated as a Group A study program which means that on completion students are eligible for four VCE VET units. Two of these units are at the unit 1–2 level and two of the units are at the Unit 3–4 level. Unit 1 and 2 comprise 140 hours. Units 3 and 4 comprise 210 hours. There is also a requirement for 40 hours of work placements. In Victoria students who attend work placements are paid a nominal wage, generally about $5.00. This has been decided to ensure that students are eligible for any workplace insurance programs should they have an accident.

Selection

There is a large demand by students for the multi-media course. The students who are attracted to the course are generally also highly academic and highly motivated. They usually comprise those students who also have specific design and artistic skills. They are mostly in Year 11 and some Year 10s who are doing an early VCE.

However, the course also caters for students with a range of abilities. There are some with very little background or skill, and a few who are not achieving in an academic sense and have learning difficulties.

Off-the-job training

The off-the-job program is delivered at Hawthorn Secondary College who has registered training organisation status. That is it is an RTO. This means that it is able to deliver and assess training which leads to the national qualification. Here the school has made available two rooms, one for practical sessions and one for delivering the knowledge components of the course.

The course was developed in 1994 and is mostly competency-based. However, the course delivered at Hawthorn takes the competencies that must be developed in each module and delivers these in project-based assignments which integrate the set of identified competencies with practical work based on real tasks. For example, students may be asked to use traditional and digital techniques to devise a simple piece of animation. That is they may need to devise a character who moves (walks etc), has a problem (falls, runs into something etc) and solves the problem. They may also be asked to design a web-page. In addition, students may be required to undertake projects which require them to undertake research activities and to collect examples of photographic collages from newspapers, magazines and postcards. They will then be asked to generate develop, and refine ideas, and create a final presentation for inclusion in their portfolio.

Delivery

Training is delivered using a mixture of traditional face-to-face classroom teaching and access to computers for practical work where students work through an assigned project. Students are taught the required skills and are asked to repeat and practise these skills until they have achieved the required competencies. There is little use made of independent and self-paced learning.

Hawthorn Secondary College has implemented a four-day VCE time-table. This means that all classes for non-VET subjects will take place on Mondays, Tuesdays, Thursdays and Fridays. Wednesday may be used by students to access TAFE programs, part-time employment, work placements, or to devote to study. In addition a full program addressing a range of educational and motivational issues is also presented.

Assessment

Assessment is also competency-based with students being awarded a 'competent' result if they can demonstrate the competencies required and a 'not competent' result if they are unable to do so. In addition the teacher writes a more evaluative assessment at the end of each semester which provides extra feedback to students on they way they have performed the task.

On-the-job training

The on-the-job training is delivered in local workplaces. Although the State guidelines (established by the Board of Studies) do not indicate that work placements for this course are mandatory, a decision has been made in the Inner City cluster to make work placements for this program a compulsory part of the training. This is because the cluster is located in a region which is the hub of the multimedia industry in Melbourne and work placements will enable students to hone their industry skills, and make contacts with prospective employers.

Students in the multi-media program must complete 40 hours of work placements throughout the duration of the program. These placements are located by the vocational co-ordinator who uses the networks established with local industry to place students in placements. Because the multi-media industry is so diverse, the work placement program for each individual student must be designed to take into account the varying nature of each workplace.

Vocational teachers will visit students in the workplace. They observe students to note whether or not they are completing the identified competencies and also evaluate the suitability of the placements for future students.

Assessment

Skills and competencies that must be performed and demonstrated by students in workplaces are identified by vocational teachers working from the Board of Studies guidelines for the particular course. These then form the basis of a log-book which must be completed on the job by the workplace supervisor. The log-book lists the skills and competencies that must be performed, and provides an opportunity for the supervisor to add comments about further skills the student needs to develop. As students demonstrate the competencies, these are signed by both the student and the supervisor. There is also a generic evaluation form, which the employer completes. This log-book and the generic form is brought back to the school and becomes part of the student's portfolio.

Because of the diversity of the industry sector, the tasks that students will be asked to do will vary according to the workplace allocated to them. As a result vocational teachers in charge of this program have had to develop assessment criteria which will reflect this diversity, and develop a log-book that is flexible enough to deal with this diversity.

These work placements, although mandatory for students in the cluster who choose to become involved in the program, are not a mandatory part of the Course approved by the Board of Studies. As a result students do not pass or fail these work placements. However the log-book and the general evaluation form will act as verification for those students who will apply for further studies with TAFE or other VET providers. In addition teachers have had to contact employers and to gather information on the sort of experience that can be offered to students, so that students can be matched to workplaces.

Linkages with industry

The major linkages with industry are developed by both by the vocational co-ordinator and the vocational teachers in the host school. These linkages are generally set up through informal networks with employers in the local area. Once employers have been contacted and agree to be part of the program they will receive a kit which outlines what they are required to do once students are allocated to work placements with their companies. Employers are also involved in identifying the sorts of experiences they can provide to students.

The formal linkages are only established when an employer provides a work placement to a student and as a result is intimately involved in training and assessment of a student's performance, and reporting on this performance by completing the log-book and the evaluation form.

However the co-ordinator is presently negotiating a sponsorship arrangement with a major multi-media company. If this is successful then there will be extra classrooms, extra licences for using soft-ware programs, equipment and resources available for the continuation and expansion of the program.

Benefits and concerns

Benefits

There are definite benefits of having in place a formal system of work placements for students in secondary schools. It allows them to experience first hand what working in this industry sector is really like and allows them to establish contacts which may benefit them in the future when they are looking for employment.

Work placements in industry allow students to get a real sense of which companies are good to work for and are achieving success in the commercial sense. As well as helping students to broaden their horizons and career aspirations, the training and experience received at the workplace allows them to speculate on where following this particular pathway will lead them.

Having teachers involved in visiting workplaces keeps them aware of what is happening in industry and allows them to expand or update their knowledge in their particular fields. In addition it allows them to develop contacts with particular employers and use these contacts to help them develop better learning experiences for students.

For workplaces these linkages allow them to be have some say in the types of competencies and skills that should be developed in school-based curricula and are required for their industry sectors. As well as allowing employers to recruit potential employees, it also provides them with an opportunity to fulfill their own community responsibilities, and raises their profile among the local community.

The cluster approach to providing VET-in-Schools programs means that the infrastructure for the delivery of the programs can be co-ordinated centrally. It also means that expert knowledge and resources can be pooled. This has two advantages, it means that students have access to a wider range of programs, and costs are kept down.

Concerns

The major concern about keeping these programs continuing relates to funding and resourcing. In most cases the success of these programs relies on the goodwill of teachers in schools to become involved. If students had to access these programs through TAFE or other VET providers then students would have to outlay substantial fees. In addition there is also a danger that while the vocational teacher in the school is teaching multi-media to students from other schools in the cluster, that his responsibilities for teaching subjects in the junior school may have to be taken up by other teachers. These consequences have not been fully addressed by the Department of Education.

Obtaining adequate access to the technology and resources required for this program is also felt to be a major concern. Because this industry is developing so fast and it is vital that students have access to the latest software and hardware there is a constant need for equipment to be upgraded and teachers to be up-skilled in its use.

Another major concern is the heavy workload placed on the vocational co-ordinator. Because there are now 25 schools in the cluster it is a very demanding job for one person to market the different programs, develop infrastructure required, and contact employers and maintain networks. What is required is funding for another co-ordinator position to assist in these tasks. If this is not done then there is the danger that many of the programs will not be as successful as they could be.

The cluster can only deliver modules that have been approved by the Board of Studies. At times this can be quite prescriptive and does not allow schools to deliver the competencies that are required by industry.

As has already been noted, the diversity of the industry sector means that it is difficult to provide students with the same industry experience. To make each individual student's experience worthwhile it is important for the vocational teacher to customise a work placement program which delivers the competencies and provides relevant industry experience. This takes time and effort.

F. Information technology at RMIT (TAFE sector)

Formally known as the Royal Melbourne Institute of Technology, RMIT University was granted formal university status under the Royal Melbourne Institute of Technology Act 1992.

The Business Faculty of RMIT is the largest business school in Australia with over 16,000 students throughout Australia and the Asia Pacific region. Students who obtain TAFE qualifications in business may receive exemptions from degree program subjects in the same discipline.

The school provides training for Certificate 2, 3 and 4 and the Diploma and Advanced Diploma in Information Technology. These programs provide students with the opportunities to obtain a paraprofessional qualification in the field and meet industry and government demands.

About the program

Aims

The primary aims of the course are to develop basic skills and knowledge in:

- business information technology
- information processing
- business IT practice and communications
- specialised knowledge and skills in the practical application of information technology in the fields of: network performance and operation, database technology, application development and business information systems

Structure

This course is a two-year program. The first year is made up of eight units (subjects) and enables students to achieve the basic diploma. The second year of the program is made up of a set of core modules and some electives. Those who complete the requirements for this second year are eligible for the advanced diploma.

The course is intensive and requires students to put in considerable time and effort. Because the building blocks are sequential it means that students will have to master each before new ones are added on.

Selection

Full-time students are selected through VTAC (Victorian Tertiary Admission Centre) with mature-age applicants and school-leavers being the larger groups accepted. Classes are made up of local students who choose a vocational pathway and mature-age people who want to change careers. The school actively seeks those who are mature, well-motivated and are looking for a new career direction.

The school receives government funding for local students attending classes. It also receives funding for trainees who will receive their training on the job.

Campus-based training

The majority of the training (for those who are following the institutional pathway) in this course is class-room based. This means that it is provided in a predominantly face-to-face manner which includes theory and practical workshops. Students who want to accelerate through the program are able to take the accelerated option which offers more hours per week. This option is only offered with the July intake.

Work experience

Students in the institutional pathway are expected to undertake a set number of hours in the workplace as work experience. Typically these students will have to locate enterprises who will be willing to have them. They generally undertake work experience during semester breaks.

Traineeships

For those who are on-the-job trainees, however, the training is provided in flexible formats. Students must complete modules which have been identified in their training plans, and industry-related projects. At times the may come in for some face-to-face workshops.

On-the-job training for on-the-job trainees is supported by workplace supervisors with assistance from teachers from the IT faculty. Trainees use a web-based learning pathway with RMIT staff as on-line tutors.

Teachers from the IT faculty will visit the trainee in the workplace (about four times during the duration of the program) to discuss the trainee's progress and to develop and conduct assessments. Discussions about learning activities are also held with the workplace supervisor.

Assessments for on-the-job trainees are typically customised to the nature of the workplace. In addition students are required to submit assignments for marking.

Recognition of prior learning

Students may also apply for recognition of prior learning. For this they must submit any relevant evidence of prior learning or experience. There are few on-the-job trainees who apply for RPL. Some may apply to be exempted from learning certain software programs by taking a challenge test.

Linkages with industry

The program services IT specialists in small, medium and large businesses and in specific fields and is structured to meet the competencies and skills required by the Information Technology Training Package.

The training package

Benefits
The IT Training Package was developed at the national level by the Information Technology and Telecommunications Industry Training Advisory Board. It contains the competencies that must be achieved and the guidelines for the assessment of these competencies in an easy-to-read and understand format. The major benefit of the training package is that it sets out a mechanism for achieving the competencies required by industry. Another benefit is that that the package can be easily customised to the meet the needs of existing workers and those with prior knowledge.

Concerns
However, the school has found that there are some concerns with the training package as it now stands. The training package does not meet the needs of school-leavers. The school has identified a list of pre-requisites that are required before students join certain courses or subjects. However because the training package is not arranged according to courses there is little to prevent students enrolling in subjects for which they do not have the required prior knowledge.

Another concern relates to the fact that there is no acknowledgment of the need for prior knowledge for some of the areas, and that the training package encourages specialisation before sufficient foundation skills have been developed.

G. Bayside VET Cluster

The Bayside VET cluster of schools is made up of 20 government and non-government schools. It is located in the Bayside area of south east Melbourne. It is currently funded by an annual grant from the Australian Student Traineeship Foundation. It is led by a management committee which comprises representatives of local industry, employers, participating colleges and the cluster Work placement Co-ordinator.

The role of the Work placement Co-ordinator is to assist students to locate structured work placements, disseminate information relevant to cluster colleges and their VET co-ordinators, and establish industry linkages.

The management committee has responsibility for overseeing the development of the program and its strategic directions. For 2000 the major push has been to set up better industry and school interfaces.

About the program

The cluster provides opportunities for students in Years 10, 11 and 12 to undertake VET training in 15 different occupational and industry areas. Among these are the three areas that are of interest to the study, hospitality, information technology and electronics and engineering. This means that secondary school students have the opportunity to complete a nationally accredited certificate (under the Australian Qualifications Framework, while they are completing their high school certificate—the Victorian Certificate of Education. This program is called the 'VET in the VCE' program.

Another part of the program aims to provide students with opportunities to combine their VCE studies with vocational training and paid work in part-time apprenticeships and traineeships.

Aims

The primary aim of the cluster is to provide an integrated approach to the provision of VET programs in the cluster. In particular its stated aims are to:

- provide greater options for all students
- encourage open links of communication between schools, the community and industry

- streamline and co-ordinate programs
- identify and meet future skill, industry and community needs
- allow employers to negotiate with one person at all times
- ease the pressure on schools through the pooling of resources and expertise

The primary aims of the various VET programs are to help students develop industry-specific and workplace skills, in addition to completing a nationally recognised vocational qualification as well as their high school qualification. For example, students who complete the hospitality program will receive a Certificate 2 in Hospitality Operations as well as their Victorian Certificate of Education. Programs also assist school-leavers to become more job-ready, by providing them with vocational skills and by helping them to learn about the latest work practice methods, and to undertake on-the-job training in a variety of businesses.

Structure

The program includes both off-the-job studies and on-the-job training in the form of structured work placements. There are four different programs that students can follow.

These include:

- VET in the VCE: this program allows students to obtain credits towards the high school certificate (VCE).
- TAFE Pathways programs: these programs allow students to obtain credits towards a TAFE certificate. These pathway programs are generally in the apprenticeship areas like building and construction, architectural draughting, furnishing, interior decoration, and plumbing and hair dressing. Students are time-tabled out from the school for one day a week. On completion of this pathway students will have completed some modules towards a TAFE qualification.
- Transition Program: this program is for students to prepare for the world of work and provides them with one day per week work experience.
- Part-time apprenticeship or traineeship programs: these programs allow students to combine their studies with paid part-time work. They sign a contract of training with the employer which outlines the employer's responsibility to provide training and the trainee's responsibility to undertake the training.
- School–industry programs: school–industry programs are vocational programs which combine studies with structured work placements. Students who are involved school–industry programs will spend four days a week in the normal school program. The other day is spent in structured work placements in industry.

Selection

Expressions of interest are solicited from students who would like to be involved in any of these programs. Once these are received students are interviewed and VET co-ordinators in schools work out which program will suit the students. In addition student academic results are also examined. Often, students will self-select out of the VET in the VCE program because they know it will require a lot of added work. Because students will be expected to take one day a week out of their normal school program and devote it to vocational studies and work placements, the drop-out rate in the first six months is high. It is for this reason that VET co-ordinators try to get a feel for the maturity of the student and are keen to impress on students that they will be expected to be more self-disciplined if they follow these pathways. This is especially important in information technology programs where they are left to work individually on tasks.

The interview also provides the co-ordinator with information of where the students live and the transport that is available to them. This information will help the co-ordinator to arrange

work placements which are local to the student and will be convenient for the student to access.

Off-the-job training

The school works in conjunction with the registered training organisations (Chisholm Institute of TAFE, Homesglen Institute of TAFE, Kangan Batman TAFE and Box Hill TAFE) to provide training in the various programs. Generally a relevantly qualified vocational teacher at the school will deliver knowledge and practical components of specific modules at the school. Staff from the institute will come out to the school to monitor what is happening. There are also instances where students will attend TAFE for certain modules.

Typically training in most programs is provided via face-to-face delivery. However electronics is delivered using self-paced delivery. Here learning materials are down-loaded off the web.

On-the-job training

On-the-job training is delivered at the workplace in structured work placements. During the placement a student will have specific tasks to undertake in order to demonstrate competence. Workplace supervisors are charged with the responsibility of training students on the job. Typically, a log-book of tasks performed is kept for assessment purposes.

In Victoria the Board of Studies has determined which programs will have compulsory work placements. In other programs it is highly recommended. However all students in the cluster are encouraged to complete work placements.

Students will be visited by their vocational teachers while they are on work placements.

Assessment

Assessment is competency-based in programs which follow the training package for the particular industry concerned. In others students are assessed on their performance on what are called school assessment tasks (SATs).

Students are formally assessed for knowledge and for the demonstration of competency. Each student is provided with a log-book which details the competencies or learning outcomes that need to be demonstrated. This log-book is signed by the vocational teacher when these competencies are acquired and demonstrated. For students in the VET in the VCE program this log-book is then sent to the Board of Studies as evidence. The Registered Training Organisation is responsible for the awarding of certificates and statements of attainment for successful completion of TAFE programs.

Industry linkages

There has been a conscious effort to involve and consult employers, industry training advisory boards, and other industry associations in the development of strategic plans, and in discussions about the training required to meet the needs of industry and the needs of schools and their students. Local industry associations are represented on the management committee for the cluster.

Apart from the involvement in the conceptualisation of the strategic plan for the cluster, local industries are heavily involved in providing the on-the-job training for the students in the form of structured work placements, part-time apprenticeships and traineeships, and general work experience for students who are not in a formal VET program.

Another reason for the tight industry linkage at the planning stages is that employer associations have been concerned about the inconsistency of the delivery of VET training which may lead to a formal qualification. They want to be confident that if a student has been awarded a certificate 2 qualification that the student can perform the competencies which are commensurate with this qualification.

The Victorian Employers Chamber of Commerce and Industry is also interested in the forging of linkages between providers and industry. It has now appointed a Business and Education Adviser whose role is to provide advice and support to employers on workplace learning. The adviser will mount or participate in expos, presentations and public speaking engagements, work with schools to develop partnerships, and provide training and workshops as they are required.

The chamber has also mounted an Employer Champion project which provides recognition for those businesses committed to providing quality workplace learning for students. This recognition takes the form of 'Employer Champion' certificates awarded to nominated businesses at public events which are focussed on identifying successful examples of workplace learning.

The major role of industries is to support workplace learning by opening up their businesses for the provision of structured work placements or part-time apprenticeships or traineeships. The vocational co-ordinator appointed by the cluster is charged with responsibility for developing linkages with industry so that opportunities for work placements are located, and employers are aware of their responsibilities. To do this the co-ordinator must be aware of what is happening in the area so that she can approach industries that may be able to provide appropriate work placements to support the various programs. A data-base of interested people is then created.

The co-ordinator works with employers to develop a program for work placements. This may include a one-day-a-week arrangement, or it may include a block release arrangement. These decisions are made in consultation with employers and students.

The co-ordinator also visits the employers to ascertain their suitability for providing work placements in terms of occupational health and safety issues, security and number of other employers. These visits also help the co-ordinator to match students to employers.

Benefits

Benefits for employers

The benefits for employers of having these industry linkages are many. They provide an opportunity for employers to:

- 'nurture' skills and knowledge they require for their businesses
- increase recruitment opportunities
- enhance staff development for employees who are sharing skills and experience with students on placements
- improve their image as a corporate citizen in their communities

Benefits for schools

The benefits of having a workplace co-ordinator dedicated to developing networks with employers and locating and preparing employers and students for work placements relate to decreasing the pressure on vocational teachers in schools, and integrating the placement process for a particular region. This means that employers need only to discuss placement programs with one person and are not being bombarded with requests from different schools at the same time.

Another benefit is that workplace co-ordinator can provide a consistent evaluation of the suitability of workplaces and a consistent message to employers and students on what is required for certain programs. In addition an integrated approach to the locating of work placements means that students are better matched to suitable workplaces.

Benefits for students

The benefits for students relate to the opportunities provided for students to develop their awareness, through practical experience, of whether or not a certain industry or occupation is really for them. The benefit of doing this while they are still at school means that if they find that the occupation is not suitable they still have time to change direction and explore other forms of study.

In addition, it gives students who are looking to work in the industry 'a foot in the door'. If they are considered by employers or workplace supervisors to be good at what they do then they may be recruited or offered an apprenticeship.

Having a tight linkage with the Registered Training Organisation in the delivery of these VET programs also helps to make the transition from school to further studies more comfortable.

Concerns

One of the major concerns however relates to the ability of the workplace co-ordinator to find enough work placements for the 540 students who would like to be involved. It is for this reason that priority is given to those students for whom work placements are compulsory. Because the cluster does not really have a defined local community and draws on various industries in the metropolitan area it competes for placements with other schools.

Another concern relates to the difficulties for employers to attend meetings on a regular basis. Although the cluster has set up breakfast meetings to make it more convenient for employers to attend, obtaining their involvement continues to be difficult.

H. The Eastern Suburbs Compact

The Eastern Suburbs Compact acts as a link between high schools and businesses in the Bondi District of the Department of Education and Training of New South Wales. It services nine schools in the district and about 430 students who are undertaking dual accredited vocational education courses in high schools. These courses have a requirement for students to spend time in industry.

About the program

Aims

The aim of the compact, is to co-ordinate and streamline the process of locating work placements for students. This means that the work placement co-ordinator will take responsibility for contacting employers and negotiating with them the content of the training and experiences that will be available for students.

Structure

The program is composed of classroom-based instruction and structured work placements in industry with students being required to spend a minimum of 35 hours in the workplace in structured training. This can be organised in one-or two-weekly blocks or for a specified time during the week (for example, a day per week, a half-day per week etc).

Selection

Dual accredited vocational programs are available to students via normal school procedures. However students must complete an application form to undertake a work placement with the compact. This form asks students to provide details on where they live, their gender, Aboriginality, disability, or language background and career aspirations. This information is used to ensure that students are matched to programs which make best use of their particular skills and talents. For example a student who can speak Chinese was matched to a workplace publishing a Chinese newspaper. A student with a physical disability will have to be matched

to a workplace, which provides easy access facilities etc. In addition, girls are not placed in an all male environment, nor are boys placed in an all female environment.

Teachers must also provide some comment on the aptitude, skill level and attitude of the student. Together the teacher and workplace co-ordinator will match the student to the placement. The major criteria for evaluation of these applications, is work readiness with the motivation and attitude of the student playing a major part in the matching process. Once students have been matched to the employer, the employer may also offer the student an interview prior to the placement. This interview is not a selection interview, although if there is a major problem (excessive body piercing, too much makeup etc.) the employer may decide not to accept the student. The major purpose of the interview is to allow the employer to preview the student, and to get a feel for the students' skills, abilities and career motivation. Employers are very interested in students having the right attitude to work.

For students the interview helps them to become familiar with the organisation prior to the commencement of the workplace. For the workplace co-ordinator and teachers the interview is one way of being confident that the student will turn up for the placement.

Off-the-job training

The off-the-job training is provided in schools by teachers who are charged with providing the knowledge and practical components of the course that are contained within the units of competency set down in the curriculum framework for each of the various industries.

On-the-job training

On-the-job training is provided by workplace supervisors in businesses, who have agreed to provide workplace training for students. These supervisors will negotiate with the workplace co-ordinator the types of training that they can provide to students. Students are to be treated as entry-level employees.

For example, students who are undertaking the information technology program will undertake work placements which relate to a variety of IT-type duties depending on the type of business that is providing the placement. These include sales, desk-top publishing, web page development, database development, network support, PC maintenance.

Assessment

Each student has a log-book which details the competencies that must be achieved. There are generally core competencies that must be completed and a list of electives. Teachers will assess the off-the-job training component. However employers and teachers working together will generally assess the on-the-job training component.

Employers will also provide an employer's assessment report. This report will comment on the skills that the student has acquired in the workplace and indicate the nature of the student's:

- attitude to the job
- appearance and dress for job requirements
- ability to work with others
- initiative/ability to work unsupervised
- adjustment to the work environment
- persistence to task given
- punctuality
- ability to communicate
- ability to follow instructions

Industry linkages

The major linkages that exist between the Bondi District Compact and the industries with which it interacts concern the provision of workplace training. Businesses work in conjunction with the workplace co-ordinator to set up structured workplace experience and skills training for students.

For the hospitality students in the cluster the workplace co-ordinator has set up a strong link with Parliament House which generally provides work placements for 30 students per year. In addition large hotels will deal exclusively with the compact to provide placements for about half of the placements that they offer. For example the Airport Hilton hotel and the Holiday Inn-Coogee all have exclusive arrangements with the Bondi Compact. Large retail chains like Woolworths also provide work placements for students.

One major linkage, which has been developed in one of the cluster schools (JJ Cahill) is not connected only to vocational education and training. DHL is a world-wide express company which has operations in Europe, South East Asia, New Zealand, and Australia. In Australia the company is based at Mascot Airport which is close to JJ Cahill Secondary School. Because the company director had experimented with partnership programs with local schools in England he wanted to set up a similar arrangement in Australia. In addition the company is aware that their future workforce might well come from here, and there is a benefit for them to have students aware of the company.

JJ Cahill is a high school from a low socio-economic, and high non-English-speaking background area. It caters for students with a variety of abilities ranging from those who are intellectually bright to those who are low achievers. The company provides sports scholarships in the field of Rugby Union and Soccer for four or five students. These scholarships provide students with uniform, school fees, and professional coaching. In addition the company provides the school with computers, cabling, netware and packages to supplement what the school receives from government funding.

The company also sponsors two mentoring programs for students at the school. One program caters for Year 10 students and is called 10-UP. This program involves ten Year 10 students for 10 weeks. The other program caters for Year 9 students and is called 9-UP. This program involves nine Year 9 students for nine weeks. Students must complete an application to be considered for the program and are matched up with a mentor who has also completed an application from the company to be part of the program.

Once students and mentors have been matched, meetings between mentors and students can take place. The aim of both mentoring programs is to provide opportunities for students to explore different career directions and for mentors to share their particular expertise and knowledge. For example one girl wanted to become a journalist so the mentor was able to help her to get a placement at a radio station. Mentors have also helped students to develop skills with different computer packages.

Benefits

The benefits of involving industry in structured training for students are many. Employers are able to influence the type of training that should be offered in schools, and have access to a data-base of young people who have been trained in the skills that apply to their particular industries.

Students have the opportunity to develop skills and attitudes that will enable them to make the transition to work and develop confidence in their own abilities. There have been cases where students who had been evaluated as not being very workplace-ready developing this work readiness in one week on the job. Where employers have signalled their approval of students' work performance in their evaluation it improves the way that students see themselves. Low achievers in school have been known to shine in the workplace. In contrast high achievers at schools have also been humbled.

Through work placements students also develop contacts or mentors in industry. These contacts can be used by students, to open doors to jobs when they are ready to move into the job market.

Employers also benefit from linkages from a centralised approach to the provision of work placements for students. Having a co-ordinator whose major role is to negotiate placements and programs with employers means that there is only one point of reference, and there is only one person contacting them for work placements. For employers this is invaluable because it means that they will not be inundated by different groups (teachers, students, parents, careers advisers etc) all looking to establish opportunities for work placements.

The benefits of involving students in activities sponsored by a specific company like DHL relate to the broadening of teacher and student experiences, and developing contacts with industry which may help for future employment.

I. NASTEC SOLUTIONS

Background

NASTEC SOLUTIONS was first established in 1991 when it took over the Apprentice Training Centre of the Defence Science and Technology Organisation (DSTO). The DSTO was formerly the Weapons Research Establishment (WRE). This training centre was originally set up in 1952 to provide for the in-house training needs of WRE employers. In 1961 the centre was given permission to conduct all the training for DSTO Commonwealth apprentices. The centre catered for apprentices in fitting, machining, electronics, electrical fitting, sheet-metal and cabinet-making. NASTEC is continuing the technical training of this centre and also continues to employ many former DSTO trade teachers. The facilities and equipment of the DSTO Apprentice Training Centre were relocated to a high school which had remained vacant for four years.

Today the centre also acts as a private provider servicing the needs of industry in engineering, composites, industry support services (including employment services) information technology and retail. It is a registered training provider with the Australian Registration Council (ARC), and is registered to provide both off-the-job and on-the-job training of National Metals and Engineering Curriculum Modules in the Certificate of Engineering (Mechanical, Fabrication and Electrical/Electronics) and Certificate 1 & 11 in Polymer Processing. It also has approval for the delivery of the Diploma of Information Technology and Retail Operations. It also provides opportunities for students to access fee-for-service programs.

Its stated mission is to 'assist in the development of industry, business and the community with the aim of providing sustainable growth and employment opportunities'.

User choice funding

The ability for NASTEC to provide training for industry has been enhanced by its eligibility for government monies which are made available under the User Choice funding scheme. Under the User Choice scheme, government monies flow to the Registered Training Organisation that has been selected by employers to deliver the training for their apprentices and trainees. These funds have been important for enabling NASTEC to expand its operations.

Industry linkages

NASTEC is a self-funding not-for-profit organisation. Its aim is to respond to industry needs by providing off-the-job training for those industries or workplaces which choose to send their apprentices or trainees to NASTEC for off-the-job training. It also provides on-the-job assessment for those industries who want to provide employees with recognition of current competencies or prior learning. User Choice funding has allowed this to occur.

Today the organisation continues to be the major provider for the trade training of apprentices in the Maintenance Division for GMH (General Motors Holden) automotive plant.This means that it provides 12 months' up-front training for apprentices in the electrical, mechanical and fabrication trades. To do this it pays for the cost of two NASTEC instructors stationed at the GMH training centre on a full-time basis. When specialised knowledge in certain areas is required then NASTEC arranges for appropriate experts to be brought in.

NASTEC also continues to provide the up-front training for all first-year apprentices employed by the Engineering Employers' Association of South Australia group training scheme. This training comprises three-to-four months training in the electrical, mechanical, and engineering fields. Training on oxy-gear and work ethics is also provided for these apprentices.

NASTEC also provides the training for apprentices and trainees from smaller industries or companies in the region. In addition it provides an instructor to deliver the Certificate 1 and 11 in Polymer Processing for the Newell Group in Murray Bridge, a regional country town in South Australia.

NASTEC's relationship with employers is especially visible at the development of the training program when employers in consultation with NASTEC's program co-ordinators or managers sit down to select the modules they require for their apprentices and trainees. This is the case for engineering as it is for information technology. Although employers tend to have a greater say in the training of their apprentices than they may have had previously, the great majority of the smaller employers seek advice from the instructors on the modules that their apprentices should undertake. Although training programs are customised to meet the skills needs of individual employers, NASTEC instructors try to encourage employers to consider the needs of the apprentice or trainee to develop portable skills as well as enterprise-specific skills.

Training programs for information technology will also vary according to the needs of the employers. In some cases the co-ordinator will discuss with the employer the learning outcomes to be covered, the availability of the trainee to come off the job for training, and the facilities that are required on the job. If the software program is not available at the site then access to the program will have to be provided. If the employer has software that the provider does possess then arrangements will have to be made for the provider to facilitate and assess the training at the workplace. In addition the co-ordinator may set assignments that need to be done in the workplace. Employers may also select the actual modules they want covered and the time that they want the training to take place. This may include after-hours training, full days or half days.

NASTEC also assists industry (and especially small companies) to conduct assessments of competencies. This is because the company now can access government monies to fund these processes.

Benefits and concerns

Benefits

NASTEC's relationship with employers hinges on the continued provision of training which meets employers' requirements. This means that employers have a very real say in what training they want delivered. Work placement courses like Computer Numeric Control (CNC), and Automatic Lathes and Mills used to be done in an apprentice's third year of training. For employers who required their apprentices to use these skills, this meant that their apprentices would not have any formal training in these areas during their initial years. It is now possible to design training plans which provides apprentices with CNC training in their first year if it will be useful to their employers and to them.

Because of access to User Choice funds the provider is now in a better position to respond to industry needs and to provide training in areas that once could only be delivered by TAFE. NASTEC is able to provide programs requested by industry because User Choice means that

NASTEC is given funds to run them. It introduced new programs like Information Technology and Retail because of the availability of User Choice funds.

Sometimes an employer may want to vary a contract of training which identifies TAFE rather than NASTEC as the registered training organisation (RTO). NASTEC is prepared to deliver the training but will charge TAFE for this delivery. Now that workplaces or industries can also become RTOs, NASTEC can also charge industry for the training where industry decides that NASTEC has the expertise to deliver the training.

Linkages with industry have benefits for NASTEC instructors. They provide an opportunity to team up with instructors from other training providers who may also be providing training at same company. For example NASTEC provides all the entry-level training for maintenance mechanics at GMH. A TAFE provider provides all the in-house training in pneumatics or hydraulics for existing employees. Instructors from both providers help each other as the need arises.

Concerns

Although User Choice funding has opened up the training market for NASTEC in terms of the clients it is now able to service, the organisation needs to be constantly aware of the cost-effectiveness of running certain programs. For this reason it is more interested in attracting larger companies and tailoring programs to fit these needs. Once a program for a large company has been established then NASTEC is able to open up the training for smaller companies so that they can send their apprentices to the same training provided for the larger company.

The content of training is also affected by whether the training is being delivered for one employer as it is for GMH or for the Newell group, or whether it has to suit the needs of a number of employers. Instructors feel that they are able to spend more time on extra content when they are providing training for apprentices at GMH because they have apprentices for longer periods of time. They are less able to do so when they are providing training for day or week block release apprentices at the NASTEC facilities. At NASTEC the training is restricted to the modules that have been identified in the training plan.

According to one NASTEC training manager, providing employers with a greater say in the types of training they want for their employees, may work very well for Certificate 1 or Certificate II process workers. However, it is his belief that it is not always adequate for the development of tradespeople, especially in the automotive areas. This is because employers may be only interested in apprentices developing those skills that are specific for their enterprises rather than those skills that are important for the trade.

The increased role of employers in the negotiation of the content and the timing of the training has meant that instructors at NASTEC have had to facilitate the learning of students who may be attending the same workshop but working on the practical or theoretical aspects of different modules. In such situations instructors are concerned about the quality of the attention they are able to give to individual students. They are also concerned about the occupational health and safety issues which need to be considered when students are working with heavy machinery at times when the instructor's attention may be focussed on helping someone who is having difficulties with theory.

Because providers only receive funds for successfully completed hours there is the possibility that instructors might aim to cover only, what is prescribed in the module. In addition there may not be sufficient time for instructors to spend more time on those students who may need longer to achieve certain competencies.

There are concerns about the cost of providing training in certain areas. Programs like information technology are expensive to run in terms of cost of instructors and the purchase of equipment and software programs required to run training. Problems are especially encountered when the provider has paid for the cost of an instructor and the trainee is either not released by the employer to attend training or does not attend for whatever reason.

NASTEC will have to outlay substantial funds to establish adequate facilities and equipment to provide the competencies prescribed in the IT Training Package. , Because the funds that are recouped for being involved in entry-level training for IT trainees are low, it is the IT co-ordinator's opinion that, increasingly, providers of IT training may opt not to focus on attracting User Choice funds. If this is the case public providers will have to continue to provide most of the training for trainees in the IT industry.

J. Regency Institute of TAFE Hotel School

Background

Regency Hotel School is part of the Regency Institute of TAFE in South Australia. It aims to provide industry with workers who are work-ready, and who have the knowledge, skills attitude and technical knowledge to succeed.

Regency caters for young people leaving school, people in the workforce seeking a career change through choice or displacement, and others wishing to re-enter the workforce after bringing up children.

The Regency Hotel School provides training for publicly funded programs from certificate 2 to diplomas, advanced diplomas and bachelor degrees. Bachelor degrees have in the past been awarded in conjunction with the University of South Australia. Recently Regency has been accredited to deliver its own bachelor degrees (for example, the Bachelor in Restaurant Management). Regency has also established the International College of Hotel Management, and subcontracts premises and staff for Le Cordon Bleu private college. (Le Cordon Bleu is a traditional cooking school which offers a separate degree in restaurant management).

In this case study we focus on publicly funded programs.

About the program

Off-the-job training

The Regency Hotel School brings together training disciplines in three major areas: cookery, food and beverage processing, and hotel operations and management. Along with pre-apprenticeship and apprenticeship training and courses at all certificate levels it also offers the Advanced Diploma of Business (Hospitality) and the Bachelor of Restaurant Management degree.

Training is delivered in lecture formats and in practical workshops. Typically apprentices and trainees will attend the school either in blocks or on day release programs.

Commercial cookery

Regency offers pre-apprenticeship, apprenticeship, certificate and diploma courses in commercial cookery. The main streams are commercial cookery (Certificate III) for apprentices, and commercial cookery (Certificate III) for non apprentices. It also offers Certificate IV and Diploma in Hospitality (Commercial Cookery). It offers Chinese Asian Certificate to Level III, and Certificate IV in Hospitality–Patisserie.

Meat processing

Regency offers pre-apprenticeship and apprenticeship training in meat retailing, and meat processing. This includes training for butchers working in general butcher shops and butchers working in slaughter floor operations, boning room operations or general operations. It also includes training for those engaged in small goods manufacturing.

Baking

Regency Hotel School also offers pre-vocational training and certificate level training in baking, and commercial basic cake decorating.

Food technology

This program offers certificate IV and the diploma in food technology.

Wine science short courses

Regency Hotel School offers wine science short courses including wine appreciation courses, courses on Australian wines, international wines, wine and food philosophy, small scale winemaking and Certificate III and IV in Hospitality.

Gaming short courses

The Hotel School also offers short courses for the gaming industry. Here students typically come for a one or two-day course in gaming (gambling on poker machines, casino games etc), TAB (betting on horses – racing and harness racing, dogs, AFL and SANFL football) and KENO (numerical gambling).

Hotel operations and management

The Hotel School also offers training in front-of-house operations, housekeeping, bar and service of drinks, cocktails and mixed drinks, food and wine service, front office procedures, and the supervision of these different operations. Training is also provided in information technology, and in the ownership and management of hotels and restaurants including exclusive establishments.

On-the-job training

Because apprentices and trainees are already employed, their on-the-job training is provided in the workplace. Typically an apprentice will attend training for one day a week with the remainder of the week spent at the workplace. Sometimes apprentices will undertake off-the-job training in block release programs.

Selection

Selection for admission into major programs is based on interviews and on scholastic ability. These selection interviews are conducted to assess the applicant's suitability for the industry.

For example, front-of-house positions rely on an individual having the right attitude and the right 'people' skills. They need to be outgoing with good communication skills and the motivation that required to get ahead. Applicants must know 'where they are going' and must love 'looking after people'.

Linkages with industry

The training package

The formal linkage with industry is manifested in the Hospitality Training Package that has been developed by Tourism Training Australia (the Industry Training and Advisory Board) for the Hospitality and Tourism Industry with input from public and private providers and employer and other industry groups.

The hospitality industry was one of the first to develop industry competency standards and national competency-based curricula to meet these standards. The national curriculum was based on the *'black'* and *'red'* books which had identified the underpinning theory that was required for the different strands of the hospitality industry (that is, the *'black book'* for cookery, the *'red book'* for food and beverage). Because the industry, in conjunction with providers, had already done a lot of the 'leg work' in breaking down occupations into task components and coming up with competency standards the Hospitality Training Package was one of the earliest training packages to be developed.

Apart from the formal linkage provided by the training package the Hotel School regularly consults with industry to provide training and assessment services for apprentices and trainees as well as for existing workers and those who are planning to enter the industry.

Maintaining linkages with industry means that new courses can be introduced to fit a particular need at a particular time. A particular feature is the provision of short courses to prepare individuals for the gaming industry. This includes off-the-job training to prepare operators for the TAB (run by government betting agencies) and cross lotto (run by the government lotteries commission) and for operators to work with gaming machines and other betting games in pubs, clubs and casinos. They are now looking at introducing training to prepare people for table games like poker, roulette and caribbean stud.

One of their most recent linkages with industry has been the college's involvement with the major catering group for the Sydney Olympics. The school took 500 students and staff (for example, cooks, stewards, food and wine waiters, front-of-house personnel, and supervisors) to Sydney to work at the Millennium Marquee. This establishment provided hospitality facilities for 23 different corporate sponsors.

The school has also worked in conjunction with the Jackpot Group which is an RTO servicing the training needs of 40 hotels. Each hotel in the group had employed two trainees. Although the Jackpot Group RTO delivered some of the off-the-job training for these trainees, it also provided funds for the Regency Hotel School to provide the remainder of the off-job training. For example, the Jackpot Group RTO provided training in the games that were specific to their particular hotels while Regency provided all the food and beverage modules and a substantial number of the gaming modules.

The Hotel School also provides the in-house training for the Hyatt Hotel (a major 5-star hotel in Adelaide). It will also be involved in providing the training required for the Adelaide Convention Centre which is now expanding its business to put on about 4,500 staff. 'Train-the-trainer programs' will form a substantial part of the training for this business.

Forging linkages with industry is a role undertaken by all staff at Regency Hotel School. As well as providing benefits to industry in terms of professional preparation for new entrants, and industry-specific training for existing and entry-level workers, the school helps industry in other ways. It provides assistance with recruitment and representatives for major industry-based committees and groups.

Linkages are also developed when teachers are involved in return-to-industry programs, attend industry conferences and engage in outside catering activities on a commercial basis. This ensures that teacher knowledge is kept current and links with industry are maintained.

Benefits and concerns

The advantages of these formal links with industry manifested in the training package have meant that the hospitality industry has available to it a mechanism for delivering nationally recognised training which is portable between States and other providers, and is recognised by industry.

Maintaining and initiating industry linkages also help the Hotel School to scan the local and international environments for new developments in industry. This enables the school to structure programs to respond to new developments, or to modify training to better meet enterprise needs. In addition, having all staff undertake the business of establishing keeping alive these linkages increases the marketing capability of the school and helps to attract new students to the programs.

The hospitality industry also stands to gain from the forging of close connections between Regency and employers. The industry stands to benefit from a more professional preparation for new entrants, and industry-specific training for existing and entry-level workers. Moreover, the school can provide industry with information and expertise and assist employers with recruitment processes.

When teachers are involved in return-to-industry programs, or attend industry conferences, or engage in outside catering activities on a commercial basis, this helps to ensure that their skills remain current but in addition it further expands the networks for the school.

At Regency there are very few concerns about the impact of industry involvement in the identification of competencies required for the qualifications in hospitality programs.

K. Electronics at Box Hill Institute of TAFE

Box Hill Institute of TAFE is one of the largest TAFE institutes in Victoria. It encompasses six main campuses which accommodate over 28,000 students from within Australia and overseas. The institute has also extended campus agreements with 28 secondary schools.

Box Hill Institute offers over 160 full-time and part-time courses covering a wide range of subject disciplines including courses in the building, business, creative arts, design and fashion, electronics technologies, engineering, health and community services, preparatory studies, sciences and hospitality and tourism. It provides training in traditional formats and by distance learning.

During 2000, there were approximately 800 full-time and part-time students undertaking studies in electronic technologies. Of this number, approximately 75 percent are Year 12 school-leavers while about 25% comprise mature-age students or students whose highest level of secondary schooling was Year 11.

About the program

Aims

The aim of the program in electronic technologies is to prepare technicians for the various sectors of the electronics and telecommunications industries and those industries which need the skills of such technicians. Depending on the level of qualification completed, electronics graduates can work in the sales and support division of the electronics and computer industries or in manufacturing, telecommunication and micro-processor sectors of the industry.

Structure

Box Hill Institute offers courses at Australian Qualification Framework (AQF) certificate I, AQF certificate II, AQF certificate IV and AQF diploma levels. The duration of courses at the certificate level is usually one semester of full-time studies, while courses at the diploma level for post Year 12 students are two years in duration. Those for post Year 11 of two- and a-half-years duration.

The institute provides opportunities for students to complete courses through an institutional pathway mode whereby they are granted direct credit if they proceed from one level to the next.

Selection

Although no prior knowledge in electronics is expected for entry-level training, candidates wishing to take up a qualification in the electronics technologies should have achieved at least a pass in Year 12 English, Mathematics and Information Technology. In addition, they must take a mathematics test designed and conducted by the Institute. Candidates who have performed poorly in Year 12 are allowed to enrol the program provided that they undergo further training in those areas in which they have had difficulties. For example, these candidates may enrol in Bridging Mathematics and Science courses prior to the commencement of their electronics technologies program.

Off-the-job training

Underpinning knowledge

The theory or underpinning knowledge component of the course is delivered primarily via face-to-face instruction. The underpinning knowledge that is provided at Box Hill TAFE follows the guidelines set out in the non-endorsed components of the Electro-Technology and Telecommunication training packages.

Practical knowledge

The course also comprises a practical skills training component (usually called laboratory work) which is a compulsory part of the program. In these practical sessions students must be able to demonstrate to instructors that they are able to carry out assigned tasks to the required standards. At the end of each session students are assessed on their performance.

Should students not complete tasks or experience difficulty with certain aspects of the work, they are able to complete their assigned tasks during tutorials where instructors with specific expertise can provide special remedial assistance for different courses. Tutorials are not compulsory, and are offered on Wednesdays of each week. They are more likely to be well attended by students during exam periods, rather than at the start of the semester.

On-the-job training

As well as catering for students in the institutional pathway, the institute also provides training for students who are in traineeship and apprenticeship pathways. Students in the institutional pathway will be involved in work placements with industry; apprentices and trainees will be involved in on-the-job training with their workplace supervisors.

Students who undertake their training at a work place are usually apprentices and trainees in electronics or in electro-technology courses. These individuals usually attend the TAFE institute one day a week and spend four days at the workplace.

Class sizes

To improve the feedback between teacher and students classes are made up of between 15 ard 22 students. In the past, the department has experimented with class sizes of 40 students for lectures but has found that the attention rate in students was poor and teachers were unable to provide students with immediate assistance should they experience difficulties. Students found it hard to ask questions of teachers.

Apprentices and trainees are trained with other students in mixed classes. However the programs offered via apprentices and trainees are usually semester-based. Subjects are offered via day and evening classes with a very few specialised modules being offered only once a year.

Manufacturing companies such as NEC, Motorola, Siemens and Rockwell employ electronics graduates to work as testing technicians, alliance supervisors or designers. Companies in the telecommunication sector like Optus and Telstra may employ electronics graduates to work in the installation, modification, testing and repairing of equipment. In the micro-processing sector graduates are usually involved in the construction of proto-types. In this capacity they are generally employed to build and test proto-type models designed by engineers and to write summary reports about how these proto-types have performed. In these instances, the training that these technicians have gained from the TAFE institute has provided them with initial vocational skills and knowledge. It is up to employers to provide these individuals with further education or more specific training necessary to carry out the tasks required.

Assessment

Assessments are an essential component of the program. These assessments are based on the competency standards identified in the training packages with students assessed at the end of each practical session on practical skills, and progressively throughout the year on their knowledge of theory. Students must also undertake a final knowledge-based examination on the completion of the semester or year. However, students are only allowed to sit for the final exam provided that they have completed all their laboratory work.

The institute also provides opportunities for apprentices and trainees to be assessed at the workplace. Typically these assessments are conducted in accordance with the assessment guidelines in the training guides that are provided to supervisors. A log-book which records the performance of daily tasks and activities is used to provide verification that certain competencies have been accomplished.

Workplace assessments are conducted by qualified workplace assessors, qualified lecturers or workplace supervisors. Workplace supervisors are preferred for carrying out the assessments because their currency in the knowledge and skill areas.

Recognition of prior learning

Students are informed of the availability of recognition of prior learning (RPL) processes. For example, students can receive RPL for mathematics or information technology which they may have completed in Year 12. Although RPL is available to all students, mature-age students, have been found to be less inclined to take up RPL, and many prefer to complete all subjects offered in the course.

Linkages with industry

Prior to the development and implementation of the industry training packages, industry representatives were invited to curriculum meetings where they were asked to provide an industry perspective. However the perspective that tended to be presented was that of large business for they were the ones who were more likely to be able to afford the time and cost of providing representation. In addition, it was often difficult to get adequate and relevant industry representation because the industry sector served is so diverse that there is no one framework which can meet the needs of all enterprises.

The training package developed by industry has enabled the bringing together of these different views and forms a major mechanism for ensuring that there is a linkage between industry needs and what happens in training. Industry wanted competent workers with the necessary underpinning knowledge to handle contingencies. The training package allows for the development of these workplace skills.

Box Hill has been able to respond to industry needs by providing opportunities for telecommunications companies such as Vision stream, Optus, Telstra, Cable X, Inter–sort (postal sorting) to satisfy their requirements and wishes for employees with national industry qualifications. For instance, Vision Stream is a company involved in installing fibre optic cables. Because, the large players in the telecommunications industry will only fund tender applications if applicants for projects can show that their technicians have the required national qualifications, they have set up arrangements with Box Hill Institute for their technicians to receive the appropriate training, recognition of current competency, and prior learning and qualifications. When they are tendering for work from other major telecommunications companies (for example, Optus and Telstra) this allows them to say that the technicians who will be carrying out the work have nationally recognised qualifications.

Linkages like these are also established with other companies, to meet their specific enterprise needs. Workplace assessors and qualified teachers will visit workplaces to interview workers and conduct on-site observations for assessments, and identify gaps that can be addressed by further training.

Teachers at the institute are also expected to maintain linkages with industry on an individual and collective basis. These linkages are often used for the placement of students for work experience. Often graduates of Box Hill programs who have their own companies or are in management positions are called on to share their expertise or provide work placements for students. Box Hill Institute has long-standing associations with managers of the companies – such as TOSHIBA, CISCO and Hewlett Packard. Many of these managers are former students of the Institute. Because Box Hill is one of the largest institutes in Victoria and has been teaching electronics since the 1970s a high proportion of managers in the industry are former Box Hill graduates.

As well as ensuring that teachers develop, renew and maintain networks with industry through informal contacts, the institute also provides opportunities for teachers to update their skills and knowledge through return-to-industry programs. Box Hill teachers have been involved with technical software development through the Jindalee Operational Radar Network (JORN) program. Teachers are also involved in their own part-time commercial activities. This also serves to link the institute with the industry it serves.

As well as calling on networks established with previous students, senior staff members are constantly developing linkages through 'Cold-calling', where they introduce themselves to new companies and make arrangements for collaboration either in the provision of work placements or for the sharing of expertise.

The institute also provides representation at the TAFE electronics heads of department meetings–the Senate. This senate originally provided a forum for discussing issues dealing with training delivery and curriculum. It has continued to meet even though training reforms have opened up the training market, and TAFE colleges have had to compete with each other for clients. This co-operation between electronics heads of department has been used as a 'survival mechanism'. The senate meets about six times per year to talk about curriculum-related matters, and to ensure that courses remain dynamic to keep up with technological changes in industry.

The institute has also responded to industry needs for internationally recognised CISCO networking and MICROSOFT network engineer training programs. Teachers are also going into high schools to inform high school students about the electronics technologies program. In particular, students are made aware that they could receive an internationally recognised qualification by completing the CISCO networking program or the MICROSOFT Network Engineer program.

Benefits

It is generally felt that the industry-developed training packages are beneficial to both students and employers in terms of flexibility and ability to meet the training needs of a wide range of industries.

Training packages are written in a format and language which is easy for teachers to understand. Nevertheless, depending on the level of the workplace supervisor, some supervisors may need more help reading the training package than others. For instance, someone from a trade background would require more help, while a highly trained and more educated supervisor could put themselves through a Workplace Assessment–level 4 program which would subsequently allow them to construct assessment tools from the package and conduct their own assessments.

It is generally felt that the underpinning knowledge as outlined in the Electro-technology Training Package is appropriate for most Victorian industries. The training package addresses the needs of industries because they can be tailored to industry needs. However, as the learning materials (which form the non-endorsed component of the training package) were developed in New South Wales, it is felt that certain specifications are not appropriate for students from Victoria. For example, the calculus–mathematics specification is more likely to

apply to a university engineering graduate than for an entry-level student who is being trained to become a technician in Victoria.

The underpinning knowledge outlined in the Telecommunication Training Package however is more appropriate for the Victorian situation. The identified workplace competencies are appropriate and because the underpinning knowledge is not tightly specified, it is possible to tie in the underpinning knowledge, which specifically addresses the needs of specific workplaces.

L. Electronic technologies at RMIT University (TAFE sector)

Formally known as the Royal Melbourne Institute of Technology, RMIT University was granted formal university status under the *Royal Melbourne Institute of Technology Act 1992.*

RMIT University offers degree courses as well as vocational education and training programs. During 1999, there were 54,300 full-time, part-time and external students at RMIT University. Vocational education and training students comprised 41.8% (22,700) of all RMIT University students during 1999.

During 2000, there were approximately 800 students undertaking studies in courses dealing with electronic technologies. The electronic technologies program at RMIT provides training in telecommunications, computer systems, megatronics and traditional electronics. Courses are offered in the at the AQF certificate II, AQF certificate III, AQF certificate IV, AQF diploma and AQF advanced diploma levels.

The duration of courses at certificate levels is usually one semester full-time. Courses at the diploma or advanced diploma are two years full-time.

Once students have completed an advanced diploma they can enrol in a degree course at RMIT University. The advanced diploma course is a copyright course designed by RMIT. Individuals who completed the advanced diploma course are exempt from the first two years of their RMIT university degree course.

About the program

Aims

Courses in electronic technologies at RMIT aim to prepare technicians for the telecommunications, electrical and electronics sectors. This includes preparing individuals to become electricians for the domestic and industrial market and technicians who will be concerned with the repair of electronic equipment. The institute also aims to prepare technicians for occupations which deal with:

- instrumentation control
- designing electronic equipment for calibrating production lines
- installing and repairing equipment for telecommunications companies like Telstra and Optus
- meteorology
- hydraulic controls
- radio and television control
- silicon manufacturing
- circuit board assembly and design
- chip skill design and manufacture

Structure

Courses in electronics technologies at RMIT are comprised of both on- and off-the-job training for apprentices and trainees, with workplace training and experience being delivered by workplace supervisors and underpinning knowledge and practical training being delivered by lecturers at the institute. For students in the institutional pathway the on-the-job component generally comprises blocks of time spent in work experience. Where sufficient access to these placements is not available, students develop on-the-job skills in simulated environments.

Selection criteria

To be offered a position in the electronic-technologies courses by RMIT, students must complete the Victorian Certificate of Education (VCE) which is equivalent to Year 12. In addition, they must have Year 12 Mathematics and English and have achieved a tertiary entry result (TER) score of at least 60 points.

During the first four weeks of the program, students are given a test by the institute to determine the type of program to be studied. The test score determines if a student is well suited for the diploma or advanced diploma course. In some instances where students are not eligible for the diploma or advanced diploma course, they can enrol in courses at the AQF–certificate II, AQF certificate III or AQF certificate IV level. Once students have completed these qualifications they may then progress to diploma or advanced diploma courses.

Off-the-job training

Off-the-job training for students, is delivered by institute lecturers primarily via face-to-face methods of instruction. However electronics students are also encouraged to use interactive videos, and web searches to aid them in their learning. An electronics learning centre has been set up for the small number of students who are following a flexible and self-paced program. A combination of teacher-directed learning and working independently on assignments or modules downloaded from the web comprises the training for first year students. In the second year students are required to undertake project work, prepare presentations and participate in interviews connected to the projects they have completed.

Off-the-job training comprises the underpinning knowledge and practical techniques which relate to the competencies outlined in the training package developed for the specific industry sector. Practical training occurs in workshops or laboratories.

On-the-job training

On-the-job training is an essential component of the training of apprentices and trainees. Here workplace supervisors are responsible for training and providing real work practice for the apprentice or trainee contracted to them.

Although work experience is not a compulsory part of their training, students who follow an institutional pathway (generally Year 12 school-leavers) may obtain on-the-job training through work experience in industry or through working in simulated environments or equipment in workshops at the institute.

Assessments

Assessments are developed to align with the competencies that have been laid down in the training package and students are expected to demonstrate competent performance. The institute has worked with the Assessment Research Centre to develop a system of graded criteria-based assessment to differentiate the performance of students. As a result, students are able to achieve a grade of 'high distinction', 'distinction', 'credit' or 'pass'. A pass signifies that the student has achieved the competencies under the AQF. Students who are 'not competent' will receive a 'fail' or a 'not competent' result.

Although students who are in institutional pathways will undertake assessments at the college, students who are in work may also be assessed in the workplace.

Recognition of prior learning (RPL)

Recognition of prior learning is available to all students. However, whether a student takes up RPL or not will depend on the motivation of the student and the program in which he or she is enrolled . On the whole, students who are already working in the industry and are being assessed in the workplace tend to apply for and receive RPL. Sometimes this might mean that they do not get a good understanding of the theory behind what they are doing. However, there are also those who are already working in the industry and undertaking the course at the institute with students who are in the institutional pathway. These students generally wish to complete all components of their course and do not tend to apply for RPL. School-leavers who have done a mathematics subject at school may also apply for RPL.

Linkages between industry and providers

Establishing and maintaining linkages with industry is an essential strategy for ensuring that training is relevant to industry needs and that teachers are up to date with advances in technologies and methods of working.

The training packages (Electronics, Telecommunications) provide one of the primary mechanisms for enhancing the linkages between training and the electronics industry. Developed by the ITAB this package outlines the competencies that must be achieved and the assessment guidelines that must be followed.

An industrial advisory committee is another venue for the institute to maintain its linkages with industry. This committee meets on a regular basis to discuss industry-specific training and the types of courses that can be offered on a fee-for-service basis.

Close linkages with industry are also established when RMIT provides enterprises with customised training to meet current and future needs. Identifying needs and developing materials for fee-for-service courses enables the Institute to increase its understanding of the industry it services and further improves the linkages between the institute and companies in the electronics industry.

RMIT has provided short courses for the Australian Class Industries (ACI) in the areas of network systems, cabling systems, commercial design and the manufacturing for prototypes. In addition the college has helped the company to undertake competency audits of entry-level and experienced workers and to develop a skills matrix for the plant. This matrix aligns skills to competency standards described in the training package. A curriculum has been developed based on this alignment. The college is also working with the company to develop individual training plans for each worker which include on-site assessments. There are now 24 electrical workers, 16 mechanical and glass workers who are involved in the program.

The institute also has linkages with the Gippsland Group Training scheme which employs between 60 and 70 apprentices in the electrical area and places these apprentices with local employers for the on-the-job component of their training. The college is now looking to employ someone full-time to go out and conduct on-site assessments.

At RMIT University, it is believed that partnerships with industry are crucial for providing training that meets the needs of the industry. In addition, these partnerships allow staff to keep up to date with current developments, and employers to recruit staff. Staff members are encouraged to carry out consultation work or to carry out industry-based training. This involvement is considered to be far more beneficial than return-to industry programs where teachers just observe what is going on rather than being involved in the real work of the company.

The institute is also working in combination with Telstra and Optus to provide training which leads to qualifications and is conducting practical skills courses for the Technical Training Institute for the Emirates Armed Forces.

Benefits and concerns

Benefits

As noted the formal vehicle for linking providers with industry is the training package. The training packages, which outline the competencies for the Telecommunications and Electronics programs at RMIT, have a number of benefits. They identify the competencies and the standards that must be delivered. As a result they provide direction for the development of learning materials and resources. Because the competencies are not highly prescriptive they allow the flexibility required to customise programs to suit the needs of different workplaces. The training package provides a coherent and straightforward approach to the training of existing workers especially in the area of telecommunications. The training package also develops an awareness in industry of where it can make an informed contribution.

The involvement of teaching staff in commercial activities and consultations to industry is invaluable. As well as maintaining their currency and knowledge of what is happening in the industry, this experience also helps them to provide relevant and accurate information in their practical work with students, and to provide real-life explanations of concepts when helping students to understand theoretical concepts.

Maintaining strong linkages with industry means that the institute can also assist their students with employment opportunities. It is not unusual for employers to call the institute when they are looking to recruit staff. This means that the Institute is acting as an intermediary in the employment process by providing assistance to students and opportunities to employers.

Concerns

It is generally felt that that the training package provides straightforward and meaningful direction for implementing training for entry-level and experienced workers in small enterprises and those who are working in telecommunications companies like Telstra and Optus. However, it is also considered to be more difficult to apply to students (school-leavers) who are following an institutional pathway, and those who are wishing to articulate into degree courses.

Another concern relates to the frustration sometimes felt by educators at the lack of time for reinforcing learning acquired by students in industry projects. Industry projects are considered to be an essential mechanism for students to acquire the skills of identifying a problem and providing a product which can be used to solve the problem. However where educators see these industry projects as a means of developing workplace competencies even though the end result is a product, employers are far more focussed on the outcome of the project–the product. Where educators may see the product developed as a learning tool, employers focus on the product as an end in itself.

Discussion, conclusions, and policy implications

In this section we have examined the linkages between secondary and post-secondary training providers and industry in three major sectors with respect to entry-level training in Australia. Here we present an overview of major findings and derive conclusions and policy implications from these findings.

Overview

The Australian vocational education and training system is based on a tight connection between industry and providers for the identification of the competencies and standards that

will guide the direction of training for entry-level training. This linkage with industry is demonstrated at a variety of levels. At the top level it is manifested in the composition of the board of the Australian National Training Authority with responsibility for overseeing the development and implementation and evaluation of national training policies. Industry training and advisory boards, which have had responsibility for establishing the training packages for their particular industries, have done so with input from public and private providers of vocational education and training.

At the secondary school provider level these linkages are manifested in various ways. Secondary schools providing VET-in-Schools programs themselves, or working in conjunction with registered training organisations (usually TAFE institutes) to deliver training which will lead to vocational qualifications and credit transfer to further training must link up with industries for vocational placements. Clusters of these secondary schools can work together to pool resources and to fund the salaries of a work placement co-ordinator with responsibilities for establishing these industry linkages and locating placements. Where possible these co-ordinators have established strong linkages with specific industries to provide placements on a regular basis. In other instances the co-ordinators have the regular task of locating placements, sitting down with employers to explain the training that is required, and establishing guidelines for assessment and reporting. These tasks are labour-intensive and at times there is a concern that much of the work by co-ordinators and teachers of vocational programs in school is not being acknowledged by adequate funding.

In post-compulsory institutions (TAFE institutes, private providers) the linkages are generally reflected in the development and implementation of industry training packages, the composition of course advisory groups, and partnerships between employers in the delivery of apprenticeship and traineeship training. The sharing of responsibilities for the development and training of apprentices with training providers delivering the off-the-job components of the training and employers delivering the on-the-job components of the training forms a crucial part of the linkage. In addition providers are always on the look out for forging partnerships with employers to provide training for existing workers.

Post-compulsory providers have highlighted a number of concerns about the training package for their particular areas. These concerns relate to the difficulty for school-leavers who are following an institutional pathway and lack the workplace experience required for the development of competencies outlined in the training packages. In addition there is a concern that there is duplication or overlap between the various qualifications for the travel and tourism industry.

Major benefits

There are a number of benefits that are derived from the development of industry linkages for secondary and post-secondary providers. These are detailed below.

Facilitating the recognition and portability of qualifications

The most formal of the linkages between providers and industry is manifested in the development of industry training packages. Developed by ITABS with input from both public and private providers these packages have facilitated the recognition and portability of qualifications. This means that, in theory, qualifications can be transported across State boundaries and will be recognised by all providers. However, this may not always be as simple as it seems especially if some providers have certain prerequisites for courses and others do not.

Facilitating industry input for off-the-job training

The course advisory or reference groups established by providers, helps them to maintain an industry focus in their plans for the delivery of training and assessment. In addition, they help to keep industry aware of the training available and the particular concerns that providers have with the implementation of national initiatives like training packages. This means that

industry is able to have a say about the content of training delivered off-the-job in addition to the content of training that is delivered on-the-job. This is the main vehicle for ensuring that qualifications that are being delivered are related to jobs and to industry needs.

Streamlining and centralising arrangements for work placements

This particular benefit relates generally to secondary schools that have combined with other schools to form a cluster. This cluster allows them to pool resources, share facilities and broaden the range of opportunities for students.

Typically these clusters will employ a work placement co-ordinator or manager of the cluster who is responsible for establishing networks with employers for the purpose of locating work placements and matching students to industries and enterprises. At times these co-ordinators are also responsible for establishing the program in conjunction with vocational teachers in schools. This arrangement streamlines the vocational program and ensures that employers need only to negotiate with one person representing the needs of students from a range of schools. This arrangement also decreases the pressure for finding placements and maintaining industry networks for vocational teachers in schools. Work placement co-ordinators are also able to provide a consistent evaluation of the suitability and worth of placements with certain organisations.

Developing student skills and awareness of suitable occupations and organisations

There are many benefits for students in having an effective system for locating work placements and matching students to enterprises. Most importantly it provides them with opportunities to develop work skills in a realistic work environment and develop the work habits required in the modern workplace. In addition it allows them to experience first hand what it is like to work in a particular occupation and to decide whether or not this occupation is for them. Should they decide that they are not suited to this sort of work then it is still early enough for them to change direction. Should they decide that the occupation is worthwhile and is one they want to follow then the work placement will help them to develop contacts with possible employers, and become aware of the organisations that are successful in the business.

Improving the public image for employers

By having a close involvement with providers in the provision of on-the-job training opportunities for students, employers also stand to benefit in a variety of ways. Providing opportunities to develop work-ready students means that they are able to evaluate students in terms of future recruits for the company. In addition being involved in providing expertise and facilities for the use of training also helps to improve their public image.

Improving teacher awareness of industry developments

Having teachers involved in programs which include workplace training and assessment and requires close liaison with employers and regular visits to industry, also has benefits for providers in terms of professional development for teachers. It increases teacher awareness of the things that are important to employers, and helps teachers up date their expertise in their chosen fields. Teacher visits to industry also help them to develop networks with employers and use these contacts to help them ensure better learning experiences and skill development for their students.

Return-to-industry programs, involvement in commercial activities related to their field, and networks with employers also help teachers to update their knowledge and expertise and to maintain the currency of their skills.

Concerns

Although the benefits that are derived from healthy linkages between providers and industry outweigh the difficulties, there are also a number of concerns.

Training packages provide some difficulties for students and trainees

Although training packages are felt to provide a coherent and standardised approach to the identification of competencies and standards required for qualifications they have generated a number of concerns especially at the post-compulsory level of training. There is a general belief among providers of travel and tourism, information technology and electronics in this study, that the competencies outlined in the training packages provide some limitations for training. It is their opinion that these competencies are more suitable for the training of existing workers and apprentices and trainees rather than school-leavers who are not in jobs or undertaking an apprenticeship or traineeship. This is because these school-leavers have had limited knowledge gained through work of the particular industry they have chosen.

Specialisation before foundation

In some areas like information technology there is a concern that the training package has encouraged specialisation before the student has developed a comprehensive knowledge which is fundamental to the specialisation concerned. And although it is acknowledged that the training package has been made flexible enough to accommodate the needs of industry at a particular time, it is also felt that this is not an effective way to go about skill development.

Customisation may limit transfer

There is always a difficulty in ensuring that skills that are delivered in entry-level training are the types of skills that are required by industry. (This was one of the driving forces for making the training packages less prescriptive and more flexible than the national curricula which preceded them.) However, there is some concern that the flexibility available to enterprises under the training packages may limit the development of a comprehensive set of skills or underpinning knowledge which will help build expertise that can be transferred to different workplaces.

This concern is especially evident in the case of on-the-job trainees who are meant to acquire the great majority of their off- and on-the-job training at the workplace. Because the training program that is established is based on modules which are negotiated between training providers and employers and in some cases with input from trainees, there is the risk that the trainees may learn a narrow range of skills. This means that they may not be exposed to skills or knowledge that is particularly relevant to their chosen occupations but is not practised in the workplace in which they are employed.

Policy implications and recommendations

A number of policy implications and associated recommendations are derived from findings from case studies which describe the linkages between providers and industry. These are described below.

Continuing and expanding the funds available for school–industry programs

Access to adequate funding for establishing school–industry programs and developing and maintaining networks with industry continues to be a major preoccupation for those responsible for implementing these programs. There is a need to ensure that schools have access to adequate equipment (software, space, computers etc) to allow students to practise the skills that will stand them in good stead when they go out into the workplace. This is especially the case for students undertaking training, in areas which require access to a variety of new technologies. In addition it is important to ensure that there is adequate funding to support the work of vocational placement co-ordinators and vocational teachers in schools for the amount of extra work that they need to put in to ensure that their programs remain viable.

In view of these concerns it is recommended that a review of funding allocation processes be undertaken so that funds allocated to programs will better match the responsibilities undertaken in the different programs.

Encouraging industry to support linkages in active ways

Findings from these case studies show that employers respond in positive ways to providing workplace learning opportunities for students from secondary schools. However, these opportunities are generally provided in response to requests from co-ordinators of school industry programs or teachers in schools. In this study there was one example where industry itself behaved in a pro-active manner to establish a business adviser responsible for providing information to employers on how they could participate in school–industry programs. In another case employers have taken the initiative to set up school–industry partnerships which involve their own employees mentoring students in secondary schools. These types of initiatives can only strengthen the linkages between training providers at all levels and industry and should be encouraged.

Reviewing training packages to meet the needs of students in institutional pathways

The limitations of training packages for students undertaking institutional pathways is a recurring theme in discussions with TAFE training providers in the area of travel and tourism, information technology and electronics. There is a general consensus that the competencies as they now stand better meet the needs of existing workers and apprentices and trainees than they do of students who are following an institutional pathway and have had little or no experience in the workplace.

In view of these findings it is recommended that in their review of training packages ITABS keep these concerns in mind. It is also suggested that strategies be developed to allow school-leavers in institutional pathways to develop the knowledge required before the competencies outlined in the training package are attempted.

Simplifying qualifications for travel and tourism

It is felt that there is considerable overlap in the qualifications depicted by the Tourism Training Package. In view of these findings it is suggested that in their review of training packages the ITAB revisit the qualifications available under the Tourism Training Package and streamline the number of qualifications to avoid this overlap.

Training for transfer

Training providers are continually evaluating opportunities for learning and practising occupational skills through employment and a combination of on-and off-the-job training available to apprentices and trainees under their care. They are also concerned about providing skills which can transfer between workplaces.

To this end training providers are very aware that the quality and range of skills practised in the workplace are dependent on the nature of the establishment in which the apprentice is located. It is for this reason that they want to protect the rigour of their off-the-job training programs. In commercial cookery there is a concern that the reduction of hours available under the training package only serves to restrict the type, range and currency of skills available to apprentices and trainees. Although there is nothing to stop providers from including what they believe to be essential skills into their training programs so long as they are delivering the competencies outlined in the training package, this extra activity does not receive funding. As a result some of the areas which are considered by providers to be essential to the development of an expert chef are not provided because of lack of funding.

In view of these findings it is recommended that reviews of training packages take these issues into consideration. This means identifying strategies for training apprentices and trainees in the skills they require in their current workplaces, in addition to skills that will prepare them for the future.

Concluding remarks

The findings from these studies indicate that the nurturing of linkages between training providers and industry is essential to the provision of adequate and relevant skill development. However they have also highlighted a number of concerns that need to be addressed.

4 Comparisons and lessons learned

A desktop comparison of the Australian and Korean VET systems and findings from the case studies conducted in the two countries, provide us with an insight into the operation of provider–industry linkages. However, it must be acknowledged that the socio-economic environments within which these linkages occur have a strong bearing on determining their nature and shape.

Although, it is often said that strategies that are successful in one country, can not be copied by other countries (due to cultural differences and diverse historical and socio-economic conditions), there are still lessons to be learned through international comparisons. Comparisons of the different strategies and the factors which have generated their development, can help to increase our understanding of the ways that others have dealt with similar problems. International comparisons can also help us to learn about alternative applications and provide some direction for revisions to our own systems and processes.

The findings of this study indicate similarities and differences in the way VET providers in Korea and Australia interact with industry to provide training and employment opportunities for entry-level workers.

An overview of the two VET systems

An overview of the major features of the Korean and Australian systems for vocational education and training indicates the similarities and differences in the way that the system for vocational education and training is structured and in the way that training providers interact with industry. The similarities and differences between the two systems are briefly summarized in table 4.1.

Table 4.1: Korean and Australian VET systems—a brief overview

	Korea	Australia
System of government	A unitary system of government	A federal system of government
	A constitutional republic	A constitutional monarchy
Cultural characteristics	Ethnically homogeneous	Ethnically diverse
	Mono-cultural – one language (Korean)	Multi-cultural, one mainstream language (English), many ethnic languages
Population	45.9 million	19 million

	Korea	Australia
Location of ministerial responsibility for vocational education and training	Ministry of Labour administers vocational training Ministry of Education administers vocational education	Ministerial Council for Vocational Education (MINCO) has overall responsibility for strategic policy, national objectives and priorities. Australian National Training Authority (ANTA) responsible for providing advice to MINCO, and developing, implementing and reviewing national VET policy. Department of Education, Training and Youth Affairs administers vocational education and training at federal level. Separate State departments of education, training and employment or their equivalents administer vocational education and training in the different States and Territories. Separate State and Territory training authorities responsible for development, implementation and reviewing of policy at State and Territory levels.
Funding of vocational education and training	Central government, regional or local government, financial resources of private schools	Federal and State and Territory governments, financial resources of private providers.
Training providers	A variety of public and private institutions providing vocational education and training e.g. Private sector high schools, vocational high schools, junior vocational high schools, junior colleges, polytechnics, enterprises providing training to employees e.g. Public sector high schools, vocational high schools, junior vocational high schools, junior colleges, technical colleges, vocational training centres, fisheries and maritime providers, agricultural technology providers, trade schools, trade high schools, industry-attached schools, polytechnic universities	A variety of public and private providers providing vocational education and training. Registered training organisations must satisfy requirements for registration to deliver accredited training and qualifications. e.g. Private sector private secondary schools, private business colleges, suppliers providing training in product use, unregistered and registered community providers, enterprises providing training to employees e.g. Public sector public secondary schools, registered community providers, TAFE institutes, agricultural colleges, higher education institutions, multi-sector providers and campuses, aboriginal education providers, private providers under contracts to governments One major public provider (TAFE)
System of vocational qualifications	National Technical Qualification System	Australian Qualifications Framework

	Korea	Australia
Responsibility for training and delivering qualifications	Training providers deliver training, Korean Manpower Agency (KOMA) and Korea Chamber of Commerce and Industry (KCCI) administer qualifications testing	Registered training organisations (RTOs) deliver training, conduct assessments and award qualifications. Licensing boards in each State and Territory award licences for specific trades (e.g. plumbers, gasfitters, electricians, security guards, builders).
Structure of on-and off-the-job training	Off-the-job training in Vocational High schools combined with on-the-job training through practical training in industry	Off-the-job training at RTO and on-the-job training at work for apprentices and trainees. Structured work placements in industry and off-the-job training at school or RTO for students in institutional pathways.
Nature of training	Training in accredited courses according to curriculum developed through consultation with industry	Training according to competencies defined in training packages (where they exist) which are developed by industry training advisory boards in conjunction with representatives from RTOs. Training in accredited courses where no training package exist developed in consultation with industry.
Major industry linkages	Provision of practical training for students from vocational high schools and junior colleges Consultation in identification of industry needs to inform curriculum development and theory Consultation with industry in the development and provision of customised training programs for existing workers Industry sponsorship in form of support with equipment and material	Provision of practical training for students from secondary high schools or TAFE in form of general work experience or structured work placement programs. Provision of employment and on-the-job training for apprentices or trainees. Consultation with industry in development of work experience and work placement programs. Working with industry to assist in the development of training packages. Industry sponsorship in form of support with equipment and material. Consultation with industry in the development and provision of customised training programs for existing workers.
Training market	Open training market—competition for students	Open training market—competition for clients (students and their employers).

	Korea	Australia
Structure of vocational programs	Theory and practice in up-front training Paid practical training in last year of Vocational High Schools A combination of paid practical training and college-based learning during last year of junior colleges and polytechnic colleges	Theory and practice in up-front off-the-job training, and work experience and structured work placements for students in institutional pathways. A combination of employment, on-the-job and off-the-job RTO training for those in apprenticeship or traineeship pathways. Integration of RTO supported structured training at the work- site and employment for those on fully on-the-job pathways.
Types of vocational pathways	Mainly institutional pathways leading to qualifications Knowledge and practical training in junior colleges, vocational high schools and polytechnics and practical training and work experience in industry	A combination of institutional and employment-based pathways leading to qualifications. Institutional pathways where all theory and practical training is done at TAFE or other registered training organisation and not attached to employment. Apprenticeships and Traineeships (new apprenticeships)- (Combination of employment and workplace training delivered by workplace supervisors and off-the job training delivered by RTOs. New apprenticeships – fully on the job training supported by teachers from RTO. Part-time school-based apprenticeships and traineeships (Combination of on-the-job training in work and completion of studies in school).

An industry-led approach versus a school-led approach

The reforms of the VET system in Australia have focussed on creating a training system which is industry-led. This means that industry is expected to take a leadership role in identifying training requirements and in developing co-operative relationships with schools and post-compulsory education institutions. This role has been especially important in the development of training packages.

To date almost every industry sector in Australia has its own particular training package. In addition there are also major enterprises which also have their own training packages. These packages, are developed by representatives from industry and VET providers. Once they are endorsed by the Australian National Training Authority, these training packages are implemented nationally.

Training packages provide the guidance for the outcomes of training. They identify the competency standards which provide direction for what needs to be learned and taught in a particular program to service the needs of industry. They also establish the assessment guidelines in terms of aligning units of competency with qualifications. Because training packages are directly aligned to the Australian Qualifications Framework, trainees who are trained according to these training packages are able to gain qualifications which are

recognised anywhere in Australia. It is this alignment which guarantees the market value of this kind of training.

Training packages provide a formal and visible linkage between training providers and industry. They bring together in one reference point and document, all the aspects of training and qualifications, that apply to a particular industry. As such they can be held up as a successful strategy for improving linkages between industry and training providers. However there is still work to be done in promoting training packages to employers and to teachers in schools who are involved in VET training but are not specifically dealing with training package qualifications. There is still work to be done in ensuring that the competencies that are identified are meeting the needs of all students including those on institutional pathways.

In consolidating the results from the Korean case studies, we have reported that what is required is an over arching formal system to support the current ties that Korean VET institutions have with industries. The Australian model of developing a trusting relationship between VET institutions and industries may be a first step to develop this framework.

The Korean model of provider-industry linkage can be identified as a school-led approach. Korean VET is based on the implementation of curriculum while Australian VET is focussed on the implementation of training packages. In the past, however, Australian VET was also focussed on curriculum. In Korea, the curriculum for different programs is developed by teachers and professors in schools or colleges. While these teachers and professors take heed of the needs of industry, industry people are not actively involved in developing curriculum which guides the teaching that happens in schools. Rather, industries and enterprises rely on their own in-house training programs to train their young trainees. These arrangements may be in part due to the lack of flexibility of VET institutions in Korea which are also degree or diploma-awarding institutions.

VET institutions in Korea have succeeded in earning public recognition as institutions of vocational education. However, partly because they are integrated into the Korean general educational system, they seem also to be limited in the extent to which they can pursue active co-operation with industry.

Separation versus integration

Institutions of vocational education in Korea are separate from institutions of vocational training. This separation stems from the history of each form of provision. Institutions of vocational training in Korea were established mainly for those who could not afford to go to school on a full-time basis and had to make a fast transition to work. Institutions of vocational education in Korea were established for those who wanted to obtain a degree (diploma) at the same time as they were making the transition to work. In Australia these two functions are integrated into one VET system.

The Korean separation of institutions of vocational education from institutions of vocational training has advantages and disadvantages. In one sense it can strengthen the positions of both types of institutions. In another sense it can limit opportunities for individual progression. Although graduates from vocational training institutions in Korea obtain qualifications in the form of certificates, the strong orientation toward academic education in Korea, means that these certificates are often considered less 'noble' than academic qualifications and are less highly valued.

However, the major purpose of both types of institutions in Korea are congruent; they are for those who want to make the transition to the labour market upon completion of their training. If these institutions are to meet this goal, however, they would be better served by increasing their co-operation with industries and enterprises.

The lower AQF levels for VET qualifications by comparison with academic qualifications is a feature of the Australian system. However it is possible to build on these qualifications to achieve higher AQF qualifications.

Many cultures would envy the Korean high rates of school retention to the final years of secondary schooling, and high rates of participation in higher and further education. These are certainly admirable qualities for any society priding itself for its principles of education for all. These features of the Korean education system should be protected. There is much to be gained by having a highly educated workforce and population.

However, the general motivation among Korean students to aspire to professional or scholarly occupations may have a negative impact on the ability of the country to develop a skilled workforce to enable its industry and economy to compete on the world economic stage. These are issues that need to be addressed. This does not mean, however, that students in Korea and indeed in all parts of the world, should not aspire to becoming lawyers and doctors and scholars. It may mean, however, that any society experiencing skill shortages in certain areas needs to find the root causes of why students are not attracted to certain occupations. Answers to this question may help to provide guidelines for action.

For example, students may not be attracted to certain vocational occupations because they may feel that salaries and status in these occupations are not commensurate with responsibilities. Another reason for lack of interest in certain occupations may be due to the lack of promotion prospects, and the lack of suitable career paths or opportunities to change career directions once a certain pathway has been selected. If this is the case, then industry sectors will need to determine how best they can structure career pathways to attract highly educated young people to their companies.

Cultural practices and norms built up over centuries may be hard to break down in the short-term. But, if the vocational education and training system in any country is not producing the outcomes that are required in the new economy, and the general academic education system is producing many educated people who cannot find professional or academic jobs, then these issues need to be addressed.

In addition both countries now need to address the needs of emerging industries which are highly skilled and knowledge-based. If Australia and Korea are going to compete successfully on the world stage then their education systems (vocational and general) will need to address the training needs of these emerging industries.

Vertical integration versus vertical separation

Another important difference between Korean VET institutions and Australian VET institutions is that institutions of vocational education in Australia are vertically integrated while those in Korea are vertically separated. This means that in Australia RTOs like TAFE, are able to offer diplomas, degrees, and various kinds of certificates which can be used to articulate to further qualifications. This vertical integration increases the efficiency of vocational education since a lower level qualification can be used to count towards an advanced type of qualification. The vertical integration of institutions of vocational education is made possible in Australia by the establishment of a comprehensive and nationally consistent qualifications system. This kind of qualification system requires close co-operation between VET institutions and industries, along with active involvement of government authorities.

Improving the pathways

The 2+1 system of vocational education and training in Korea comprises two years of up-front school-based training and one year of in-depth practical training in industry. As well as providing students with an extended period of practical training before they complete school,

the Korean 2+1 system provides students with a direct pathway to employment and employers with a captive recruitment pool.

However there are two major problems with the 2+1 system. Firstly, not all students take advantage of the employment opportunities provided, preferring instead to spend time in preparing for entrance into university rather than completing vocational programs. Secondly career pathways open to the graduates from the 2+1 system in large companies like Hyundai are also limited.

Apprenticeship and traineeship training in Australia are based on a contract of training where an employer promises to provide paid work and on-the-job training and experience for the apprentice or trainee, and where the apprentice or trainee promises to undertake the training that is provided in a responsible manner. Like the Korean 2+1 system this training also provides students with opportunities for employment once the contract has been fulfilled. However as in the Korean system the employer is under no obligation to offer the apprentice or trainee continued employment once the contract is over.

One major advantage of the Australian system is that choices made at one time do not close off other pathways. As already noted the Australian system is predicated on flexible and multiple linked pathways which mean that once apprentices or trainees, or students undertaking institutional pathways have their first qualification they can then use these to articulate to other courses and qualifications in institutions of higher education.

These features could also work in the Korean environment if changes were made to the Qualifications system so that qualifications at the lower levels can lead on to advanced qualifications at any point during one's career.

Strengthening the opportunities for life-long learning

The Australian system also provides opportunities for adults and school-leavers to combine vocational education and training with work to upgrade skills or to acquire qualifications. Because the system is structured in such a way to allow adults and young people to do this it is well placed to extend opportunities for life-long learning. In addition the intensive input provided by industry into the development and review of training packages means that training can be tailored to meet the changing needs of the workplace.

Developing the training arrangements which will allow people of all ages and with different educational backgrounds to access training throughout their lives needs to occur in all countries if they are going to develop the skilled and flexible workforces required in globalised economies. Involving industry in the development of these training arrangements will strengthen the relevance of vocational education and training, and increase the commitment of industry to training. Such changes will also strengthen opportunities for life-long learning to occur.

Issues related to trainee wages

Trainees in both the Korean and Australian systems complain of low wages during their practical training in Korea, or during their apprenticeship and traineeships in Australia. The solution to this problem is not straightforward. Employers are generally willing to take on trainees and apprentices because they do not have to pay full wages for workers who do not have the required skills, and in the Australian system also because they are eligible for monetary incentives. In Australia the training wage for apprentices and trainees has been established to take into account the time that is spent in training. However, where apprentices and trainees complain that they are not provided with adequate or suitable training even though they are being paid a training wage, this becomes problematic. The question of adequate wages for individuals in training has perplexed governments and employers for a long time and it is difficult here to make any definite recommendations about the adequacy of

training wages. However it is important for both systems to ensure that students and trainees are actually provided with appropriate training activities and adequate time in training if the notion of a 'training wage' or its equivalent is to be supported.

Increasing the qualifications profile

On the world stage the Korean educational system is one of the most successful systems in terms of delivering qualifications, school retention and participation in higher and further education. In contrast the Australian system has much lower levels of retention to Year 12 and individuals with qualifications.

The Australian educational system has to deal with the problem of having the great majority of students in the final years of schooling who are not university-bound, and generally not very interested in academic pursuits at this stage of their lives. In a sense this is not surprising as in Australia the tradition of elevating purely scholarly pursuits over other interests or occupations has not been widespread. Lessons from the Korean system indicate that young people are willing and able to apply themselves to becoming well-qualified and well educated if the conditions in the social and cultural environment are such that these practices are recognised and given status. Given that in many industrialised nations there will increasingly be a need for individuals to have advanced skills it is important that students be encouraged to apply themselves to the acquisition of the skills.

The challenge is to be able to develop in Australian students the application to education and training of Korean students, and to provide Korean students with flexible training pathways available to Australian students under a system like the Australian Qualifications Framework.

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Appendix 1

Table A1: Major fields and interviewees in selected VET institutions

Institution name	Major field	Major interviewee
Su-do Electronics Vocational High School	Electrics/Electronics	Kim, Jun Tae
Incheon-Information Technology Technical High School	Information and Tele-communication	Chung, Jin
Pusan-Handok	Tourism	Noh, Oh Yeong
Choong-Cheong Junior College	Electrics/Electronics	Han, Jae Seok
Incheon-Polytechnic College	Electrics/Electronics	Lee, Jin Geol
Yeon-Am Junior College	Information & Tele-communication	Kim, Enoc
Hanyang Women's Junior College	Tourism	Sin, Yoon Sook

Appendix 2

Table A2: Employers and students interviewed in selected VET institutions

Institution name	Employers interviewed		Students (trainees) interviewed	
	Name	Contact point	Name	Training period
Su-do Electronics Vocational High School	Amkor Technology	Choi, Jong Chul	Jung, Ha Young	5 months
	Sindoriko	Kum, Bu Jong	Jung, Dae Chul	9 months
			Bang, Yun Pyo	9 months
Incheon-Polytechnic College	Hankook EM	Park, Jin Hu	Kim, Seok Kwang	3 months
	Kumwha PSC	Kim, Heong Woo	Kim, Jae Hoon	1 month
Choong-Cheong Jun. College			Park, Hee Sang	1 month
	T.S.A. Co. Ltd.	Park, Young Soo		
	Hyundai Electronics	Lee, Dong Joo		
Yeon-Am Jun. College	LG Capital	Jung, Young Chul	Kim, Han Chul	3 weeks
			Kim, He Kyung	3 weeks
Incheon Information Technology Technical High School	Prochips	Yoo, Byung Jun	Ryo, So Mi	5 weeks
	Cross Electrics	Son, Young Nam	Lee, Hyun Suk	3 months
Pusan Han-dok Managerial Information Girls' High School	Lotte Hotel, Pusan	Kim, Dae Bum	Yun, Jeong Hee	3 months
	Paradise Hotel,Pusan	Kim, Young Man	Lee, Hyun So	1 months
Hanyang Women's Junior College	Sebang Travel Co.	Jin, Byung Lyeol		
	Asiana Airline	Kim, Jung Ho	Cha, Eun Joo	1 month

Table A3: Training providers interviewed in selected Australian VET institutions

Institution name	Interviewees	
	Area	Name
Box Hill Institute of TAFE	Electronics	Ian Stirling
Inner Melbourne VET cluster	Information technology	Penny Vakakis Peter Wakefield
William Angliss College of TAFE	Tourism	Anne Newton
Bayside VET cluster	Hospitality	Fiona Waugh
Royal Melbourne Institute of Technology (RMIT)	Information Technology	Lois Fitzgerald
Royal Melbourne Institute of Technology (RMIT)	Electronics	Ling Shang Ian Hood
Northern Sydney Institute of TAFE – Ryde Campus	Hospitality (Commercial cookery)	Michel Peters
NSW TAFE	Tourism	Reg Edwards
Inner-West TRAC	Hospitality	Catherine Crenaune
Eastern Suburbs Compact	Hospitality	Paula Bertoli
NASTEC	Electronics	Con Costi
NASTEC	Information Technology	June Fiorina

Appendix 3

Employer interview schedule

Introduction

Interviewer explains purpose of the study. (The National Centre for Vocational Education Research and the Korea Institute for Vocational Education and Training are conducting a joint project which examines the nature of the linkages between industry and training providers for the delivery of vocational training. I would like to spend some time with you discussing the linkages your company has with the training providers in your sector. The interview should only take about half an hour or so.)

1. How does your company go about selecting new recruits?
2. How does your company go about training these new recruits?
3. What arrangements do you have with training providers for providing training or experience to vocational students in their programs?
4. What role does your company have in developing the training program delivered by your partner training providers?
5. What are the major benefits that your company derives from this partnership or linkage with training providers?
6. What major benefits do you believe that students receive from these partnerships between industry and training providers?
7. What are the major costs for your company to be involved in these linkages.
8. How would you improve the program for entry-level training in your company?
9. Will you continue your relationship with this training provider?

Training provider interview schedule

Introduction

Interviewer explains purpose of the study. (The National Centre for Vocational Education Research and the Korea Institute for Vocational Education and Training are conducting a joint project which examines the nature of the linkages between industry and training providers for the delivery of vocational training. I would like to spend some time with you discussing the linkages your company has with the training providers in your sector. The interview should only take about half an hour or so.)

1. What are the linkages you have with industry in the development of your training programs?
2. How do you specifically prepare students to undertake work experience programs in companies ?
3. How do you go about finding these work experience placements?
4. How do you specifically prepare employers or workplace supervisors to participate in work experience programs in companies?

5. Do students have a specific set of objectives to achieve during these placements?
6. What involvement does the workplace supervisor have in identifying these objectives?
7. How are students evaluated in these placement programs?
8. Do the results of these programs contribute to the students final evaluation?
9. How do you monitor the quality of these programs?
10. How do students benefit from their placement programs
11. (job offers, offers of further training, etc)
12. What are the advantages for your school, polytechnic or institute to be involved in these school–industry linkages?
13. What are the drawbacks of these partnerships?
14. How would you improve these partnerships to improve the quality of entry-level training?

Student interview schedule

Introduction

Interviewer explains purpose of the study. (The National Centre for Vocational Education Research and the Korea Institute for Vocational Education and Training are conducting a joint project which examines the nature of the linkages between industry and training providers for the delivery of vocational training. I would like to spend some time with you discussing the linkages your company has with the training providers in your sector. The interview should only take about half an hour or so.)

1. Why did you choose this particular type of training?
2. Why did you choose this school, polytechnic or institute for your training?
3. Have you had any industry experience during your training?
4. What was your role in selecting the placement?
5. What type of pre-placement programs were you provided with?
6. What were the benefits of this industry experience?
7. Were you offered a job as a result of this experience with the company?
8. Who taught you the practical skill of the job when you were in the company?
9. Would you recommend your industry experience to others who would like to develop their skills?

The Korea Research Institute for Vocational Education and Training (KRIVET) was established in 1997 as a research institute funded by the South Korean government. KRIVET carries out a variety of projects aimed at promoting the development of policies and programs in the fields of human resource development, and vocational education and training through lifelong learning.

The National Centre for Vocational Education Research (NCVER) is Australia's primary research and development organisation in the field of vocational education and training. NCVER undertakes and manages research programs and monitors the performance of Australia's training system. NCVER also provides a range of information aimed at improving the quality of training at all levels.

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ISBN 0 87397 699 1 print edition
ISBN 0 87397 700 9 web edition