Research Paper No. 00-23

KRIVET and NCVER Joint Research Project:

Adult Retraining and Reskilling in Korea and Australia

KRIVET

Korea Research Institute for Vocational Education and Training

NCVER

National Center for Vocational Education and Training

Research Paper No. 00-23

KRIVET and NCVER Joint Research Project:

Adult Retraining and Reskilling in Korea and Australia

KRIVET : Young-Hyun Lee

Young-sun Ra

NCVER : Katrina Ball

Oanh Phan

KRIVET

Korea Research Institute for Vocational Education and Training

NCVER

National Center for Vocational Education and Training

FOREWORD

A Memorandum of Understanding (MOU) was signed between the President of KRIVET, Mu-Keun Lee and the Managing Director of NCVER, Chris Robinson on 29 April 1999 to establish arrangements that would facilitate cooperation between the two research organizations. KRIVET and NCVER commenced their programs of cooperation by jointly undertaking two research projects. One of the projects was a comparative analysis of adult retraining and reskilling in Korea and Australia.

The project was responding to demands for retraining and reskilling of existing workers arising from changes in technologies and the introduction of new work organizations. The aim of the research was to enhance adult training in Australia and Korea.

The mechanisms utilized by adults in Australia and Korea to keep their skills up to date were explored. In order to analyze mechanisms in both countries, nation-wide surveys were conducted to collect comparable data. Site-visits were made to training providers to collect information on adult training and a joint-seminar between NCVER and KRIVET was conducted to get comments on the research findings. Both countries were also able to benefit from the other's experience in adult training.

KRIVET is engaged in joint-research with several organizations including NCVER, BIBB (Germany), CEREQ (France), and INDLELA (South Africa). It is hoped that this report will contribute towards promoting joint vocational education and training research among research organizations.

In conclusion, and on behalf of KRIVET, I would like to thank NCVER for its cooperation in implementing the project and the researchers involved in the project for their dedication and commitment to the project.

Moo-Sub Kang
President, KRIVET

Executive summary

This study explores the mechanisms utilised by adults in Australia and Korea to keep their skills current or to enhance their range of skills.

The study identified areas of the vocational education and training systems in the two countries which are providing positive outcomes for adults who are retraining and upskilling, and also highlighted areas of the sector not adequately servicing the needs of this group. Synergies were identified between the Korean and Australian training systems to assist each country improve their delivery of vocational education and training to adults who wish to improve their skills.

Adult education and training

There has been increasing demand for adult training in Australia and Korea over the last decade. The shift in growth of employment in the service sector in both economies has resulted in increased demand for skilled workers and a decline in the demand for unskilled workers. The demand for skilled workers has grown because of changes which have taken place in the manner and mode of employment. Demographic changes taking place in Australia and Korea have also impacted on the training needs of older workers.

Over the coming years, it is anticipated that participation in formal education or study will continue to increase amongst Australian and Korean adults. Adults will be required to upgrade their skills and learn new skills throughout their life to keep up-to-date. The training sector will need to be more flexible in their provision of training and adapt to the changing requirements associated with the growth of non–standard employment, such as the shift to part-time, casual, outsourced or home-based work; downsizing; occupational change and the development of new occupations.

Furthermore, as the proportion of young people in the Australian workforce declines, employers will need to look towards older people as a source of labor. Employers' skill requirements, that are currently being met through training young people who are entering the labor force will, by necessity, need to be partially met through reskilling older workers.

Implications from the Australian–Korean experience

Although there are differences in the economic and enterprise structure and industry profiles of the Australian and Korean economies, both economies are currently facing changes of a similar nature, particularly in the growth of employment in the service sector and changes in the nature of work.

Therefore, the vocational education and training systems in both countries need to be responsive to economic change. Both countries need to give more attention to adult retraining and reskilling as the proportion of young people in the working age population declines.

1. Implications from the Korean experience

❖ Outcomes from training provided by employers

Although the proportion of employers providing training to employees is comparable in Australia and in Korea, the types of training provided and outcomes for employees differs between the two countries. Korean employers are much more likely to provide training that will assist an employee to gain higher-level skills that enable them to gain a promotion. On the other hand, training undertaken by Australian employees are usually relevant to the tasks performed in the current job. Australia could do well by developing a training culture which encourages employer sponsorship of training in higher-level skills.

❖ Encouragement of enterprise training – the employment insurance scheme

The Korean government introduced the Employment Insurance Scheme (EIS) in 1995. This scheme has had limited success in increasing the amount of training provided by small firms. Large firms have been the

main beneficiaries of the training programs and not all firms that contribute to the fund actually provide training for their workers.

Nevertheless, the number of workers trained in 'advanced' courses has increased since the implementation of the new training policy under the EIS. Therefore, Australia could consider a training scheme such as the EIS as a means of encouraging firms to provide higher-level training for their employees. However, the Korean experience suggests that, to be successful, the scheme should include part-time and casual workers and older workers.

❖ Lifelong learning

The results of the study indicated the value of high school completion and post-school qualifications for lifelong learning. In both Korea and Australia, people who are better educated were more likely to participate in training throughout life. Thus, the low rates of attrition from schooling before the completion of secondary school would suggest that Korean students are better prepared for operating in a lifelong learning environment than Australian students whose school attrition rates are higher.

2. Implications from the Australian experience

❖ VET through lifelong learning

Over the last two decades, Australia has developed a VET system which is very broad in its coverage. Adult education is an integral part of the Australian VET system and barriers restricting access to adults retraining and reskilling have been removed.
Today, most VET participants are adults who are training or re-training for job–related purposes. One–quarter of all VET participants in Australia are over 40 years of age. In fact, a VET student/trainee is far more likely to be an adult who is already employed and upgrading his or her job skills, than a young person who is studying in VET to gain an entry-level vocational qualification.

❖ Publicly funded training

The hallmark of the Australian system of VET over the past 30 years has been a policy by successive governments to establish and develop a comprehensive system of public TAFE colleges and institutes across the nation.

Australia's current VET system, involving a very diverse offering of VET training at different levels to such a high proportion of the total population, would simply not be possible without a strong system of public TAFE institutes and other public VET providers.

❖ Flexible delivery and the modularization of training delivery

The modularization of VET programs involves breaking up longer courses into shorter programs (such as subjects) that are capable of assessment as each element or subject is completed. This has promoted the enrolment of a more diverse range of students in VET, particularly adults who are already employed. Modules have encouraged people to take shorter bouts of training to meet a particular skill acquisition need, without requiring them to immediately enroll in a full VET course leading to a qualification.

❖ The Australian Qualification Framework

The AQF was designed to provide consistent recognition of the outcomes achieved from education and training across all sectors of senior secondary schooling and universities. The AQF system in the VET sector is designed around a set of competency standards that need to be achieved in different training programs, rather than qualifications being set according to the amount of time taken to undertake a course of study. Thus, different people will take different amounts of time to complete any given VET qualification.

Students who successfully complete the requirements of a recognised course or training package qualification with a registered training organization are entitled to a certificate or diploma under the AQF. Status or credit for subjects or units of competency completed with another training provider, or through recognition of prior learning, should be taken into account when determining entitlement to a

recognised qualification. In most instances the certificate is issued by the registered training organisation on application by the student.

The Korean government is trying to integrate workplace learning into the VET system through the amendment of the vocational qualification system. The Australian experience suggests that the reforms take place in the broader context of the VET systems in Korea.

Table of Contents

List of Tables

List of Figures

I. Introduction

1. Background to study

During the 1980s the demand for multi-skilled workers increased in response to changes in technologies and the introduction of new work organization. This organization was designed to increase productivity through the use of teams that required workers with cross-functional competencies and problem–solving capabilities.

As workforce environments and requirements change, workers need to be receptive to learning new skills and be responsive to different work environments. The restructuring that takes place within economies can lead to a mismatch of skills, with workers at the firm level displaced through downsizing or the movement of factories and plants offshore. This skills mismatch is further exacerbated at the industry level as some industry sectors are contracting over time, while others are undergoing expansion.

The process of economic restructuring highlights the disjuncture of a vocational education and training system set up primarily to deliver skills to entry-level students when, in reality a component of the existing workforce will require reskilling. Therefore it is imperative to explore a range of mechanisms that provide workers who have already completed their formal training with the opportunity to acquire new skills.

Differences in funding models and national expenditures on this form of training are not sufficient indicators of variations in the approaches taken by countries. Differences in the training needs of adult workers will largely depend on the initial skill levels of workers.

These skill levels will be commensurate with the educational profile of workers in selected industries and occupations. In addition, the size of firms in particular industries will impact on the skill levels of workers. Larger firms with well-developed internal labor markets tend to attract the better apprentices and will retain these young people after they have completed their indenture. Smaller firms, as in the case of Australia, use

group training companies and are more likely to select apprentices who are likely to complete their apprenticeship and then remain on after their initial trade training. Other factors that will influence the quality of initial training include the set of institutions that support training structures such as the links between employers and training providers, the school curriculum (technical curriculum or curriculum that concentrates on generic skills such as mathematics and science), the standard and transferability of credentials, and the links between large companies and their suppliers. Many large companies require quality certification from their suppliers which may include requirements on the delivery of training.

2. Objectives of study

This project will explore the mechanisms utilized by adults in Australia and Korea to keep their skills current or to enhance their range of skills.

The research will investigate the institutional structures available in the two countries that either promote or act to discourage adult retraining. The mechanisms that are available across all course configurations will be examined and alternative delivery strategies will be evaluated to determine what aspects of the vocational education and training systems in the two countries are appropriate to meet the needs of adults who are either upskilling or retraining. The impact of modularization of courses and the introduction of on-line and flexible delivery will be evaluated. Both the public and private training systems will be examined and the role of firms in facilitating or delivering adult training will be explored across a range of industries.

The research will identify areas of the vocational education and training systems in the two countries which are providing positive outcomes for adults retraining or upskilling, and also highlight areas of the sector not adequately servicing the needs of this group. Synergies will be identified between the Korean and Australian training systems to assist each country improve their delivery of vocational education and training to adults who wish to improve their skills.

3. Framework of study

The recent literature on industrial organization provides the analytical framework of the study. The study will examine training needs for adults, the system of vocational education and training, and training participation by adults. The training needs will be presented by examining changes in the respective labor markets as a result of the advancement of technology and demographic changes. The systems of vocational education and training will also be described by analyzing education and training systems, funding systems, and training practices. The training participation rate by adults will be presented by analyzing survey data on education and training experiences.

4. Data and methodology

Australia

The main references /research reports referred to in detail are:

- A number of commissioned research reports on the changing nature of work. These studies were commissioned by the National Research and Evaluation Committee during 1999.

- NCVER research on the training needs of older workers. The research was undertaken during 1999 and is reported in 'Creating a future: The training needs of older workers'.

- Submissions to the House of Representatives inquiry into the employment of mature workers. The final report of the inquiry identifies issues that need to be addressed to improve the employment of mature workers and identifies the training needs of particular groups. The report of the inquiry has a number of submissions from the Federal Government and is a source of current unpublished data otherwise unavailable. The report was published in June 2000.

- Research published as working papers or in economic journals on changes that have occurred in the labor market during the 1990s. Specific references include: Cully (1999), *Occupational change over the 1990s*.

Major data sources are:

- Unpublished data on unemployment, underemployment, labor force participation, duration of unemployment, wage rates by age in the Monthly Labor Force Survey conducted by the Australian Bureau of Statistics.

- The Education and Training Experience Survey conducted by the Australian Bureau of Statistics in 1989, 1993 and 1997. This survey identifies the education and training experiences of individuals by industry and occupation and provides a profile of qualifications attained by age groups.

- The Training Experience survey and the Training Practices survey conducted by the Australian Bureau of Statistics between September and December 1993 and 1996. This survey identifies training undertaken by firms by industry.

- The national provider data collection managed by NCVER. This data collection is a census of participation in and outcomes from all modules delivered by training providers in Australia who are in receipt of public funds (government funding).

- The 1997,1998 and 1999 TAFE Graduate Destination Survey managed by NCVER. These surveys have responses from about 60,000 graduates. The response rate overall from the surveys ranges from 55 per cent to 60 per cent of all TAFE graduates.

- The 1999 Module Outcomes Survey, managed by NCVER. This was a survey of people who left a vocational education and training provider after successfully completing some modules. The respondents did not complete the course.

- The 1999 Employment Satisfaction Survey managed by NCVER. This is a survey of employers of TAFE graduates.

Korea

The main references and research reports that are referred to in detail are:

- A number of survey reports on *the Economically Active Population* published by the National Statistical Office (NSO), Republic of Korea. These reports are based on data on an economically active population survey conducted by the NSO every year.

- The statistical yearbook of education published by the Ministry of Education and the Korea Educational Development Institute. The report is based on a nation-wide annual survey conducted in April, 1999. The report identifies numbers of vocational schools and students by program and grade.

- *The current status of vocational training programs* reports published by the Ministry of Labor. These reports identify vocational training practices by training providers, training programs, financial sources. The reports were published once a year.

Major data sources are:

- A Training Experience Survey of 1029 employees conducted by KRIVET in July–August 2000. The survey was conducted using a stratified sampling method. Data on each individual were gathered through interviews based on a standardized pre-tested interview questionnaire. This survey identifies the education and training experience of individuals by firm size, industrial sector, occupation, educational level, firm size, age and sex, and provides a profile of qualifications attained by age groups.

- Social Statistics Survey of people aged 15 years old and over in 34,000 households conducted by the National Statistical Office in 1996. The survey aimed to identify the status of people in the areas of culture, leisure and education. This survey identifies training experience in 1995 (12 months) undertaken by

individuals aged over 15 years old excluding students and people who were preparing for college entrance examination at the time of surveying.

- *The Economically Active Population Survey* conducted by the National Statistical Office, Republic of Korea in 1999. This survey identifies employment of individuals by industry, educational level, age, gender and occupation.

A joint-seminar

A joint seminar was delivered to present the research findings in Seoul, Korea on the 10th of November, 2000. Comments from participants of the seminar were incorporated into the implications section of the final report (A program of the seminar is presented in appendix I).

II. Skill Developments

Australia

1. The economic and labor market contexts

The Australian labour market has undergone fundamental change since the 1980s. These changes relate to the industrial structure of the economy, the modes of employment, and the age profile of the workforce.

The industrial structure of the economy

There has been a marked shift in consumer preferences away from goods and towards services over the last twenty years. This is reflected in the importance of the services sector now compared to the manufacturing sector. The service sector dominated industrial output in 1998–99. The sector contributed 76 per cent of output in 1998–99 while the manufacturing sector accounted for 15 per cent. The mining and agriculture, forestry and fishery sectors contributed 5 per cent and 4 per cent of output.

The property and business services industry sector provides the largest contribution to Australia's gross domestic product, followed by finance and insurance, construction and health and community services. The size of these industry sectors and their growth rates highlights the growing dominance of the service sector of the economy. Table 2.1 shows growth rates for the major industry sectors for the most recent year, and for the previous five years.

The dominance of the service sector's contribution to Australia's output is also reflected in its employment levels. The services sector accounted for 81 per cent of the labor force in 1999–2000. The retail, manufacturing and property and business services industries are the largest employers of people in Australia, whilst the smallest employers are the utilities and mining and communication services sectors. The share of employment by industry and the annual growth in employment between May 1999 and May 2000 is shown in table 2.2.

Table 2.1: Average annual gross value–added growth rates, by industry average 1997–98 prices (per cent)

	Average annual rate of growth (per cent)	
	Five year period 1994–95 to 1998–99	One year period 1997–98 to 1998–99
Agriculture, forestry & fishing	9.5	8.6
Mining	3.7	-2.9
Manufacturing	1.5	2.5
Electricity, gas & water supply	0.3	1.6
Construction	5.7	6.0
Wholesale trade	5.3	7.6
Retail trade	3.9	2.9
Accommodation, cafes & restaurants	3.3	7.7
Transport & storage	3.6	3.2
Communication services	8.8	9.5
Finance & insurance	6.1	5.0
Property & business services	6.0	9.0
Government administration & defense	0.6	-2.2
Education	1.0	2.3
Health & community services	2.7	1.6
Cultural & recreational services	2.1	3.5
Personal & other services	2.9	1.8
All industries	3.7	4.0

Source: Australian Bureau of Statistics Catalogue number 1350.0

Changes in the manner of employment

Technological change and other changes stemming from the globalisation of economies around the world are now having a profound impact on the nature of work, the way it is organised and the skills it requires. These changes include the growth of non-standard employment, including a shift to part-time, casual, outsourced or home-based work; downsizing; occupational change and the development of new occupations. In response to these changes, new forms of work arrangements have evolved and devolved forms of work structures are in place. Changes to the nature of work are now so rapid that people cannot expect to be working in the same area, or in the same manner, over their working life. Most new management practices, such as total

quality management, teamwork and learning orientation are associated with generic or 'soft' skills (Smith et al, forthcoming). In response to these workplace changes, the demand for training by older workers is increasing, as the skills of existing workers now need to be upgraded on an ongoing basis.

Table 2.2 Employment by industry: Employment shares and growth shifts in full–time employment and employment growth (per cent)

	Share of employment	Proportion of the workforce employed full-time		Average annual growth in employment over the five year period May 1995 to May 2000 (percent)		Average annual growth in employment over the one-year period May 1999 to May 2000 (percent)	
	May 2000	May 1995	May 2000	Full-time	Part-time	Full-time	Part-time
Agriculture, forestry and fishing	4.9	75.8	75.8	2.1	2.1	1.8	-0.2
Mining	0.8	97.4	96.2	-3.4	-3.2	-2.5	233.3
Manufacturing	13.0	90.4	88.7	0.8	1.2	8.2	26.9
Electricity, gas & water supply	0.7	96.9	93.3	-4.9	-4.2	-2.2	95.7
Construction	7.8	84.9	86.2	3.5	3.2	8.2	16.4
Wholesale trade	4.9	85.4	84.3	-3.6	-3.3	-15.2	-13.5
Retail trade	14.6	58.4	54.4	0.5	1.9	-1.4	1.3
Accommodation, cafes & restaurants	5.0	54.4	53.2	2.2	2.7	14.0	0.9
Transport and storage	4.6	87.6	85.0	1.0	1.7	1.1	-3.1
Communication services	2.0	87.7	88.3	3.5	3.3	18.9	-2.3
Finance and insurance	3.7	81.2	82.2	1.2	1.0	12.3	6.8
Property and business services	11.3	75.6	76.9	5.6	5.3	8.9	2.0
Government administration & defense	3.8	88.6	87.5	-1.5	-1.3	-2.2	-14.1
Education	6.8	68.9	65.7	0.3	1.2	-2.9	1.7
Health & community services	9.5	62.0	58.7	1.7	2.8	3.9	8.3
Cultural & recreational services	2.4	60.7	57.6	1.4	2.4	-9.2	17.8
Personal & other services	3.9	72.0	70.8	2.9	3.3	7.1	2.6
All industries	100.0	75.2	73.3	1.3	1.8	3.3	3.9

Source: Australian Bureau of Statistics catalogue number 6203.0

Although much of the growth in employment during 1999 was in full-time employment, part-time employment (3.9 per cent) continued to grow at a slightly faster rate than full-time employment (3.3 per cent). This trend has implications for the provision of training (see table 2.2).

Less than 74 percent of the labor force was employed full-time during May 2000, compared with over 75 per cent five years earlier. However, growth in part-time employment is not consistent across all industry sectors. During 2000, full-time employment rose in the communication services sector while part-time employment contracted in this sector. In the whole trade sector however, full-time employment declined by 15 per cent and part-time employment also declined by about 14 per cent.

Overview of the labour market for adults

As illustrated in figure 2.1, the pattern of labor force participation differs with age and gender, with labor force participation for some members of the labor force continuing past 70 years of age. Almost one in ten men in the 70–74-year-old age group were in the labor force in November 1998. After 40 years of age male labor force participation declines gradually with age with only three-quarters of the 55–59-year-age group still in the labor force in November 1998. About 45 per cent of the 60–64-year-age group were still participating in the labor force.

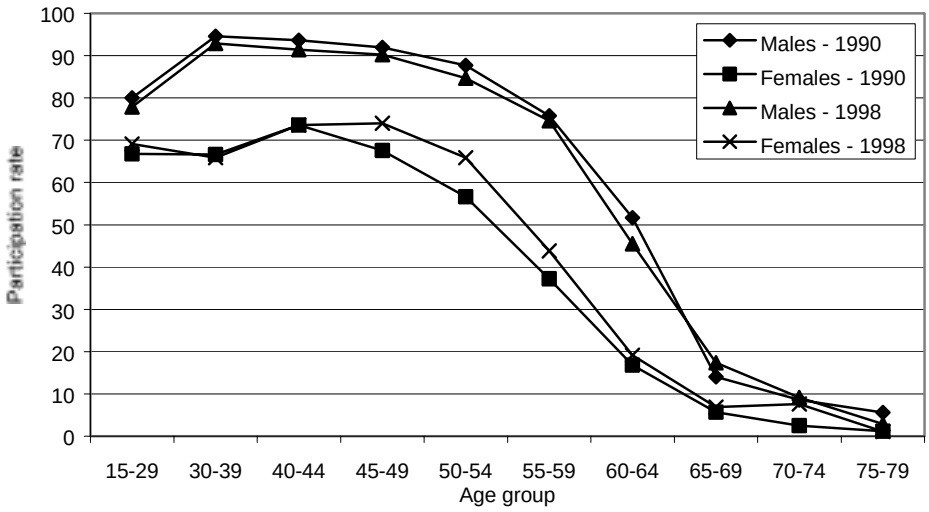
With the exception of men aged 65 to 69 years of age, there has been a marked decline in labor force participation for men in all age groups since 1990–particularly in older age groups. In 1990 over half of all males aged 60 to 64 years of age were in the labor force compared with 45 per cent in 1998. Despite the decline in labor force participation rates for men in older age groups, men over 45 years of age comprised 31 per cent of the male labor force in 1998, compared to 27 per cent as the start the decade, due to demographic changes on the Australian population.

The situation for women is quite different. In sharp contrast to men, labor market participation for women in all age groups over 45 years of age increased over the 1990s. Women's labor force participation in November 1998 reached a peak of 74 per cent at 40 to 49 years of age before declining to 44 per cent at 55 to 59 years of age. However, less than 20 per cent of women in the 60–64-year-age group were still in the labor force.

Since 1990, there has been an increase in the proportion of the labor force aged over 45 years of age, with a notable increase in the proportion of women in the labor force over 45 years of age. In 1998, 28 per cent of women in the age group 15 to 64 were aged over 45 years compared with 22 per cent at the beginning of the decade.

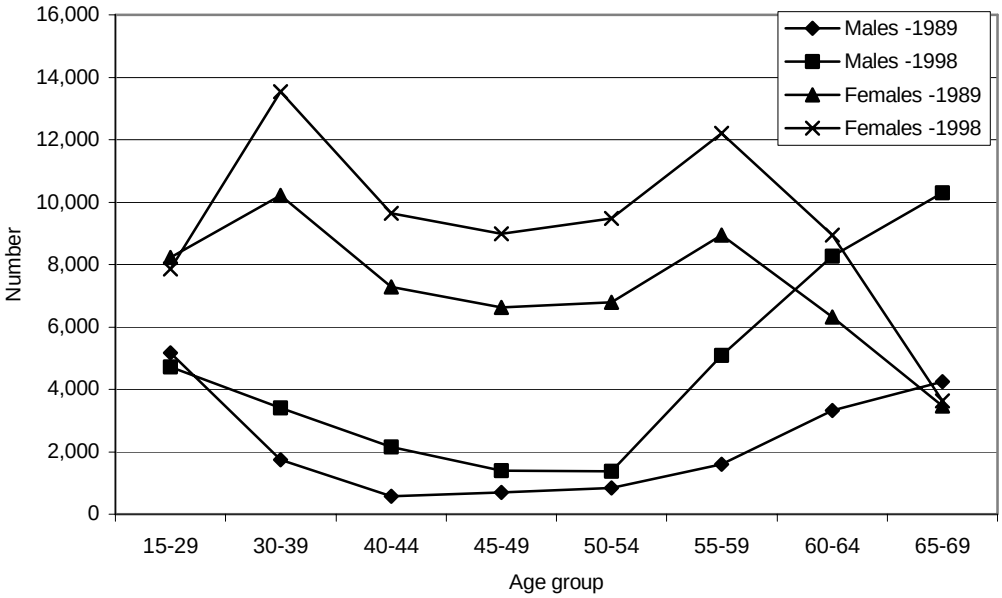
Over the decade, there was an increase in the number of both males and females who were classified by the Australian Bureau of Statistics (ABS) as discouraged workers. A discouraged worker is someone who wants a job but is not actively looking for a job. The number of discouraged workers in November 1990 and 1998 by age and gender is illustrated in figure 2.2. Between 30 and 60 years of age, women account for the majority of discouraged workers. At age 60 there are roughly equal numbers of men and women who are discouraged workers, however, after 60 years of age men form the majority of discouraged workers.

Figure 2.1: Labor force participation rates, November 1990, 1998



Source: Unpublished ABS data from the Labour Force Survey

Figure 2.2: Discouraged job seekers by age and gender



Source: Unpublished ABS data from the Labor Force Survey

Although labor force participation rates for men have declined since 1990, there has been an increase of over 100 per cent in the number of discouraged workers. Over the same period, there has been a 28 per cent increase in the number of female discouraged workers. For both men and women the number of discouraged workers has increased for all age groups except in the 15–29-year-age group. For men, the highest rate of increase (218 percent) in the number of discouraged workers was in the 40–44-year-age group. For women, the highest rate of increase (42 percent) in the number of discouraged workers was in the 60–64-year-age group.

Details of unemployment rates for labor force participants by age are provided in table 2.3 and data on the average duration of unemployment by age are given in figure 2.3. While the proportion of the labor force unemployed does not increase with age, the average duration of unemployment increases markedly with age. With the exception of women in the age group 40 to 44 years, the average duration of unemployment for both men and women in all age groups to age 60

increased during the 1990s. For unemployed men 40 years and over, the average duration of unemployment in November 1998 was 76 weeks. With the exception of men aged 45 to 49 years, with an average duration of unemployment of 82 weeks, the average duration of unemployment was over 100 weeks for each five-year age grouping over 40 years of age. Average duration of unemployment for unemployed women is considerably shorter than for men in all age groupings, with the exception of women aged 55 to 59 years of age who had an average duration of unemployment of 122 weeks.

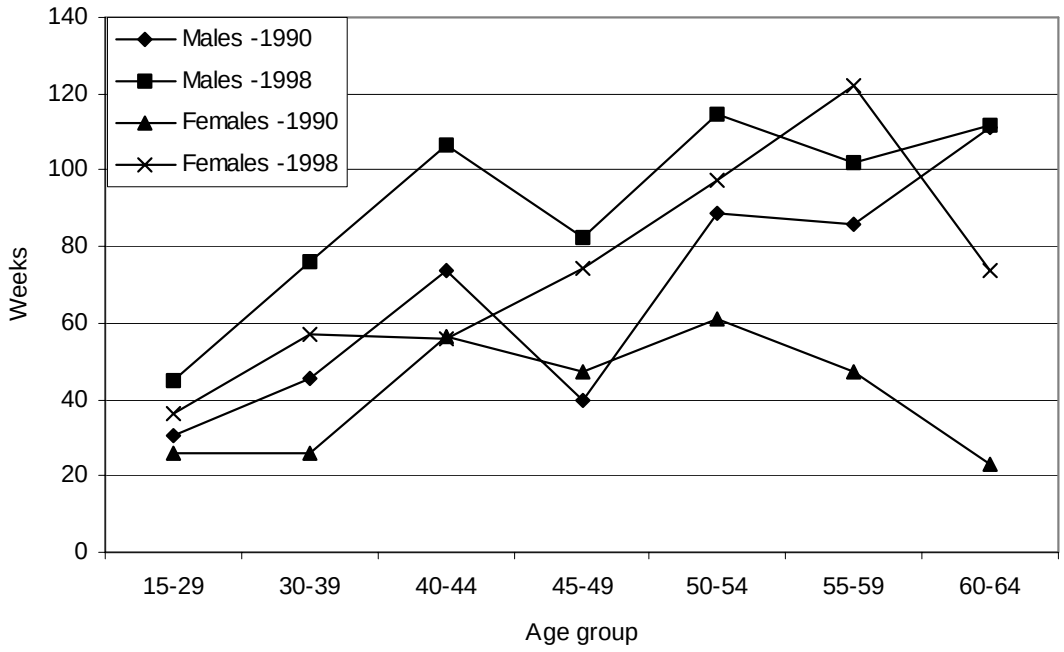
Until 65 years of age, over two-thirds of the labor force are either working full-time or are looking for full-time work. Details on the full-time status of the labor force by age and gender are shown in table 2.4. Although, there is a noticeable decline in the proportion of men working full-time after 55 years of age, most unemployed men continue to look for full-time work until they are over 65 years of age. About 90 per cent of unemployed men in the 60–64-year-age group are looking for full-time work although only 79 per cent of this age group who are in employment are working full-time. Over half of all men who continue to work past 65 years of age are working full-time until 75 years of age

Table 2.3: Unemployment rates by age and gender, November 1990-98

	1990		1998	
AGE	Males	Females	Males	Females
15–29 years	12.1	10.7	11.9	10.5
30–39 years	6.3	5.6	6.1	7.1
40–44 years	4.2	4.4	4.9	5.5
45–49 years	4.4	4.9	6.4	5.0
40–49 years	4.3	4.6	5.6	5.2
50–54 years	4.5	3.4	5.0	4.2
55–59 years	5.5	4.2	8.6	4.5
50–59 years	4.9	3.7	6.4	4.3
60–64 years	8.3	0.8	5.8	3.2
65–69 years	2.6	1.6	1.5	0.9
60–69 years	7.2	1.0	4.7	2.6
70–74 years	5.0	3.3	0.0	1.0

Source: Unpublished data from the Labor Force Survey

Figure 2.3: Average duration of unemployment



Source: Unpublished data from the Labor Force Survey

Between 50 and 60 per cent of employed women in all age groups under 60 years of age are working full-time. After 60 years of age the percentage working full-time declines to 43 per cent. However, with the exception of women over 60 years of age, over two-thirds of all unemployed women over 40 years of age are looking for full-time employment.

For those people who are working part-time the proportion of the workforce underemployed declines with age. For men working part-time in November 1998, 54 per cent aged 30 to 39 years of age considered themselves to be underemployed and would have preferred to work more hours. The proportion underemployed declined to 45 per cent for the 45–49-year-age group and by 60 to 65 years of age less than 20 per cent of men considered themselves to be underemployed. A smaller proportion of women than men in all age groups considered they were underemployed. Less than a quarter of women working part-time in the

age group 30 to 39 years, or in older age groups, wanted to work more hours. This proportion declined to less than 20 per cent in the 55–59-year-age group, and further declined to 13 per cent for the 60 to 64 year age group.

Table 2.4: Labor force status by full-time employment and age group, November 1998

Age group	Employed full-time %			Unemployed Looking for full-time work %			Labor force Full-time %		
	Males	Females	Persons	Males	Females	Persons	Males	Females	Persons
15–29	77.3	57.7	68.1	79.4	62.1	71.9	77.6	58.1	68.5
30–39	94.5	55.2	78.1	96.6	61.2	80.6	94.6	55.7	78.3
40–44	93.7	55.3	76.5	94.2	66.1	80.9	93.7	55.9	76.8
45–49	94.2	59.5	78.5	94.0	71.8	85.3	94.2	60.1	78.9
50–54	92.5	57.6	77.4	94.4	73.4	86.3	92.6	58.3	77.9
55–59	89.0	51.6	75.1	91.2	85.7	90.0	89.2	53.2	76.1
60–64	78.9	43.2	68.1	90.0	33.2	79.3	79.6	42.9	68.7
65–69	56.1	26.2	47.3	65.7	0.0	52.7	56.2	26.0	47.4
70–74	53.4	28.7	47.6	0.0	0.0	0.0	53.4	27.8	47.2
75–79	46.0	47.5	46.5	0.0	0.0	0.0	46.0	47.5	46.5
80+	31.5	24.5	29.8	0.0	0.0	0.0	31.5	24.5	29.8
Total	87.5	56.2	73.9	87.3	64.0	77.6	87.5	56.7	74.2

Source: Unpublished data from the Labor Force Survey

Since 1990, there has been an increase in the proportion of both men and women in all age groups who are working part-time who would prefer to work more hours. For men, however, the increase is more dramatic than for women. In 1998, 44 per cent of men in the 50–54-year-age group working part-time would have preferred to be working longer hours compared with only 28 per cent in 1990.

2. Current skill levels

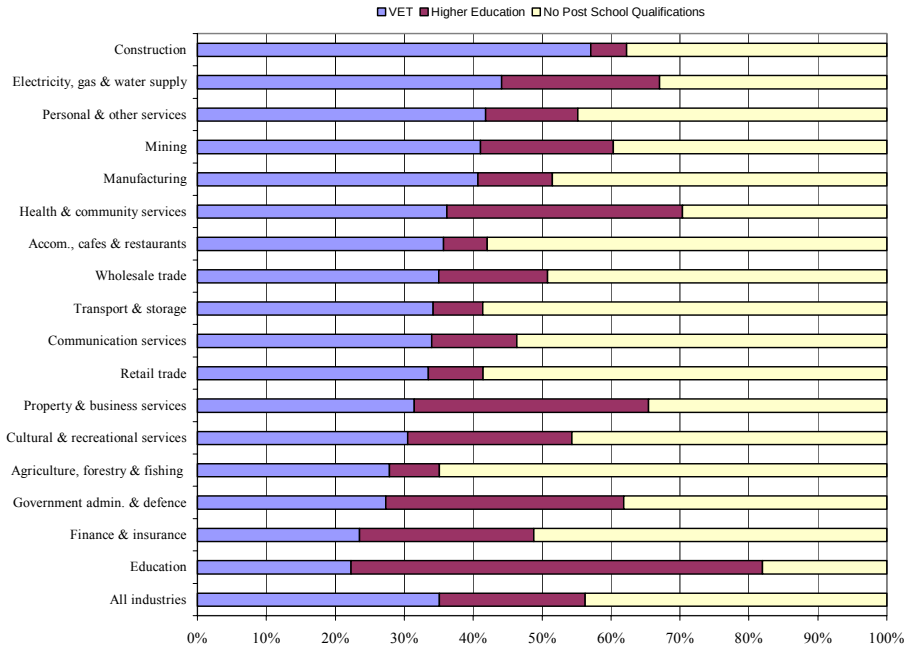
Education profile of the adult workforce

The education profile of the Australian workforce aged 25 to 64 is illustrated in figure 2.4. The proportion of the workforce in each industry sector whose highest level of qualification is a vocational qualification or a higher education qualification is shown in the figure. Over half the adult workforce in the agriculture, forestry and fishing, retail trade,

transport and storage, accommodation, cafes and restaurants, communication services and transport and storage industry sectors do not hold a post-school qualification. Almost 60 per cent of the adult construction industry workforce hold a vocational qualification. Over 40 per cent of the adult workforce in electricity, gas and water supply, personal and other services, and mining industries hold a vocational qualification.

The highest level of qualification held by Australians who have completed one or more educational qualification by age is shown in figure 2.5. Qualifications from the VET sector account for over 60 per cent of the highest level of qualifications held by people aged 35 years and over.

Figure 2.4: Highest educational attainment of the Australian labor force: percentage of the labor force aged 25 to 64 by industry, May 1999



Source: Australian Bureau of Statistics, unpublished data from the Transition from Education to Work Survey, Australia, May 1999

Table 2.5: Persons who have completed one or more educational qualifications: highest level of qualification

All persons	15–19	20–24	25–34	35–44	45–54	55–64	15–64
Post-school qualification	88.8	97.8	97.7	96.9	97.6	97.9	97.3
Higher degree	0.0	0.5	2.4	4.7	5.8	5.0	3.7
Postgraduate diploma	0.0	1.0	3.5	5.8	6.0	4.8	4.5
Bachelor degree	0.5	25.9	24.7	21.0	18.1	12.3	21.0
Undergraduate diploma	5.9	6.0	8.5	11.5	12.7	14.2	10.4
Associate diploma	2.7	11.9	8.7	6.3	6.9	5.3	7.6
Skilled vocational qualifications	11.7	19.5	23.1	22.7	23.1	30.6	23.0
Basic vocational qualifications	67.5	30.0	23.8	21.8	21.6	20.6	23.8
Level not stated or inadequately described	0.5	3.0	3.0	3.2	3.3	5.2	3.3
Other qualification	11.2	2.2	2.3	3.1	2.4	2.1	2.6
Certificate of less than one semester	5.0	1.3	1.5	2.1	1.3	1.1	1.6
Secondary school certificate	6.1	0.9	0.9	1.0	1.2	1.0	1.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Unpublished data from the ABS Education and Training Experience Survey, 1997

Changes in occupational mix and skill intensity

Employment by occupational group in May 2000 is shown in figure 2.5. The largest occupational groups in Australia are professionals, intermediate clerical, sales and service workers, and tradespersons and related workers.

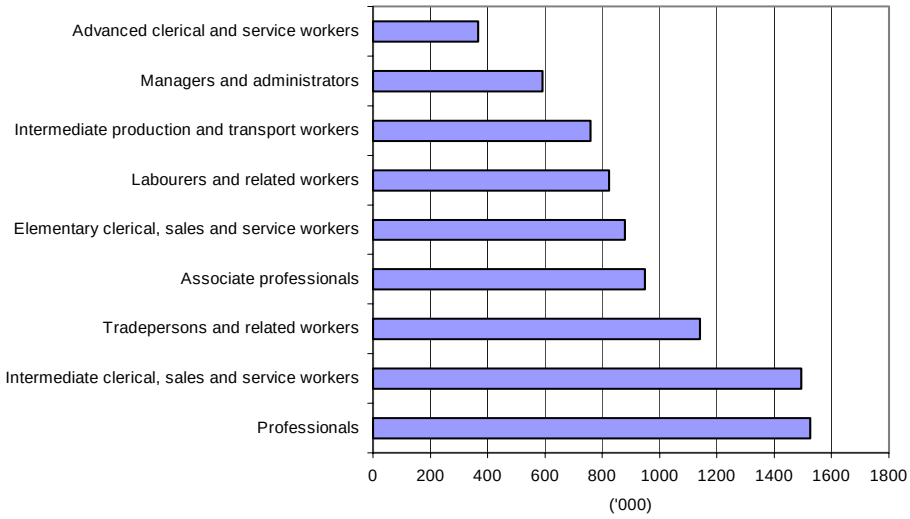
The occupational classification used by the Australian Bureau of Statistics provides a measure of the skill intensity of the Australian workforce. Occupational skills can be classified into three categories:

- high-skill occupations which comprise managers, professionals and associate professionals
- medium-skill occupations which comprise trades-persons, advanced clerical workers and intermediate clerical and service workers
- low-skill occupations which comprise intermediate production and transport workers, elementary clerical and service workers and laborers

Changes in this measure are an indicator of changes in the intensity of skills of the Australian workforce. The Department of Industry, Science

and Resources[1] estimated that the proportion of low-skilled employees in the workforce remained at about 29 per cent of the workforce throughout the period 1986 to 1999. During this time, the share of high-skilled workers increased from 33 per cent to 36 per cent while the proportion of medium-skilled workers fell from 38 per cent to 35 per cent. These changes in skill intensity are not consistent across all industry sectors, with the skill quality of the manufacturing sector, for example, increasing over the period. The occupational grouping by industry sector is shown in table 2.6

Figure 2.5: Occupational employment share, by occupational groupings Australia, May 1999



Source: Australian Bureau of Statistics, 1999, Transition from Education to Work Australia, May 1999, catalogue number 6227.0

3. The impact of demographic change

Because of demographic change, older workers in Australia account for an increasing proportion of the workforce. The Australian population profile of people aged 15 years and older in 1990 and 1998 is shown in table 2.7. In 1990, 39 per cent of people aged 15 and over were older than 45 years of age. By 1998 the percentage in this group aged over 45

[1] *Industry brief: manufacturing sector*, Department of Industry Science and Resources, March 2000

Table 2.6: Occupational grouping by industry type

Industry type	Managers & administrators	Professionals	Associate professionals	Tradepersons & related	Advanced clerical & service	Intermediate clerical/sales/service	Intermediate production/transport	Elementary clerical/sales/service	Labourers & related	Total
Agriculture, Forestry and Fishing	56.7	1.7	1.4	5.3	1.3	2.3	5.8	0.4	25.1	100.0
Mining	8.6	16.0	8.5	18.1	2.5	3.0	40.2	0.4	2.5	100.0
Manufacturing	7.3	9.3	5.2	26.8	3.3	9.8	18.3	2.8	17.3	100.0
Electricity, Gas and Water supply	7.1	22.9	12.3	26.0	2.6	12.5	6.8	3.5	6.3	100.0
Construction	7.7	1.9	6.1	50.6	5.9	5.1	9.5	0.4	12.9	100.0
Wholesale Trade	11.4	10.5	10.4	8.8	4.9	27.2	12.5	8.2	6.1	100.0
Retail Trade	1.1	2.5	14.7	14.1	2.2	9.2	7.7	41.7	6.7	100.0
Accommodation, Cafes and Restaurants	0.5	1.0	26.7	7.8	0.8	37.3	1.2	6.6	18.1	100.0
Transport and Storage	3.2	5.1	5.9	4.9	6.0	16.0	48.2	6.2	4.4	100.0
Communication Services	4.6	9.1	10.7	15.0	2.6	18.8	12.8	24.9	1.5	100.0
Finance and Insurance	5.6	12.5	25.0	0.2	13.1	41.5	0.1	1.6	0.3	100.0
Property and Business Services	4.9	35.4	13.9	3.7	10.1	13.3	2.2	5.4	11.1	100.0
Government Administration and Defense	7.3	24.5	14.4	5.5	5.1	27.7	5.7	4.4	5.5	100.0
Education	3.3	64.8	4.6	2.0	2.7	16.9	0.3	2.2	3.2	100.0
Health and Community Services	2.2	42.1	10.3	2.1	2.7	30.6	1.2	2.0	6.7	100.0
Cultural and Recreational Services	4.7	24.6	15.5	10.0	2.8	24.8	1.5	11.6	4.6	100.0
Personal and Other Services	2.4	10.7	20.3	23.9	2.6	16.6	4.1	8.6	10.9	100.0
Total	7.2	17.9	11.4	13.6	4.3	17.1	8.8	10.0	9.8	100.0

Source: ABS, Labor force, Australia, cat. 6203.0, November 1999

had increased to 43 per cent. Population projections[2] indicate that by 2010 the percentage will have risen to 49 per cent. By 2020 more than half of the population (53 per cent) over 15 years of age will be aged 45 years and over.

Table 2.7: Population profile of people 15 years and older, by gender

	1990			1998		
Age	Males	Females	Persons	Males	Females	Persons
15–19	10.8	10.2	10.5	9.2	8.5	8.9
20–24	10.5	10.0	10.2	9.5	8.9	9.2
25–29	10.9	10.5	10.7	10.1	9.8	9.9
30–34	10.6	10.4	10.5	9.6	9.4	9.5
35–39	10.0	9.8	9.9	10.2	10.0	10.1
40–44	9.7	9.2	9.5	9.5	9.4	9.5
45–49	7.6	7.1	7.4	9.0	8.7	8.8
50–54	6.4	6.0	6.2	8.1	7.6	7.8
55–59	5.6	5.3	5.5	6.1	5.7	5.9
60–64	5.6	5.5	5.6	5.0	4.9	5.0
65–69	4.8	5.2	5.0	4.6	4.6	4.6
70+	7.5	10.8	9.2	9.1	12.5	10.8
Total	100.0	100.0	100.0	100.0	100.0	100.0
Number (000's)	6,576.5	6,711.8	13,288.3	7,318.7	7,509.9	14,828.6

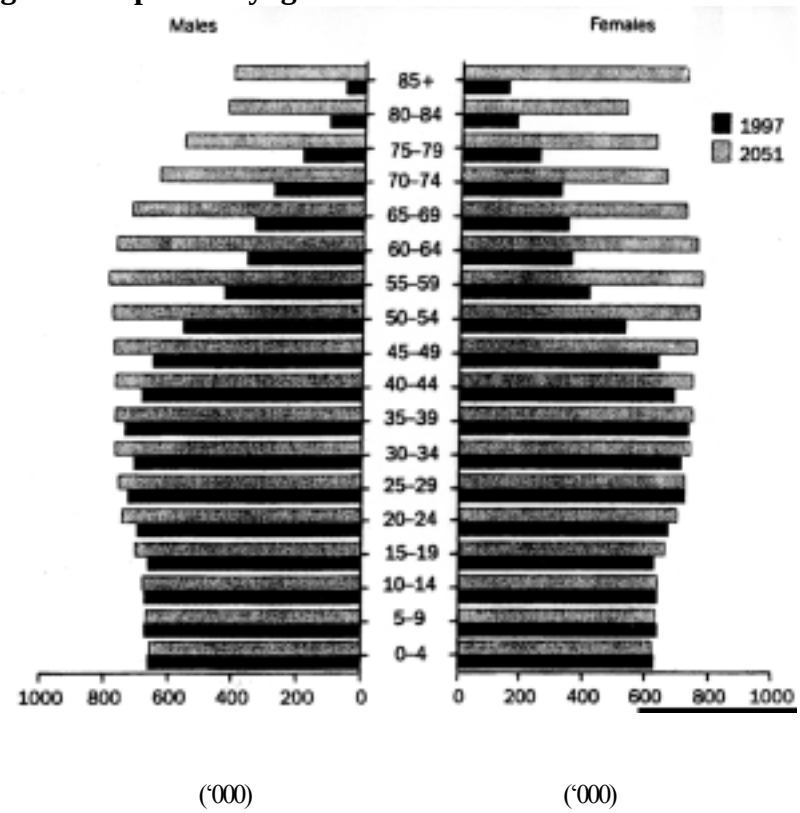
Source: Derived from ABS Population by age and sex, cat no. 3201.0

The impact of demographic change can be seen in figure 2.6 where the age profile in 1997 is contrasted with the age profile in 2051, as projected by the Australian Bureau of Statistics. By 2051, it is projected that there will be roughly equivalent numbers of people in the five-year age groups between 40 and 44 years and 60 and 64 years of age, as there are in the 30–35-year-age group, and that there will be considerably fewer numbers of people in younger age groups compared to older age groups.

[2] Derived from the demographic module of the Econtech, MM2 model

As the proportion of young people in the workforce declines, employers will increasingly need to look towards older people as a source of labour. Employers' skill requirements, currently being met through training young people who are entering the labour force will, by necessity, need to be partially met through reskilling of older workers.

Figure 2.6: Population by age



Source: Population Projections, p. 11, ABS Cat. No. 3222.0

The age profile of the Australian workforce at May 2000, is shown in table 2.8. Over two-thirds of the workforce in the education, agriculture, forestry and fishing, electricity, gas and water supply, government administration and defense, health and community services sectors are aged over 35 years of age.

Table 2.8: Age profile of the Australian workforce

Aged 15 years and over by industry sector, May 2000 (per cent)

	15–19	20–24	25–34	35–44	45–54	55 or over	Total
Agriculture, forestry and fishing	6.1	6.1	16.3	24.6	21.9	24.9	100.0
Mining	1.1	7.9	30.7	29.9	21.6	8.7	100.0
Manufacturing	4.2	10.8	25.7	26.6	22.4	10.3	100.0
Electricity, gas & water supply	3.1	4.4	22.2	31.9	30.5	7.9	100.0
Construction	5.0	13.1	24.7	27.2	19.8	10.2	100.0
Wholesale trade	3.5	9.9	25.8	26.1	21.8	12.8	100.0
Retail trade	24.4	15.0	21.5	17.6	14.3	7.1	100.0
Accommodation, cafes & restaurants	15.3	20.7	21.8	18.6	16.8	6.9	100.0
Transport and storage	2.6	7.6	25.3	28.4	23.3	12.8	100.0
Communication services	2.4	11.0	26.9	27.0	23.0	9.8	100.0
Finance and insurance	2.6	11.8	34.3	25.1	20.6	5.7	100.0
Property and business services	3.5	12.2	28.8	24.8	20.6	10.2	100.0
Government administration & defense	1.5	7.0	25.2	30.1	26.6	9.6	100.0
Education	1.7	6.3	19.8	29.2	31.6	11.3	100.0
Health & community services	2.1	7.8	21.5	29.4	27.2	12.1	100.0
Cultural & recreational services	9.0	15.2	28.4	21.2	16.7	9.4	100.0
Personal & other services	6.7	12.6	24.6	25.3	22.9	7.9	100.0
All industries	7.3	11.2	24.3	25.1	21.6	10.5	100.0

Source: Australian Bureau Statistics Labour Force, May 1999, catalogue number 6203.0

Korea

1. The economic and labor market contexts

Over the past three decades, the Korean economy developed at a remarkably fast rate and the country came to be known as one of the Asian 'four tigers'. This high-growth period was characterized by substantial increases in investment in physical and human capital.

Korea began in the early 1960s as a typical labor-surplus economy with a scarce endowment of natural resources and a small domestic market. The government established economic growth as its primary goal and began to mobilize the nation's resources toward this end. During the initial stage of export promotion in the 1960s, unskilled and semi-skilled workers were rapidly mobilized into labor-intensive manufacturing industries such as textiles, footwear and garments. Using its abundant supply of labor, Korea achieved an extremely rapid economic expansion.

During the 1970s, the Korean government began to undertake a fundamental structural change towards the development of heavy-chemical industries. The government used commercial loans through the nationalized banks to reward companies conforming to state policies. After the early 1970s these 'policy loans' incentives were provided to firms to invest in state-targeted heavy manufacturing industries. In response to such growth-minded policies, these firms expanded their economic activities, most of them following strategies based heavily on low product costs.

By the 1990s, a shift towards more technologically advanced products was underway, and high-technology and service industries were able to compete successfully with industries of more developed economies.

From 1970 to 1999, the labor force in Korea more than doubled from 10 million to 21 million. The labor force participation rate increased from 47 per cent to 60.5 per cent (table 2.9).

Over the past 30 years, Korea's economic growth has been spectacular. From 1970 to 1999, the gross domestic product (GDP) rose at an annual rate of nearly 8 per cent from a per capita income level of US$ 650 in

1970 to US$ 15 566 in 1999. This growth resulted in a 24-fold increase in per capita GDP in the last three decades.

Table 2.9: Background statistics

	1970	1980	1990	1997	1998	1999
Population (thousands)	32 241	38	42 869	45 991	46 430	46 858
GDP per capita(US$)[a]	650	2 324	7 751	15 585	14 684	15 566
Unemployment rate	4.4	5.2	2.4	2.6	6.8	6.3
Labor force (thousands)	10 062	14 431	18 539	21 604	21 390	21 369
Labor force Participation rate	47.6	59.0	60.0	62.2	60.7	60.5

a) Using current purchasing power parities, at current prices.

b) Population aged 15 and over

Sources: National Statistical Office, Population Projections for Population estimates; *Annual report on the Economically active population survey, various issues.*

The industrial structure of the economy

The share in GDP by industrial origin shows a significant decrease in agriculture, forestry and fisheries. The agricultural sector accounted for 4.9 percent in 1998, having decreased from 29.7 percent in 1970. The share of manufacturing rose to 30.7 percent from 18.1 percent during the period of 1970-1998. The share of the service sector (including finance, insurance, real estate and business service) has risen from 50.6 percent to 64.0 percent during the same period (table 2.10).

Table 2.10: Share of GDP by industrial origin, 1970–98.

	1970	1980	1990	1995	1998
Total	100.0	100.0	100.0	100.0	100.0
Agriculture & fisheries	29.7	14.7	8.5	6.2	4.9
Mining & manufacturing.	19.7	29.7	29.6	29.9	31.1
(manufacturing)	18.1	28.2	28.8	29.4	30.7
Service and others	50.6	55.6	61.9	63.9	64.0

Source: National Statistical Office, *Economic statistics yearbook*, 1971,1981, 1991, 1996, 1999.

Changes in the manner of employment

The rapid advancement of new technologies and the globalization of trade and labor markets are having a significant impact on the nature of work, the way it is organized and the skills it requires. These changes comprise the growth of the service sector, including a shift to casual or part-time work; occupational change and the emergence of new occupations. During the rapid industrialization in the last three decades, the proportion of high-skilled workers increased, while the proportion of unskilled workers declined.

The service sector now absorbs the largest proportion of the labor force. In 1998 about 68 per cent of the labor force was employed in services. The share of agriculture, forestry and fisheries continued to decrease from 50.5 per cent in 1970 to 12.2 per cent in 1998. The manufacturing sector contributed 19.5 per cent of the total employment in the country.

Table 2. 11: Labor force by industry

(000 persons, per cent)

	1970	1980	1990	1995	1998
Employed persons	10,062	14,431	18,539	20,797	14,684
	100.0	100.0	100.0	100.0	100.0
Agriculture, forestry & fishing	50.5	34.0	17.9	12.5	12.2
Mining & manufacturing	14.3	22.5	27.6	23.5	19.6
(manufacturing)	13.2	21.6	27.2	23.4	19.5
Service and others	35.2	43.5	54.5	64.0	68.2

Source: National Statistical Office, *Economic statistics yearbook*, 1971, 1981, 1991, 1996, 1999.

A majority of Koreans are employed in small and medium-sized firms. In 1998, about 43.7 per cent of the total labor force was employed in small sized firms with 5–49 employees. About 31.4 per cent was employed in small and medium-sized firms with 50–299 employees. And 24.8 per cent was employed in large firms with more than 300 workers.[3]

[3] National Statistics Office, Republic of Korea (1999), Report on the Census on Basic Characteristics of Establishments.

A large proportion of Koreans are employed in 'non-regular' jobs of short duration. In 1999, more than half of all employees had either a temporary or a daily contract, and the proportion of employees with a 'regular' contract was therefore less than half. The proportion of employees in 'non-regular' jobs has continued to grow in the last two decades (table 2.12).

A detailed analysis of employment by status suggests a degree of labor market duality by gender, age and education level, with younger and higher-educated men performing most regular jobs. The incidence of non-regular work is high among women, older workers and the lower-educated. Among OECD countries in 1998, Korea had the lowest number of workers holding a permanent job, followed by Turkey. In 1999, 30 per cent of Korean workers had a regular job, less than half the figure of those in regular employment in most other OECD countries.

Table 2.12: Distribution of the employed by worker status

Unit: %

	Total employed persons	Unpaid workers		Wage & salary workers		
		Self-employed	Non-paid family workers	Regular employees	Temporary employees	Daily workers
1980	100.0	33.9	18.8	30.4	7.4	9.5
1985	100.0	31.2	14.3	34.0	10.9	9.3
1990	100.0	28.0	11.4	32.8	17.5	10.2
1991	100.0	28.0	10.9	33.7	17.5	9.8
1992	100.0	28.5	10.5	34.8	16.9	9.3
1993	100.0	28.2	10.8	35.8	16.2	8.9
1994	100.0	27.8	10.2	35.8	17.2	8.9
1995	100.0	27.9	9.6	36.4	17.4	8.9
1996	100.0	27,9	9.3	35.6	18.5	8.7
1997	100.0	28,3	9.0	33.9	19.8	9.0
1998	100.0	28.9	10.1	32.3	20.0	8.7
1999	100.0	28.8	9.5	29.8	20.6	11.3

Source: National Statistical Office 2000, *Annual report on the economically active population survey*, various years

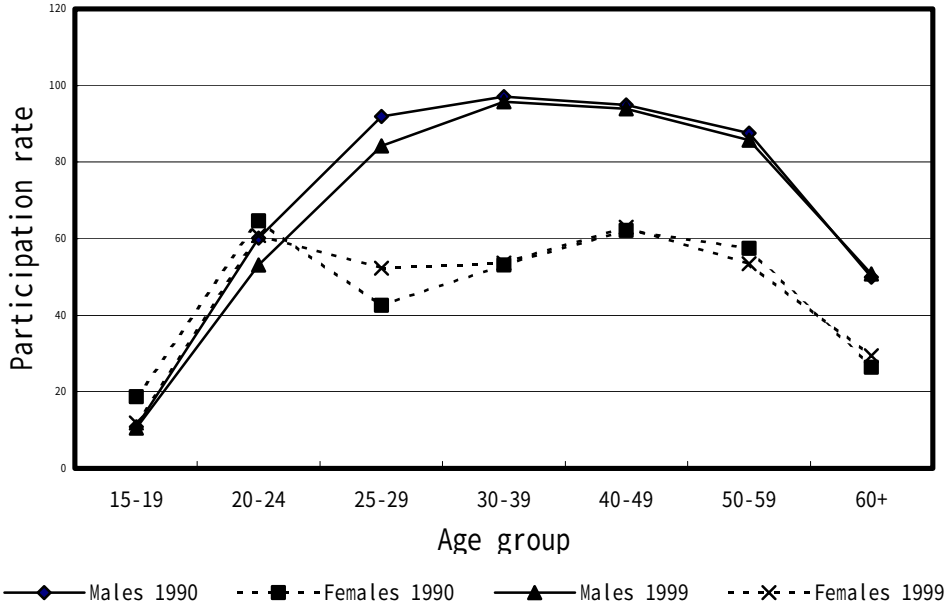
Overview of the labor market for adults

The pattern of labor force participation differs with age and gender. After 30 years of age male labor force participation declines gradually with age, with only half of the 60–64-age-group still in the labor force in 1999.

With the exception of men aged 60 to 64 years of age, there has been a decline in labor force participation for men in all age groups since 1990.

The situation for women is different. In sharp contrast to men, labor market participation for women in the 25–49-age-groups, and 60–64-age-group increased during the 1990s. Women's labor force participation in 1999 reached a peak of 63.0 per cent in the 40–49-age-group, followed by 60.8 per cent in the 20–24-age-group. The women's labor force participation rate is 'M' -shaped.

Figure 2.7: Labor force participation rates



Since 1990, there has been an increase in the proportion of the labor force aged over 40.

Table 2.13: Employment trend, by age

Unit : %

	1990			1999		
	Total	Male	Female	Total	Male	Female
Total	100.0	100.0	100.0	100.0	100.0	100.0
15–19	3.2	2.1	4.8	1.8	1.4	2.2
20–24	10.4	6.4	16.2	7.3	4.3	11.6
25–29	14.0	16.1	11.2	12.4	12.8	11.9
30–39	27.9	30.7	23.8	28.9	31.7	24.8
40–49	21.6	22.3	20.7	25.0	25.5	24.4
50–59	15.7	15.9	15.4	14.7	15.1	14.1
60+	7.2	6.5	7.9	9.9	9.2	11.0

Source: National Statistical Office 2000 *Annual report on the economically active population survey*.

Table 2.14: Age profile of the Korean workforce

Aged 15 to over 55 by industry sector, 1998 (per cent)

Industry sector	Age in years					
	15–19	20–24	25–34	35–44	45–54	55 +
Agriculture & Fishing	0.3	1.2	5.5	15.7	20.5	56.8
Mining	-	5.0	10.0	40.0	35.0	10.0
Manufacturing	1.7	7.7	32.0	35.2	16.0	7.4
Electricity, gas & water supply	-	6.6		34.4	21.3	8.2
Construction	0.8	5.7	30.3	33.6	19.8	9.8
Wholesale & retail trade	2.4	0.9	31.9	33.9	18.7	12.2
Restaurants & hotels	4.7	8.7	24.3	24.9	26.2	11.2
Transport & storage. Communication	0.6	4.8	25.8	35.2	23.4	10.2
Finance & insurance	1.4	10.1	31.2	21.4	14.7	20.9
Real estate & business services	1.3	10.5	31.2	21.4	14.7	20.9
Other community services	1.7	10.5	29.5	28.0	17.4	12.9
All industries	1.8	7.4	26.5	30.0	18.0	16.3

Source: National Statistical Office 1999, *Economically active population*.

Unemployment

With its high economic performance, Korea has succeeded in absorbing the massive new labor force which entered the market. Korea has experienced very low unemployment rates in spite of its rapid economic growth.

Table 2.15: Unemployment rates by age and gender

Unit: %

	1990		1997	
	Males	Females	Male	Female
Total	2.9	1.8	2.8	2.3
15–19	10.2	8.7	11.6	8.7
20–24	9.2	4.5	8.9	6.2
25–29	4.9	1.9	4.9	2.8
30–34	2.2	1.0	2.3	1.6
35–39	1.7	0.8	1.8	1.6
40–44	1.8	0.6	1.8	1.6
45–49	1.4	0.4	1.5	1.0
50–54	1.7	0.3	1.6	0.9
55–59	1.4	0.2	1.6	0.3
60-64	0.6(60+)	0.2(60+)	1.3	0.7
65+			0.8	0.2

Source: Ministry of Labor 1991, 1998, *Yearbook of labor statistics.*

The financial crisis which started at the end of 1997 brought the growth process to a sudden, unexpected halt. The crisis forced the government to agree to a rescue package with the International Monetary Fund (IMF). The unemployment rate rocketed from 2.5 per cent to a peak of 8.5 per cent in early 1999, and more than one million Koreans were thrown into poverty. The difficult economic and social situation forced the authorities to implement quickly a wide range of macroeconomic and structural reforms, notably in the areas of labor market policies and social safety nets. In response to these reforms, the economy has now turned the corner, permitting the unemployment rate to fall rapidly to about 5 percent, while short-term prospects point to a continuation of the economic recovery.

Although unemployment rates in 1999 are falling, it is unlikely that they will return to the 2 per cent rate recorded in the mid-nineties. Although

unemployment rates in the order of 4 to 5 per cent, such as those recorded in early 2000, are low by OECD standards, singling out the groups more at risk of unemployment, and especially of long-term unemployment, is important for the purpose of economic policy.

2. Current skill levels

Education profile of the adult workforce

The previous section highlight some key aspects concerning the demand side for labor in Korea and its implication for skill formation. Skill formation policies also need to be shaped by reference to the 'supply side'.

The quality of labor supply is indicated by examining the level of skills held by those in the labor force. The levels of education attainment of the labor force are shown in table 2.16.

Skill formation, as indicated by levels of education and attainment, has improved in Korea over the past three decades. The proportion of the labor force which had completed college education rose from 6.7 per cent to 23.7 per cent between 1980 and 1999. The senior secondary schooling completion rate for the same period almost doubled, rising from 21.8 per cent to 43.0 per cent.

This high educational level of the labor force supports the claim that a trained workforce, together with a more professional workforce, contributes to improving productivity and enhances the industrial structure in Korea.

Table 2.16: Labor force by educational attainment

Unit: %

	1980	1985	1990	1995	1999
Primary school graduates & under	51.3	37.7	29.1	21.4	18.5
Middle school graduates	20.2	21.1	19.5	16.3	14.3
High School Graduates	21.8	30.9	37.7	43.2	43.0
College, university graduates & over	6.7	10.3	13.7	19.1	23.7

Source: National Statistical Office, *Population & housing census*

Changes in occupational mix and skill intensity

The structural changes in the Korean economy have been accompanied by changes in the profile of the workforce. The percentage of professionals and associate professionals has risen while skilled and unskilled production workers has been in decline during 1993–1999. Sales and service workers and agricultural skilled workers have also been in decline during the same period (table 2.17).

.

It is projected that this trend will continue over the next decades; the percentage of professionals and associate professionals will continue to rise while agricultural skilled workers and unskilled production workers will continue to decline (Jang et al. 1998).

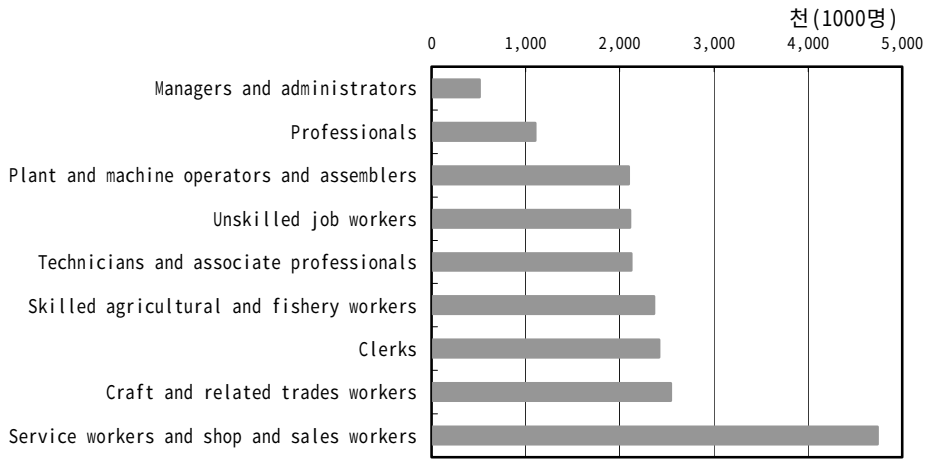
Table 2.17: Changes in occupation, 1993–99

Unit: persons, per cent

	1993	1994	1995	1996	1997	1998	1999
Total (persons)	19 328	19 905	20 432	20 817	21 106	19 994	20 281
	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Mangers & administrators	2.7	2.7	2.6	2.6	2.5	2.6	2.4
Professionals	4.6	4.1	4.8	4.9	4.7	5.5	5.2
Associate professionals	7.7	8.6	9.0	9.5	10.3	10.6	11.5
Clerical workers	12.5	12.2	12.3	12.3	12.2	12.1	10.9
Sales and service workers	20.9	21.6	21.9	22.5	23.0	23.7	23.8
Agriculture skilled workers	13.2	13.0	11.7	11.1	10.8	11.8	10.9
Skilled production worker	14.6	13.7	15.8	15.5	15.0	12.7	12.8
Machine operators	12.8	12.9	10.7	10.5	10.3	10.5	10.4
Laborers and related workers	11.0	11.2	11.2	11.1	11.2	10.5	12.1

Source: National Statistical Office 1999, *Economically active population CD*.

Figure 2.8: Occupational employment share, by occupational grouping, 1999



3. The impact of demographic change

The other factor which is important in gauging the nation's skill development needs is the likely change in the demographic structure of the population and the possible impact such change will have on skill development.

The workforce of Korea is ageing. In 1990, 54 per cent of the population was aged 25 and over. By 1998 the percentage in this group had increased to 61.8 per cent (table 2.18). Population projections indicate that by 2010 the percentage will have risen to 67 per cent. By 2020 more than 69 per cent of the population are likely to be over 25 years of age.[4]

[4] The National Statistical Office (1996). *Estimation of Future Population*.

Table 2.18: Population profile of people, by gender

Unit: %

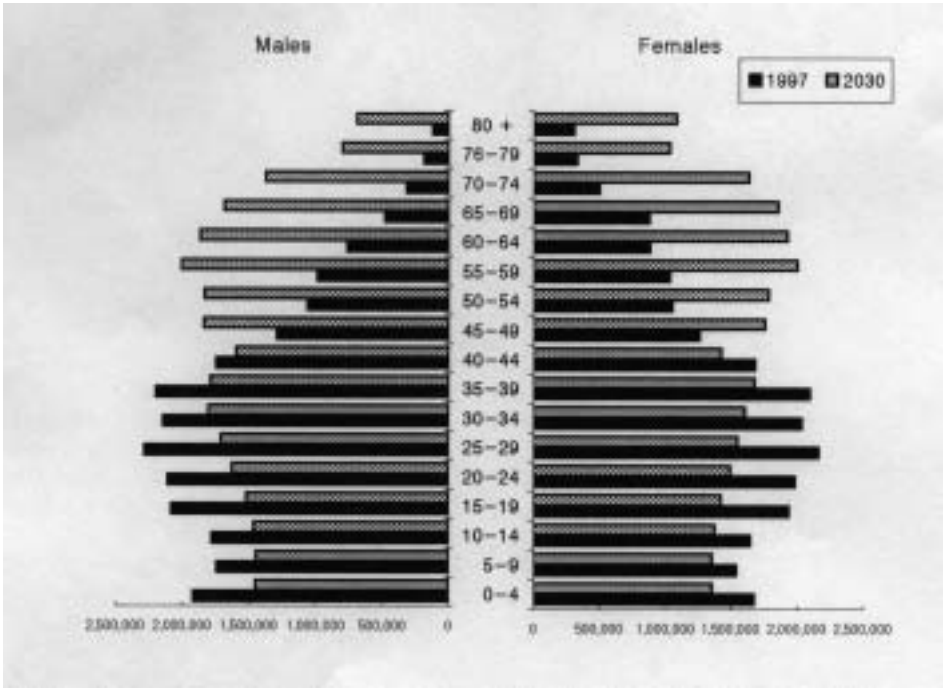
	1990			1998		
Age	Males	Females	Persons	Males	Females	Persons
0–4	7.9	7.2	7.6	8.2	7.3	7.7
5–9	9.2	8.5	8.9	7.7	6.8	7.3
10–14	9.4	9.0	9.2	7.2	6.8	7.0
15–19	10.4	10.1	10.2	8.8	8.4	8.7
20–24	10.6	9.7	10.1	8.7	8.3	8.5
25–29	9.9	10.0	10.0	9.8	9.5	9.6
30–34	9.8	9.6	9.7	9.1	8.8	9.0
35–39	7.6	7.2	7.4	9.5	9.2	9.3
40–44	6.0	5.7	5.8	8.0	7.8	7.9
45–49	5.1	5.0	5.0	5.7	5.6	5.6
50–54	4.6	4.7	4.6	4.7	4.7	4.7
55–59	3.5	4.0	3.7	4.3	4.5	4.4
60–64	2.3	3.1	2.7	3.4	4.0	3.7
65–69	1.7	2.4	2.1	2.2	3.1	2.6
70–74	1.1	1.7	1.4	1.4	2.3	1.8
75–79	0.6	1.1	0.9	0.8	1.5	1.2
80+	0.3	1.0	0.7	0.5	1.4	1.0
Total	100.0	100.0	100.0	100.0	100.0	100.0
Number (000's)	**21 770.9**	**21 619.5**	**43 390.4**	**23 396.4**	**23 033.4**	**46 429.8**

Source: National Statistics Office (2000). *Korea statistical yearbook*, Population by single year of age and sex 1992, 1999.

The impact of demographic change can be seen in figure 2.9 where the age profile in 1997 is contrasted with the age profile in 2030, as projected by the National Statistics Office, Republic of Korea. By 2030, it is projected that 72.5 per cent of the population will be over 25 years old, and that there will be about the same numbers of people in younger age groups (below 45 years old) as in older age groups (older than 45 years old).

The change in the demographic structure of the population will have tremendous ramifications for Korea's skill formation policies if Korea is to meet its changing skill requirements. There will need to be a shift from vocational secondary education, entry-level training and further education for young people towards a greater proportion of retraining and reskilling occurring amongst adults.

Figure 2.9: Population by age



III. Vocational Education and Training

Australia

1. Education system

The Australian education system is based on the broad principles of universal compulsory education from ages 5 to 14 years of age; largely free primary and secondary education, equality of access and opportunity for all groups in the community and the need to impart basic skills and competencies in the areas of social development, literacy, numeracy and technological awareness.

In summary, the education and training system comprises:

- pre-school, usually for children aged four
- reception or kindergarten (one year at age five)
- primary school (Years 1 to 6 – or 7)
- lower secondary school (years 7 or 8 to year 10)
- upper secondary school (years 11 and 12)
- vocational education and training (Years 10 or 11 or 12) – includes apprenticeships and traineeships - no fixed duration
- higher education (after completion of Year 12) - three to five years for a degree or honors degree
- post-graduate higher education (no fixed duration)
- adult and community education.

2. The vocational secondary education system[5]

Australia does not have a widespread system of specialist vocational secondary schools or technical high schools. Several decades ago some parts of Australia did have such a system. However, today specific

[5] The information on the vocational education and training system is based on Robinson(2000) and Appendix 3 in Alto, Isaacs, and Polestico (2000)

vocational programs within general secondary schools are becoming increasingly popular, and a few specialist vocational high schools are beginning to re-emerge. Expanding vocational education and training in schools has been a major government initiative with the number of students undertaking some form of school-based Vocational education and training (VET) expanding from 26 000 in 1995 to 130 000 in 1999 and expected to exceed 190 000 in 2000 (Ball and Lamb, forthcoming).

3. The formal post-compulsory vocational education system

The Australian VET system has evolved since the early 1800s with the 'transportation' of the craft–based apprenticeship system from England. The modern vocational education and training system was developed in the 1970s with the establishment of a national system of publicly funded technical and further education (TAFE) institutes, the introduction of significant national government financial support for TAFE and the introduction of national government subsidies for apprenticeships. In the mid 1980s, the traineeship system was established to complement apprenticeships. In the late 1980s the decision was made to implement competency-based training. In 1995 the Australian Qualifications Framework (AQF) was established to bring all post–compulsory education and training qualifications into the one national system of qualifications.

Recent changes include the development of national training packages introduced across a wide range of industries and occupations, the New Apprenticeship system encompassing the former apprentice and traineeship systems, including the commencement of user choice of public or private provider and the establishment of the Australian Recognition Framework.

The pathways for gaining vocational skills

There are various ways in which people in Australia gain the skills needed to enter the workforce for the first time, to re-enter the workforce, to retrain for a new job or to upgrade skills for an existing job.

These pathways include:

- gaining job-related skills through general secondary education or through a specific VET program run in schools
- gaining work skills by undertaking a VET module offered by a TAFE institute or another registered VET provider
- gaining more intensive work skills through participation in a full VET course offered by a TAFE institute or other registered VET provider leading to a certificate or diploma qualification
- undertaking an apprenticeship or traineeship with a registered VET provider that usually combines formal training with on-the-job training
- gaining professional skills through a graduate or post-graduate award program at a university
- job–related skills gaining through training provided to employees by employers which may be:
  - formal and lead to a nationally accredited certificate or diploma
  - structured but not articulated to a formally recognized qualification
  - unstructured training provided on–the–job with no predetermined training plan or organized content

A myriad of other training or adult education programs exist in Australia that are job-related to varying degrees. They are provided on a fee-for-service basis by various private (registered or unregistered) training organizations and adult and community education organizations.

However, not all of the above education and training pathways are considered to be part of the vocational education and training sector in Australia. The VET sector normally refers to a recognized VET program undertaken through a registered training provider. Most VET programs are undertaken in a TAFE institute, although private training organizations and adult community education providers are becoming increasingly important providers of VET. Some enterprises, schools and universities are registered VET providers, although most schools and universities are not registered providers of formal VET programs.

Most university programs, general secondary education and instructional training provided by employers and most programs provided on a fee for service basis by private and community training organizations are therefore not considered part of the formal VET sector in Australia.

Nevertheless, these other skill formation pathways are also important in the total development of work-related skills in Australia.

4. The funding of VET

Australia has a complex VET system. The national system is a joint responsibility of the national (Federal) government and the eight State and Territory governments.

VET in Australia is funded from government and private sources (companies purchasing training for their employees). Individuals also make a contribution through the payment of fees. Government funding of VET in Australia totaled $A4 billion per year in 1997 and 1998. Around 30 per cent was provided by the national government, and the remainder by State and Territory governments. At the provider level specific allocations are made by government training authorities to TAFE institutes, other public training providers or to a host of community and private training providers to enable them to provide VET training to industry and individual training clients. The level of public funding of VET in Australia of $A4 billion represented almost 0.8 per cent of total GDP in 1997.

The apprenticeship and traineeship system

A very significant feature of Australia's VET system is the apprenticeship and traineeship system. The apprenticeship system has been in place in one form or another since 1805 in Australia, having developed from the British system of indentured apprentices that has operated for hundreds of years.

Traditionally, apprenticeships in Australia involved people under 20 years of age, four years in a training contract, typically with one day per week off-the-job training in a TAFE college or other VET provider and four days per week on-the-job training. Apprenticeships were restricted to certain trade-based occupations, largely in the manufacturing, building and construction, printing and hairdressing areas. Apprentices are paid lower wages than are fully qualified and skilled tradespersons in the same field.

In 1985 Australia introduced a new form of structured training for young people called traineeships. The intention was to expand structured training for young people to a range of new industry areas not covered

by traditional apprenticeships such as agriculture, horticulture, manufacturing utilities and transport and storage. More recently areas such as sales in retailing and tourism and hospitality have become more important.

Like apprenticeships, traineeships involve one day, or sometimes two days, per week off-the-job training. Trainees are paid lower wages than fully trained adult workers already trained and working in the same areas.

Another important development has been the removal of any age barriers to participation in apprenticeships and traineeships over the last decade or so. In 1999, only 30 per cent of apprentices/trainees were under 20 years of age and around a third were over 25 years of age.

The other important issue with the development of Australia's apprenticeship and traineeship system is the shift that has occurred in the type of occupations that apprentices and trainees are engaged in, particularly in the last decade. Some of the traditional trades areas in the metal trades, manufacturing, building and electrical areas, have declined in relative importance. The shifts in the patterns of apprenticeship /traineeship training have in large part followed changes in the occupational structure of the Australian labor market as a whole.

The most recent development of this system of training in Australia was the establishment of the New Apprenticeships system on 1 January 1998. This system covers all former apprenticeships and traineeship arrangements, and does away with the distinction that formerly existed between apprenticeships and traineeships.

There are now no restrictions on the occupations covered. Flexible, rather than fixed amounts of on-the-job and off-the-job training can now be provided according to employer and trainee requirements. Other important features of the New Apprenticeship system include:

- ‘user choice’, where employers can select their own vocational education and training provider for the formal (that is, off-the-job) component
- the option of undertaking the formal part of the training entirely in the workplace
- allowing training contracts to apply to part-time as well as to full-time employment situations

- the option of commencing the training program while still at school
- subsidies and incentive programs to employers to encourage them to take on New Apprentices, to encourage training at higher skill levels (as measured by the level in AQF), and for successful completion of the training program

Training packages

A decision was taken in the mid-1990s to develop a series of national training packages aimed at covering most industries and types of training activity in Australia's VET system.

This decision was taken to give industry itself (business and the representatives and other industry organizations) a greater say in what competencies ought to be covered in training programs at different levels in each industry. It was felt that in order to better meet the needs of industry, the opportunity should be given to industry training organizations and other stakeholders to participate in the development of training packages which incorporate competency standards, qualifications and ways of measuring skills into one formal discrete document. The training package describes competencies, assessment guidelines and qualifications for a particular industry or enterprise. These components must be endorsed. It may also include non-endorsed components which describe learning strategies, assessment resources and professional development materials.

National training packages are frameworks as they do not specify detailed training program contexts or curriculum.

5. The Australian Qualifications Framework

People can enroll in a VET program simply to gain skills from one or more modules (that is, subjects/short courses) or they can undertake a full program leading to a certificate or diploma qualification.

In Australia there are six different core VET qualifications being offered under a new comprehensive national system of education and training qualifications—the AQF. They are shown in table 3.1. A seventh qualification, the senior secondary certificate, is also offered by some TAFEs. The AQF was first introduced in 1995 and has been

progressively phased in over a five-year period ending 31 December 1999.

The AQF was designed to provide consistent recognition of the outcomes achieved from education and training across all sectors of senior secondary schooling and universities. The AQF includes recognition of the integration of learning in the workplace with the incorporation of structured training into the system (with apprenticeships and traineeships being covered by Certificates I to IV under the AQF). Moreover, the AQF was designed to provide a clear and rational structure in which an increasingly deregulated training market can operate while maintaining credibility within the overall education and training system.

Table 3.1: The Australian Qualifications Framework (AQF)

Schools sector	**VET sector**	**Higher education sector (i.e. university)**
		Doctoral degree
		Masters degree
		Graduate diploma
		Bachelor degree
	Advanced diploma	Advanced diploma
	Diploma	Diploma
	Certificate IV	
	Certificate III	
	Certificate II	
Senior Secondary Certificate of Education	Certificate I	
	Statement of attainment (part qualification)	

Source: Australian Qualifications Framework Advisory Board 1999 and 1996

The AQF qualifications can be attained in various ways. These include:

- through the classroom in a TAFE or other registered VET provider as a full or part-time student in the workplace
- through a structured training program in an industry training center

- through ‘off-campus’ modes such as open or distance learning
- various combinations of the above

The AQF system in the VET sector is designed around a set of competency standards that need to be achieved in different training programs, rather than qualifications being set according to the amount of time taken to undertake a course of study. Thus, different people will take different amounts of time to complete any given VET qualification. Nevertheless, the typical intensity of each AQF qualification is as follows:

- Certificate I and Certificate II programs take the equivalent of around half a year of full-time study to complete
- Certificate III and Certificate IV programs typically take the equivalent of one year of full-time study to complete
- Diploma and Advanced Diploma programs typically involve the equivalent of two years of full-time study, although some programs involve the equivalent of three years of full-time study

Students who successfully complete the requirements of a recognized course or training package qualification with a registered training organization are entitled to a certificate or diploma under the AQF. Status or credit for subjects or units of competency completed with another training provider, or through recognition of prior learning, should be taken into account when determining entitlement to a recognized qualification. In most instances the certificate is issued by the registered training organization on application by the student.

Students who have successfully completed one or more subjects or training-package units of competency with a registered training organization are also entitled to formal certification of their achievement. This is usually provided in the form of a statement of attainment.

Standards for units of competency are specified in national training packages, while for subjects which form part of national courses the standards are specified in curriculum documentation. Teaching staff are required to follow these standards when assessing their students. The use of externally set examinations was once widespread in the TAFE sector (the major provider of vocational education and training) but has been largely superseded by local assessment arrangements, which may

be tailored to meet the needs of students and employers while still maintaining the specified standards for competency.

Accreditation of VET in Australia

A fundamental feature of the Australian vocational education and training system is that training programs which lead to the awarding of recognized qualifications must be accredited. In the past this accreditation was generally given at the State or Territory level via accreditation boards established by the State or Territory training authorities.

An important change took effect on 1 January 1998 with the introduction of the Australian Recognition Framework (ARF). These new arrangements involved moving the emphasis to the registration of training organizations (RTOs), with associated quality assurance requirements. Under these arrangements accreditation of both public (that is, government) and private (that is, non-government) providers is covered by a single framework.

Training package qualifications and units of competency are recognized nationally. Quality assurance is generally the responsibility of State and Territory training organizations, who have overall responsibility for the management and delivery of publicly–funded training programs and for monitoring the issuing of recognized qualification by non-government organizations. Quality assurance requirements are included in the registration requirements for all RTOs, both government and non-government.

For training providers and students, there are a number of important advantages favoring accredited programs:

- They allow recognized qualifications or statements of attainment to be awarded, facilitating flexibility and portability.
- Public funding is only provided for accredited programs.
- Under the arrangements for the Goods and Services Tax (GST), which was implemented on 1 July 2000, fees charged for accredited vocational education and training programs are exempt from the GST, but non-accredited programs are subject to GST.

Firm–level vocational training

Much of the training undertaken in the private sector and by employees takes the form of short, specific-purpose programs for a particular student group. The majority of this training falls outside the arrangements for formally accredited programs but is none the less important in Australia's total training effort.

6. Adult education

A report undertaken in the mid 1970s by the Australian Committee on Technical and Further Education (ACTFE) emphasized the need for recurrent opportunities for technical and further education for people of all ages regardless of minimum formal educational entry requirements or of current employment status[6]. The committee in its deliberations adopted the guideline that

> *'the broader the approach in technical and further education the more the likelihood of creating an environment in which self motivated individuals can reach their vocational goals and in which motivation can be regenerated in people who have lost it'.* ACTFE 1975, (p xv11)

The committee recommended that adult education should be regarded as an integral part of TAFE and of technical college activities and that access to adult education be as open as possible (p 13).

The reforms that have taken place to Australia's vocational education and training system in the last two decades reflect the views of the committee and have removed barriers restricting access to adults re-training or re–skilling. Utilizing the AQF framework, TAFE has a number of access points for adults entering or re-entering education and training, in general age barriers have been removed on New Apprenticeships, and training can be undertaken on a part-time basis. VET has numeracy and literacy programs (enabling courses) and courses in remedial education that assist students to develop basic skills for further studies or employment. Students can progress from these courses to higher–level qualifications.

[6] TAFE in Australia, Australian Committee on Technical and Further Education, 1975

Increasingly, training providers undertake skills audits of prospective students to assess and recognize their current competencies (RCC) or their prior learning (RPL) and then provide training in new skills. This procedure means that students do not have to relearn existing skills.
Some examples of this approach that have been used by training providers are described below.

Re-training at Royal Melbourne Institute of Technology (RMIT)

RMIT provides its industry clients with opportunities for upgrading the technical skills of their existing workers. Those people who are working in the industry and want to return to further studies, or those people who want to change the areas in which they are working can apply for RPL. The amount of RPL that a student is credited is limited by the need for students to develop enough underpinning knowledge to enable them to make the appropriate changes required for them to embrace new technologies and ways of working. In addition students may be eligible for Certificate II and Certificate III by undertaking a challenge test.

RMIT has dedicated 1.5 teachers to work and provide training and assessment for Australian Glass Industries (ACI). RMIT has helped the company to undertake competency audits of every worker and to develop a skills matrix for the plant. This matrix aligns skills to competency standards. When the training package was released the college relevant looked at the skills that workers had and aligned these to the competencies in the training package. A curriculum was then development based on this alignment. RMIT 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.

Box Hill Institute of TAFE–Electronics

To respond to employer demands for employees with nationally accredited qualifications the college has provided workplace assessment services to a number of communications companies including Vision Stream, Optus, Telstra, Cable X and Intersort.

Assessments are undertaken at the workplace by workplace assessors who are qualified teachers. Workplace assessors interview employees, undertake on-site observations, conduct assessments, sign off the achievement of competencies, and identify gaps. Workplace supervisors may be used as the 'subject matter' expert if the workplace assessor is not identified as having current competence in the specific skills that are being assessed.

The college also makes available opportunities within its programs for individuals who have been retrenched, or who are looking to update skills or change career direction. In addition there are opportunities for unemployed people to access classes. These individuals are integrated in classrooms with school–leavers.

The college has found that in many instances, mature students will create a support group within the class and that this will also spread to the rest of the class when younger members see the benefits of these. Mature students have also been found to be valuable in that they may encourage younger students to focussed on the course and to help up to date with coursework.

When workers are currently working in the specific area and want to be accredited for their current knowledge and skill, they can apply for the RCC. This process may include tradespeople who are working in an area but either want to apply for an advanced certificate related to their particular trades qualification, or it may include tradespeople who are working in the area but have qualifications which relate to another stream.

These individuals must present a case based on evidence to the college before this is granted. To do this, they must make available their credentials to the college and any other reports or information which will support their claim. Once evidence has been gathered it is assessed by reference to the elements that have been identified in the assessment guidelines.

Although this service is available to students who are existing workers it has been the experience of the college that mature students want to undertake the entire course. They want to understand everything in

depth. Typically, it is for this reason that they do not opt to apply for RCC status.

Existing workers from a specific branch of TELSTRA, which was being split off into a new company, wanted their company-based certificates to be up–dated to reflect credentials under the AQF. To do this they had to enroll in the appropriate course. Appropriate modules were identified. RCC was awarded for current knowledge and skill. This would provide the workers with eligibility for a Certificate IV and enable them to progress to Diploma level studies.

Box-Hill Institute also provides opportunities for adults to participate in Vendor Training and obtain `internationally accredited and recognized qualifications'. They facilitate the Certified CISCO Networking Associate program and the MCSE–Microsoft Certified Network Engineer program. These programs are available as entry-level training programs as well as re–training programs.

Re–training at Sydney Northern Institute of TAFE

Northern Institute of TAFE conducts re–training in the electronics area and increasingly in information technology. Often university graduates come to the institute for practical hands-on skills to support their academic qualifications.

Shipwrights may want to learn more about marine electronics while others want to move from heavy machinery electronics to lighter machinery electronics.

The RPL process is difficult to undertake especially in those cases where the student has completed courses outside New South Wales. Because the course is complex and requires certain pre-requisites even if the training has been done in New South Wales, there may be variations between institutes in the pre-requisites expected for certain courses.

The RPL process is also rarely straightforward for other reasons. If a shipwright wants to do the course then he/she will be eligible for certain exemptions. However if there has been little training or experience in electronics, the shipwright will have to complete certain pre-requisites.

Sydney Institute of TAFE–information technology

The institute provides training for school leavers and existing workers. School leavers generally attend on a full-time basis while those already in employment attend on a part-time basis. Re–training opportunities are provided. However these opportunities are only provided for those who require the qualifications for their work (not just for interest).

RPL is conducted for those who want to have their current and prior experience and knowledge assessed. The assessment center conducts RPL and the faculty advises students on what to include in their applications.

Korea

1. Education system

Korea uses a school 'ladder' following a similar track of 6-3-3-4, providing six years of compulsory primary education, three years of middle school, and three of high school, followed by two or four more years in colleges and universities.

Nearly 100 per cent of those eligible attend primary schools. There were 3 935 537 students enrolled in 5 544 schools in 1999.

Middle school education with a duration of three years is offered for students aged 12–15. All applicants from primary schools are accepted and allocated by lottery to schools within their residential districts. Regular activities are divided into required and elective subjects.

As of 1999, 99.9 per cent of all primary school graduates moved on to middle schools. Middle school education is free only in rural areas, and in the near future it is to become compulsory and free for all.

High school education aims at providing advanced general and specific education on the basis of middle school education. High schools are classified into academic, vocational, and other high schools–foreign language, art & athletic, and science high schools. There was a total of 1 942 high schools, of which 762 were vocational high schools in 1999. High schools, both general and vocational, enroll 90.6 per cent of their age group.

Students in academic high schools, where advanced general education is practiced, select a major in the second year from the areas of humanities and social sciences, natural sciences, and vocational education. Their selections are based on the students' aptitude and interest, in turn, which provides a link with the school courses and their future careers. The majority of students opt to spend the first two years as preparation for university application. Students may transfer to the vocational track at the beginning of the third grade.

The higher educational institutions are divided into four categories: colleges and universities; universities of education and colleges of education; junior colleges, the Air & Correspondence University, polytechnic universities [7] and other schools (including theological colleges and seminaries). Most higher educational institutions are under the supervision of the Ministry of Education. The Ministry of Education has control over such matters as student quotas, qualifications of teaching staff, curriculum and degree requirements. About 63.7 per cent of this age group enrolled in higher educational institutions in 1999.

2. The vocational secondary education system

The largest element of Korea's system of vocational education and training is the system of vocational education at schools. Initial training (pre-employment education and training provided at the senior secondary level [vocational high schools] and post-secondary level junior colleges).

Vocational high schools aim to educate capable skilled workers equipped with sound vocational awareness and professional knowledge to enable them to cope with rapid changes in an information-oriented industrial society. They provide technical-vocational education programs in the specialized fields of agriculture, technology, business and commerce, marine & fisheries, and home economics. These vocational high schools are the major sources of the craftsmen among the industrial workers in Korea.

In 1999 there were 762 technical and vocational high schools with a total enrollment of 851 751 which accounted for about 37.8 per cent of total high school enrollment.

As can be seen in table 3.2, most vocational students are taking programs in senior secondary schools of business/commerce and technology. Just over 3 per cent are studying in agricultural and fishery/marine high schools.

[7] Open university was renamed polytechnic university based on the Higher Education Law which came into operation in March, 1998. However, open universities are named in various ways depending on the mission and objectives of the university.

Table 3.2: Number of vocational high schools and students

Classification	Schools		Students	
	Number	Proportion of vocational students	Number	Proportion of vocational students
Agricultural	26	3.5	17,874	2.4
Technical	203	26.5	265,837	35.7
Business/ Commerce	238	31.2	272,650	36.5
Fishery & Marine	8	1.0	5,607	0.7
Vocational	75	9.8	57,683	7.7
Comprehensive	214	28.0	127,335	17.0
Total	764	100.0	746,986	100.0

Source: Ministry of Education 2000, *Statistical yearbook of education*

The curriculum for vocational high schools is composed of general and vocational subjects. Students are required to take between 204 and 216 units during the three years of study period of six semesters. Of the 214-216 units, students are required to take 104–154 units of general subjects (that is, mathematics and science) and 88–122 units of vocational subjects. Of the 82–122 units allocated to vocational subjects, at least 50 per cent of the units or 41–61 units should be allocated for practical sessions.

The schools operate effective field training programs in co–operation with individual industries. The field training can be made and performed from 2 to 68 units as the extra-curricular activities added to the independent curriculum from the first year, depending on the discretion of the principal. The duration of on-the-job training varies, ranging from 1–6 months in agricultural and commercial high schools, 1–12 months in technical high schools to 3–12 in marine and fisheries high schools.

A new program which is called the dual system (the Two-plus-one Program) was introduced in technical high schools in 1994. The program comprises two years of vocational education in schools, followed by one year of practical 'hands-on' field training in industrial–based companies. In 1998 the program was operating in 40 designated model schools and 9 110 students were taking part in on-the job training at 1 928 industrial companies. As of 1999, the program was operated in 37 technical high schools with participation of 17 283 students.

3. Formal post-secondary vocational education

Post-secondary vocational education under the formal education system is provided at junior colleges, polytechnic colleges, technical colleges and polytechnic universities.

1) Junior colleges

Status

Junior colleges offer two–or–three year post-secondary programs and are the direct outgrowth of the increasing demand for technical manpower attendant with rapid industrialization. Since their establishment in 1979, the number of junior colleges has grown to 161 as of 1999 with an enrollment of 859 547 (including students on leave of absence).

The purpose of junior college education is to produce middle-level technicians equipped with a solid base of theories and skills. Their specialized courses are grouped into technology, agriculture, nursing, fishery, health, commercial and business, home economics, arts and athletics, and so on with two– or three–year programs depending on the courses. The nursing, clinical pathology, physical cure, radiation, fishing, navigation and engine programs require three years of education. The communication program is the only one requiring two-and-a-half years of study and the rest require two years of education. The number of junior college students by program is shown in table 3.3.

Entrance

High school graduates and those with an equivalent academic background may enter junior colleges. Admission to junior colleges is determined on the basis of school achievement, scholastic achievement test, interview, and aptitude tests. Thirty to fifty per cent of the freshmen quota is reserved for the graduates of vocational high schools, craftsmen qualified by the national technical qualifications system and workers having a specified amount of industrial experience.

Table 3.3: Number of junior college student by program

Classification	Enrollments by Course			
	1st year	2nd year	3rd year	Total
Humanities	17,419	17,533		34,952
Social Sciences	93,025	90,692		183,717
Natural Sciences	253,682	228,941	38	482,661
Medical & Pharmacy	26,201	28,912	17,951	73,064
Arts & Physical Education	60,853	53,245		114,098
Teaching Profession	12,747	12,034		24,781
Total	463,927	431,357	17,989	913,273

Source: Ministry of Education (2000), *Statistical yearbook of education*.

Curriculum

For the effective achievement of the educational goals, junior colleges develop and operate a practical curriculum through on-site training via school–industry co–operative programs and vocational specialty training plans and job sheets. Specialty is emphasized as preparation for the national certification test. Liberal arts education is given a place within the primary concern for the functional orientation of the programs. Here, work ethics are instilled.

Junior colleges have adopted the credit system. The completion hours needed for earning one credit, the minimum credits needed for graduation, the standard credits which can be acquired per semester and the maximum credits to be acquired are decided by school regulations at each junior college.

Elective courses consist of a minimum of general subjects; the allotment ratio of the credits is decided by school regulations and on-site training is given 1–3 credits. The trend is to put more weight on the professional courses rather than the elective courses.

Industry–School Co–operation

It is envisioned that junior college education can contribute to the development of industry through the following measures: incorporating internships for students, providing industry field training of junior college faculty, etc.

Based on the Educational Reform Program, a customized training system responding to industrial demands was implemented in more than ninety junior colleges' of which 59 were provided with financial support from the government in 2000.

Entrance to University

Although junior vocational colleges place emphasis on practical education aimed to produce mid-level technicians, it is not necessarily a terminal point of schooling. Doors are kept open for their students to continue education at universities. For employed youths, it provides avenues to polytechnic universities as well as to the Korea Air and Correspondence University. As efforts are intensified to ensure the relevance of junior college education to industrial needs, the percentage of employment among junior college graduates is increasing.

In order to strengthen the junior colleges' capacity for vocational education, programs linking the curriculum of the second and third years of vocational senior secondary schools with that of the vocational college (2+2) have been implemented in some schools. Students who have completed vocational senior secondary school courses are given priority in the selection process for entry into colleges in related fields of study. From 1996, graduates of junior colleges receive associate degrees.

2) Polytechnic colleges

Polytechnic colleges are publicly funded post-secondary vocational education and training institutions. They provide two-year programs to train multi-skilled technicians and 3–12 months' programs to train master craftsman in the specialized area of. technology. They provide 29 courses in new technology-based trades such as production automation, mechatronics, information and communication.

Graduates of multi-skilled technician programs receive industrial associate degree and graduates of master craftsman programs are eligible to take the national technical qualification test for master craftsman.

As of 1999 there were 21 polytechnic colleges with a total enrollment of 10 525 students. Since their establishment in 1997, the employment rate of graduates has been very high, up to 100 per cent.

3) Technical colleges (universities)

Large Korean companies have their own corporate schools which are called corporate technical colleges (universities). Some companies have independent schools, while others have schools at the enterprise group level. Corporate schools offer three levels of programs for selected employees: junior college, college, and graduate programs.

In the early 1980s corporate schools began in the early 1980s to offer graduate courses for college graduate white-collar employees, but since the late 1980s have expanded to offer lower-level courses for blue-collar employees. There were two junior college programs, two college programs and seven graduate programs in 1999 (table 3.4). Most courses absorb only a minority of employees, with a range of 20–100 trainees.

Table 3.4: Current status of technical colleges (universities)

Type of program	Number of schools	Capacity	Enrollment	Number of graduates
Junior college	2(5)	105	45	1,706
College	5(3)	325	158	5,396
Graduate	7(5)	1,496	1,232	1,772
Total	14(13)	1,926	1,435	8,874

( ) : the number of schools closed for the time being

Source: Ministry of Science and Technology 1999, unpublished data.

The schools provide both general education and technical training. Employers of companies with company schools created a standard for the number of school hours, curriculum, and facilities. The required minimum school hours are 1120 for a junior college program, 2 240 for a college program, and 1120 for a graduate program. However, a majority of schools do not meet these standards.

Corporate school graduates receive no marketable qualification from the program, but they are recognized as graduates of junior-college, four-year college, or graduate programs within an enterprise group with which the company is affiliated.

The government enacted laws on the establishment and operation of technical colleges in 1997. Those who complete programs which are accredited and authorized by the Ministry of Education receive associate degree, while others do not.

4) Polytechnic universities

Polytechnic universities aim to provide employed youth and adults with an alternative approach to higher education. The requirements for admission to a polytechnic university are the same as those for regular universities. Priority in selection is given to persons with experience in industrial organizations, holders of national technical qualifications and graduates from vocational high schools.

There are no academic years in the curriculum. Over 50 per cent of the admission quota is given the opportunity both to improve their job skills and to be educated continuously by being offered evening classes.

Having begun with the foundation of Kyonggi Open University of Technology in Seoul in 1982, there were 19 polytechnic universities with a total enrollment of 102,361 students in 1999.[8]

Adults in post-secondary vocational education

The enrollment rate of students in post-secondary educational institutions is very high in Korea. As of 1999, about 63.7 per cent of the age group were enrolled in higher educational institutions.

The participation rate of adults in post-secondary vocational education is low. Only 9.1 per cent of junior college students and 19.7 per cent of polytechnic university students are aged over 25 years old (Table 3.5).

[8] Open universities were renamed polytechnic universities in 1998.

Table 3.5: Participation rate of adults in post-secondary vocational education

Unit:%

	1985	1990	1995	1997	1999
Junior college	**5.5**	**4.0**	**5.0**	**7.3**	**9.1**
University of education	17.7	17.3	7.3	10.1	12.5
College and university	10.0	12.3	10.0	10.1	11.7
Air & correspondence University	73.0	60.4	83.1	70.0	87.4
Polytechnic university	**50.0**	**32.6**	**22.3**	**27.2**	**19.7**
Total	28.6	17.8	24.6	22.7	33.5

Source: Ministry of Education 1999, *Statistical yearbook of education*.

However, the enrollment rate of adults aged 25–64 in post-secondary education is about 23.9 per cent.

4. Vocational training

1) Vocational training system

In the 1960s the Korean government established a vast economic development plan and restructured the vocational education and training system in order to supply the manpower necessary to implement the plan. As a result, most formal vocational education was provided within the state education system, and was systematically planned and standardized. The government rapidly expanded enrollment in vocational schools in the 1960s. However, the formal vocational schools were not able to train sufficient technical manpower for the rapidly industrializing country. In order to train enough workers to meet the increasing industrial demands, the government enacted *the Vocational training law* in 1967 as a result of which many new vocational training institutes were established.

During the 1970s, the government implemented a fundamental structural change within the heavy–chemicals industry. This rapid structural change heightened the industrial demand for skilled workers and craftsmen.

The government encouraged private companies to provide in-plant training with the enactment of the *Basic law for vocational training in*

1976. Large companies in certain industries were required to provide in-plant training for a certain number of their employees. These companies were obliged to pay a training levy if they did not provide in-plant training, or if their training did not meet government regulations. This mandate applied initially to firms with more than 500 employees; in 1991, this number was decreased to 150 employees, and in 1995 to 1000 employees in the manufacturing sector.

Such a compulsory in-plant training system, which was designed to concentrate on the basic training of new entrants to the labor market at the embryonic stage of industrial development, contributed to the provision of the necessary manpower and thereby sustained the rapid economic growth of Korea, but it did not meet the changing demands for industrial manpower. In addition, the law constrained enterprises from providing upgrade training to their employees.

During the 1990s, voluntary training by companies increased greatly. At the same time the number of youths undertaking vocational training decreased markedly, due to the sheer reduction in the population ratio of the young and the increasing number of young people entering universities.

The government enacted the *Act on promoting workers' vocational training in 1997* to establish a system for vocational competency development and to encourage enterprises to provide further training for the employed on a voluntary basis. The act has been in effect since January 1999. With the enforcement of the act, *the Basic vocational training act* was abolished.

According to the act, the Minister of Labor provides financial support to employers who implement vocational competency development programs. The Minister also support employees who make an effort to develop their vocational competency, i.e., undertaking the vocational competency development training programs, wanting to acquire a certificate or undertaking programs designated in the Education Law. Governmental agencies or local autonomies may provide training for the unemployed.

2) Vocational training programs

The vocational training programs are classified into 'initial training', 'upgrade training', and 'job transfer training', depending on the curriculum, duration and trainee profiles. However, it does not make clear distinctions among the last two categories. In most cases, further training or in-service training is used to include both.

Initial training aims to train basic competencies that are required in the workplace and is intended for those newly seeking employment or prospective re–employment workers, such as high school graduates, former soldiers and the unemployed. This type of training lasts for at least one month. Programs of initial training should include (1) general education which is co–ordinated with practical training, (2) basic training in knowledge and skills common to related occupations which is given by a training institution or in an undertaking on or off the job, and (3) specialization in directly usable knowledge and skills for employability.

Upgrading training is provided for workers who have already completed initial training (or those who are deemed to already possess basic skills) and wish to acquire further skills. The duration of the training must be required longer than 20 hours.

Job transfer training aims to assist those who are seeking to transfer jobs or unemployed workers to develop new skills. The duration of the training program must be longer than two weeks.

Training methods are classified into three categories: institutional training, on-the-job training and on-line (web-based) training.

3) Funding system

The Employment Insurance System (EIS) was established in July 1995 as a comprehensive system intended to reduce the risk of unemployment, the risk of losing income as a result of unemployment and the risk of skill obsolescence. Consequently, the EIS comprises three components, namely employment security, vocational training and unemployment benefits.

At the time of its creation, the EIS covered mainly regular workers in enterprises with over 30 workers (over 70 workers in the case of the employment security and vocational training components). Since then, the coverage has been expanded considerably in terms of both enterprises and types of workers that fall under the scheme. In January 1998, the system was expanded to cover firms of more than ten workers; in March 1998 to firms of more than five workers; since October 1998, it affects workers of all enterprises irrespective of their size. There remain important exceptions, however, in particular, the following workers are not covered by the EIS.

- part-time working less than 18 hours a week or 80 hours a month
- daily workers who are employed less than one month
- government officials and employees subject to the *private school teachers' pension act*
- workers over age 65 and new employees over age 60.

Despite the recent strengthening of the system, only a relatively small proportion of the working population is insured. In 1999, there were 12.8 million paid workers, compared with a total of over 20 million employed individuals. This large gap is attributable to the fact that the system applies neither to the self-employed nor to unpaid family workers who make up a disproportionate share of the total employed. More importantly, only two-thirds of total paid workers are eligible under the EIS and only 71 per cent of those eligible are actually insured.

The EIS is funded by way of social contributions calculated as a proportion of the total wage. There exists three different contributions, one for each component of the EIS. The contribution rate to the employment security component of the EIS is 0.3 percent of the total wage. In the case of the vocational training component of the system, the contribution rate ranges from 0.1 per cent to 0.7 per cent of the total wage, depending on the size of the firm. A 1 per cent contribution rate has been set to finance the unemployment benefit component. While contributions to the employment security and training components of the EIS are borne by the employer only, half of the unemployment benefits contribution is paid by the employer and the other half by the employee. The three contributions together add up to a maximum of 2 per cent, but

authorities can bring the total contribution rate to up to 3 per cent, depending on economic circumstances.

The vocational competency development scheme under EIS is not compulsory, but it is an incentive system to induce voluntary training by providing financial support to employers and employees from the EIS fund.

The new vocational training system under the Employment Insurance System embraces different types of schemes targeted at employed workers; namely, (1) subsidies to firms that conduct in-plant training; (2) subsidies to firms that assign workers on paid leave for education and training; (3) subsidies to firms for education and training courses that take place outside the firm premises; and (4) subsidies to employees for education and training, training for older workers and tuition loans.

The unemployed can be provided with various training activities they wish to undertake regardless of the eligibility for unemployment benefits. Needless to say, re-employment in secure jobs through opportunities to acquire appropriate skills should be preferred to the passive protection of unemployment benefits.

Support for employer

Should an employer establish training facilities and/or purchase equipment, he or she can apply for a loan or subsidy from the Employment Insurance Fund. With the intention of promoting training within small and medium–sized firms, the program aims to induce joint vocational training by groups and support their financing in order to harness the initiatives and ingenuity of the private sector to provide training programs which cater to the diverse and changing needs of firms. In providing these services, more emphasis is placed, stipulated by the law, on small and medium sized–firms.

There are two forms of financial support provided to firms for the financing of training: one is in the form of a subsidy for institutional, on-the-job, or on-line training as well as overseas and paid leave training costs and the other is in the form of loans for the building of vocational training facilities.

In the case of institutional training where the firm self-administers the training with in-house facilities or commissions the training to an external training institution, the training cost is calculated by multiplying the cost per hour (in the respective occupational field) by the actual training hours times the number of workers who completed the training.

Firms are also eligible to receive financial support for overseas training of their employees. Overseas training programs, typically three months in duration, should be designed to enhance productivity, upgrade the quality of products, and advance the skills of workers in general. Support is not given for accommodation costs and cannot exceed the amount specified for each occupational field.

In addition to institutional, on-the-job, on-line and overseas training costs, firms may receive loans for facility and equipment costs. It should be noted that not only firms, but states administering vocational education and training, organizations of firms, labor organizations, non-profit organizations, and households with working women are also eligible for loans to cover training facility and equipment costs.

Firms receiving support for vocational education and training costs can get up to 180 per cent (120 per cent in the case of conglomerates) of the insurance premium paid that year. However, if the firm administers standard training, then it may receive an additional 100 per cent of the insurance premium.

Support for training costs of workers

If a worker is 50 years old and over and insured under the EIS or is planning to transfer jobs, and has attended 80 per cent of a training course then he or she is eligible for full reimbursement (up to 1 million won) for costs associated with the training if paid by the worker him/herself. Upon receiving the subsidy, however, the worker may not take another training course for one year. If a worker attends a polytechnic college or other educational institution at the junior college level or higher with the purpose of vocational competency development, then he or she is eligible for long-term low-interest (1 per cent per annum) loans–up to 2 to 3 times for junior and polytechnic colleges and 4 times for universities. However, if the worker is already receiving

financial support from a firm, university, or another third party, then these terms do not apply.

This type of support for incumbent workers is significant in the sense that the continued development of workers' skills is legally institutionalized. Should the occasion arise that the year's supply of Employment Insurance Fund is insufficient to cover the number of applicants for training subsidy, then preference is given to winners in vocational skills competitions, handicapped workers, and those with work experience in priority firms.

The number of persons completing initial training accounts for 5.3 per cent of all trainees completing craftsmanship training. Of persons who completed in-plant training in 1999, 98.8 per cent undertook further training while only 1.2 per cent underwent initial training. In-plant training concentrates on further training. Further training, expressed as 'vocational competency development' meaning the development and the improvement of vocational competency, is regulated by the *Employment insurance act.*

4) Training practices

Table 3.6: Proportion of people undertaking initial training and further training, 1990–99

Unit: %

	Total	Initial training		Subtotal	Upgrade T		Subtotal
		Public	private		public	private	
1990	44 852 (100.0)	45.4	29.8	75.2	0.7	24.1	24.8
1991	78 552 (100.0)	32.6	32.1	64.7	0.4	34.9	35.3
1992	132 608 (100.0)	17.6	30.9	48.5	2.1	49.4	51.5
1993	127 314 (100.0)	18.6	29.0	47.6	2.0	50.4	52.4
1994	159 979 (100.0)	2.0	44.0	46.0	5.2	48.8	54.0
1995	175 767 (100.0)	11.5	21.5	33.0	5.8	61.2	67.0
1996	170 427 (100.0)	10.2	19.5	29.7	11.3	59.0	70.3
1997	199 981 (100.0)	7.8	14.2	22.0	16.6	61.4	78.0
1998	750 137 (100.0)	4.0	5.5	9.5	14.7	75.8	90.5
1999	913 718 (100.0)	4.0	1.0	5.0	9.0	86.0	95.0

Source: Ministry of Labor 2000, *The current status of vocational training programs*, 1991–2000.

Public training

Depending on the type of training institute, vocational training in Korea assumes two forms: public and in-plant vocational training. Public training is undertaken by the Korea Manpower Agency (KOMA), the Korean Chamber of Commerce and Industry (KCCI), governmental agencies, local autonomies and the Korea Employment Promotion Agency for the Disabled (KEPAD). It aims to train semi-skilled and skilled workers in programs lasting from three months to two years. In-plant training is undertaken by firms.

KOMA, KCCI and KEPAD are concerned with trades that are commonly required by manufacturing industry (die-making and machine work), export–oriented trades (gem–cutting, dyeing and weaving etc.), and trades in advanced and new technology (CAM). Governmental agencies concern themselves with trades such as carpentry, bricklaying and electronic welding, aiming at training for the self-development of prisoners and incumbents, while local autonomies concern themselves with trades necessary for increasing the income of farm households.

In 1999 there were 95 public vocational training institutes of which 40 public vocational training institutes came under the jurisdiction of KOMA. Also included were 20 polytechnic colleges which were placed under the authority of the Korean Foundation for Polytechnic Colleges in December 1998.

Enterprise Training

If an employer chooses to train, there are three different ways of doing so: (1) independent training at his/her own in-plant training institute, (2) co–operative training with other employers, or (3) commissioned through a third party to undertake actual training on his or her behalf.

Korea suffers from an under-provision of enterprise training, particularly among small enterprises. The system of training for the employed, which exists under the EIS, has helped improve the situation somewhat, but major problems remain.

The rapid economic development recorded since the 1960s and a shortage of skilled workers prompted the government to set up a training levy system in 1976. Firms were required to provide in-plant training or to pay a levy. After some initial success, the proportion of firms opting for training their workers, rather than paying the levy, fell steadily from over two-thirds of eligible firms during 1977–80 to less than one-fifth during 1991–93. In 1995, a new training system was established as one component of the EIS.

Data on expenditure and number of participants for the year of 1999 show that, among the five programs, in-plant vocational training is the most important one (table 3.7). The programs are financed by way of employers contributions to the EIS. The EIS supports 40 to 90 per cent of the cost of the training and, additionally, in the case of the paid leave scheme, also one–third to one–half of the wage for courses that last over 30 days (Ministry of Labor 2000)

Table 3.7: Training programs for the employed: participation and expenditures, 1999

	Total	In-plant vocational training	Paid training leave
Number of firms providing training	43 844 (100)	43 511 (99.2)	333 (0.8)
Number of trained workers	1 030 257 (100)	781 408 (75.7)	8 446 (0.8)
Program expenditures (000's of Won)	418 183 956 (100)	82 764 007 (19.8)	5 723 368 (1.4)
	Subsidies for course attendance	Retraining for the unemployed	Loans for school fees
Number of firms providing training	N.A.	N.A.	N.A.
Number of trained workers	51 (0.1)	226 800 (22.0)	13 552 (1.3)
Program expenditures (000's of Won)	39 983 (0.1)	306 172 198 (73.1)	23 484 400 (5.6)

The numbers of trainees in paid leave training and retraining for the unemployed include trainees carried forward from 1998.

Source: Ministry of Labor 2000, *Current status of vocational competency development program*, p. 78.

However, despite these encouraging results, it would appear that current training programs for the employed suffer from certain deficiencies.

Only a small proportion of the firms which pay contributions to the fund actually provide training for their workers. To take the example of in-plant training, which is the most common, during 1999 slightly more than 7 per cent of the insured firms provided in-plant training (table 3.8). During the same period, only 12.9 per cent of all insured workers received in-plant vocational training. The take-up of the other programs of training for the employed is even lower.

Furthermore, large firms are the main beneficiaries of the training programs for the employed. As shown in table 3.8, in 1999, the participation rate of firms with less than 150 workers in in-plant vocational training was negligible, while it came close to 600 per cent in the case of firms with over 1000 workers. This high participation rate is explained by the fact that firms may claim support more than once over a given period of time. Less than 3 per cent of those employed in small firms received in-plant training, compared with 39.8 per cent in the case of large firms. Other programs of training for the employed are mainly used by large firms.

Table 3.8: Beneficiaries of in-plant vocational training programs, by firm size, 1999

Unit: %

	Firm size (number of workers)			
	Total	Less than 150	150-1000	1000+
Subsidized firms	100 (43 511)	70.0	22.9	7.1
Firms paying contributions	100 (601 394)	94.7	0.8	0.1
Firms' participation rate	7.2	5.4	212.6	581.4
Subsidized workers	100 (781 408)	12.6	29.7	57.7
Insured workers	100(6 054 479)	59.0	20.8	18.7
Workers' participation rate	12.9	2.8	18.4	39.8
Amount of subsidized	100 (82 764 007)	14.0	32.1	53.8

Note: Construction is dealt with separately given that special contribution rules, not based on firm size, apply to firms in this sector, but not shown in the table. In the section of firms paying contributions, construction contributed 4.5 per cent. And in the section of insured workers, construction accounted for 1. 6 per cent.

The number of workers trained has increased since the implementation of the new training policy under the EIS. In addition, most in-plant training schemes include 'advanced' courses, instead of basic training as tended to be the case under the levy system (table 3.9).

It would therefore appear that training under the EIS has not succeeded in increasing substantially training provided by small enterprises. As large firms would, in any event, tend to train workers in the absence of specific policies, it seems highly likely that the training subsidies yield large 'windfall' gains to large firms. Although the provision of training is likely to increase with the economic recovery, the system's effectiveness suffers from the excessive number of programs and the fact that training tends to be concentrated in large enterprises. As in other OECD countries, there is a risk that workers in small firms, once trained, are hired by either another small firm or a bigger one. This risk may be higher in Korea, given the unusually large gap in terms of wages and working conditions between large and small firms. Future policies may consider introducing special financial incentives to encourage training by small firms and some targeting of the programs for older workers, women and low-skilled workers.

Table 3.9: Recipients of in-plant vocational training, by program, 1999

Unit: % and 000won

	Initial Training		Upgrade T		Job Transfer T		Total	
	Trainees	Cost	Trainees	Cost	Trainees	Cost	Trainees	Cost
Total	1.2	5.1	98.8	94.3	0.06	0.6	100	100
Average	24.4	458.5	17.9	101.1	19.8	983.2	18.0	105.9

Source: Ministry of Labor 2000, *Current status of vocational training programs.*

Training for the unemployed

Training programs for the unemployed were considerably expanded during the 1998 IMF crisis. The main training programs available to the unemployed are:

- re-employment training of the unemployed, a program targeted to workers dismissed from enterprises covered by the EIS, irrespective of whether these workers are entitled to unemployment benefits or not

- training for employment promotion, which focuses on dismissed workers, not previously insured at the EIS, that is mostly temporary, daily and part-time workers
- training for unemployed new entrants into the labor market (most young unemployed have been granted internships under public work programs
- training for business start-ups, targeted at elderly unemployed, disabled individuals and school drop-outs
- manpower development training, which comprises initial training for craftsmen and training for '3-D' jobs. Of these only the first program is set up under the EIS and therefore funded by the Employment Insurance Fund. The others are financed out of the general government budget.

Remarkably, a large number of unemployed workers have participated in these programs. In both 1998 and 1999, more than 350,000 unemployed attended a training course, accounting for roughly one–fifth of the unemployed in the period considered (see table 3.10).

However, most training programs for the unemployed appear to be insufficiently targeted at disadvantaged labor market groups. Moreover, they tend to suffer from relatively high drop-out rates, while re-employment probabilities of those who complete the courses are low.

Unemployed workers covered by the EIS are more likely to receive training than other unemployed individuals. About 63.2 per cent in 1999 were trained under the EIS program; that is, re-employment for the unemployed, even though unemployed workers covered by the EIS are a minority of the unemployed (table 3.10).

About 36.7 per cent of the unemployed who undertook training courses in 1999 completed them within the same year (table 3.10). An important reason for non-completion is dropping out of the course.

The re-employment rate also tends to be relatively low, except in the case of training for 3-D jobs (table 3.10). Job-finding rates are the lowest for training for business start-ups.

Data on the program of re-employment training for the unemployed suggest that older workers are relatively less likely to receive training than other unemployed workers. Table 3.11 shows that a majority of program participants are aged less than 29, while only 6 per cent are over 50.

Table 3.10: Outcomes of training programs for the unemployed, 1999

	Total	Re–employment training[1] of the unemployed under the EIS	Training programs not financed by the EIS	
			Employment promotion	Craftsmen
Total number of trainees	358 351 (100)	226 356 (63.2)	69 466 (19.4)	16 817 (4.7)
Number of trainees who completed the course	131 638	93 268	21 543	4 576
Completion rate[2]	36.7	41.2	31.0	27.2
Found employment[3]	48 864 (37.1)	36 223 (38.8)	7 299 (33.9)	1 672 (36.5)

	Training programs not financed by the EIS			
	3-D jobs	Business Start ups	New labor market entrants	Other Programs
Total number of trainees	9 122 (2.5)	7 725 (2.2)	10 022 (2.8)	18 843 (5.3)
Number of trainees who completed the course	936	4 933	3 872	2 519
Completion rate[2]	10.3	63.9	38.6	13.4
Found employment[3]	936 (100)	517 (10.5)	1,608 (41.5)	607 (24.1)

Data available

1) Re-employment training accounts for 80 per cent of total expenditures under the training fund of the EIS. Training programs of the employed make up the remaining 20 per cent.
2) Completion rate equals the number of trainees who completed the course divided by the total number of trainees
3) The proportion of trainees who found employment (*figures in parenthesis*) is computed over those who completed the course.

Source: KRIVET 2000, Training Experience Survey

Table 3.11: Characteristics of participants in the program of re-employment training for the unemployed, 1999

	Participants		Average duration of the course (in months)	Average monthly training allowance
Total	130 946	(100.0)	5.1	99 747
Age				
Less than 25	18 754	(14.3)	5.8	91 736
25–29	51 069	(39.0)	5.2	94 875
30–39	38 374	(29.3)	4.9	108 401
40–49	14 890	(11.4)	4.7	104 178
More than 50	7 859	(6.0)	4.6	99 127
Gender				
Men	65 929	(50.3)	4.9	102 708
Women	65 017	(49.7)	5.4	96 744

Source: KRIVET 2000, Training Experience Survey

5. National Technical Certification System

1) Overview

Korea introduced the National Technical Qualifications Testing (NTQT) system and scheme in 1967. The aim of the NTQT system is to officially test and recognize the occupational technical knowledge and skill standards of individuals and thereby properly guide and direct the training and development of skilled technical manpower required by business, industries and government organizations and at the same time improve and enhance the socio-economic status of skilled technical people.

The government tests the technical skills' level of a person and certifies his/her competencies to a certain level through the national technical qualification which has been operating since the introduction of the *National Technical Qualification Act* in 1973.

There are two major qualification categories or divisions in the NTQT system: technical group and service group (figure 3.1). The Technical certification system is classified into five different levels: professional engineer, master craftsman, engineer, industrial engineer, and craftsman.

the service group is divided into business management and other services.

Business management has three levels (*geup*) and the other service group includes two levels of master craftsman and craftsman.

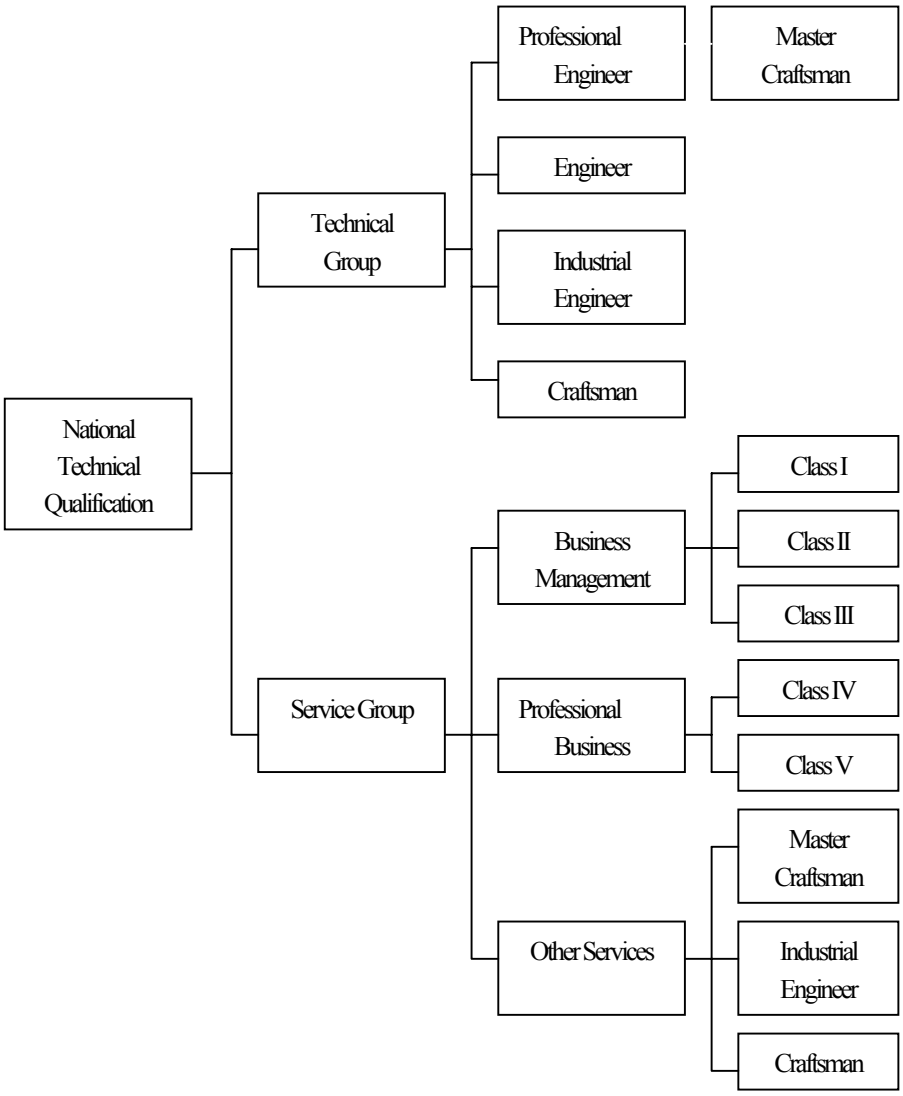


Figure 3.1: Classification of national technical qualifications

The criteria for certification under the National Technical Qualification Testing system are presented in table 3.12.

Table 3.12: Certification criteria by grade

Grade	Certification Criteria
Professional engineer	Whether or not the applicant has the ability to plan, research, design, analyze, test, operate, construct, evaluate or guide and supervise these activities based on a high level of expert knowledge and field experience
Master craftsman	Whether or not the applicant has plenty of experience and skills in order to supervise, guide other workers, carry out on-site training, and act as a link between the management and production workers
Engineer	Whether or not the applicant has the ability to carry out skilled tasks such as design, base construction, and analysis based on engineering knowledge
Industrial engineer	Whether or not the applicant has the ability to carry out multi-skill tasks based on basic technical knowledge or experience
Craftsman	Whether or not the applicant has the ability to carry out task management duties such as produce, manufacture, operate, repair, and evaluate

Table 3.12 shows the application requirements under the Implementation Decree of the *National technical qualification act*. Eligibility for the professional engineer certification is given to individuals who have (1) acquired qualification as an engineer, industrial engineer, or craftsman and worked in their fields for 4, 6, 8 years respectively, (2) graduated from university or junior college and worked in the field of qualification application for 7 and 9 years respectively, (3) completed training at the level of engineer or industrial engineer, (4) had field experience for more than 7 or 9 years or 11 years without having proper formal education, and v) acquired an identical qualification and class in a foreign country.

Table 3.13: Application requirements for the national technical qualifications Test

Class	Title	Application Requirements
Professional engineer	97	• College degree + 7 years of work experience • Junior college + 9 years of work experience • 6 years as an industrial engineer • 4 years as an engineer • 8 years as a craftsman • 11 years of work experience
Master craftsman	33	• Completion of master craftsman course in polytechnic college • 6 years as an industrial engineer • 8 years as a craftsman
Engineer	98	• College degree • Junior college + 2 years of work experience • 4 years of work experience • 1 year as an industrial engineer • 3 years as a craftsman
Industrial engineer	130	• Junior college degree • 5 years of work experience • Completion of education and training course • 1 year as a craftsman
Craftsman	205	• No requirements for education and work experience

The Korea Manpower Agency (KOMA) and the Korea Chamber of Commerce and Industry (KCCI) were commissioned to execute the National Technical Qualification Test. The NTQT of the technical group is implemented by KOMA, and the service group (including abacus calculation, bookkeeping, typing etc.) is implemented by KCCI.

The certification procedures according to each technical qualification field is stipulated in Article 15 of the National Technical Qualification Implementation Decree. The certification process proceeds in the order of written examination, practical examination and interview. Each stage of examination requires the passing of the previous stage, but if the practical examination is in the form of a written examination, then both stages may occur within the same stage.

2) Linkage with formal education (credit bank system)

The plans for recognition of credits for acquirers of national certification within the formal education setting is as follows:

- it needs to be recognized that the courses listed under the NTQS are much more comprehensive than the titles or content of college courses and cannot be matched. Therefore credits given to certificate holders should foremost be in the form of major requirements, and upon completion of these required courses credits may be handed out as general electives.
- the highest number of formal education credits that may be recognized through the acquisition of qualification is 110 for the bachelor's degree and 65 for junior colleges.

6. Credit Bank System

Previously, non-formal modes of higher education were not given formal recognition or credit, since higher education was understood as the sole domain of the formal school system. Such a belief placed inordinate demands on the university system and created excessive competition among students. Moreover, the value and power of non-formal education was greatly underestimated.

In May 1995, The Presidential Commission on Education Reform (PCER), presented an innovative vision of a new education system which promotes the development of an open and lifelong learning society. The introduction of a Credit Bank System was proposed by the PCER as a concrete way to realize this vision.

On the basis of this proposal, the Credit Bank System gained government endorsement through a legal act, passed on January 13, 1997. Between May and December 1997, an accreditation system and standardized curriculum were developed and the first applications for accreditation for educational institutions and curricula were evaluated. In March 1998, the first stage of implementation began.

As the foundation for the construction of open and lifelong education, this system enables every learner who has completed courses which are subjectively evaluated and authorized to earn college credits. When

credits are accumulated and meet certain standards, he or she can receive a college degree.

Each citizen can take part in the Credit Bank System, but if an individual wishes to take a course for a degree, then he/she should be a high school graduate or equivalent. An individual receives credit by showing that he or she 1) has finished a certain course of education which is evaluated and acknowledged, 2) has passed the tests set for self-study, 3) has the certificate set by the law of certification and 4) has received credit through part-time registration.

After completing the necessary credit requirements (140 credits for a bachelor's degree, 80 credits for a two-year associate diploma, and 120 credits for three-year associate diploma), graduation candidates may submit a degree application to either KEDI or their provincial offices of education. These applications are reviewed by the Screening Committee for Academic Credit Accreditation at KEDI, and then forwarded to the Ministry of Education (MOE) for final approval. Candidates can be awarded a degree by the MOE or they may receive a degree directly from a university or college. In the latter case, candidates must meet the specific degree requirements of the awarding institution (for example, over 85 course credits for universities and over 50 course credits for colleges).

The Credit Bank System is designed to activate collaboration with industry by offering an educational system which provides increased opportunity for education for workers.

IV. Participation of Adults in Training

Australia

In future years it will become increasingly important that the vocational education and training sector provides for the training needs of older people as well as providing entry-level training for young people. Already this is an important issue, as there has been a transformation in the age profile of the training environment since 1990, when less than 18 per cent of people in the vocational training system were over 40 years of age. By 1999, 28 per cent of vocational students were over 40 years of age. It is anticipated that the proportion of older people in the vocational education and training system will continue to increase because of demographic changes on the Australian population and changes in the nature of work which will require people to upgrade their skills and learn new skills throughout their working life.

1. Participation in education and training

Participation in formal education or study in Australia is increasing amongst older people. In 1999, students aged between 35 and 64 accounted for 18 per cent of all students compared to 15 per cent a decade earlier[9]. With the exception of women aged 55 to 64 years of age, the increases for mature–age people were greater for women than for men. Almost 5 per cent of men and 7 per cent of women in the 35–64-year-age group participated in a formal education or study program offered by an educational institution in 1999 (see table 4.1).

[9] ABS 2000, *Australian Social Trends*, p.98

Table 4.1: Education participation rates

Age in years	1989	1999	Increase (a)
	%	%	%
	Men		
15–24	46.9	56	19.4
25–34	10.5	12.7	21
35–44	6	7.3	21.7
45–54	3.1	3.5	12.9
55–64	1.2	1.6	33.3
Total 35–64	3.9	4.6	17.9
Total 15–64	16.1	17.5	8.7
	Women		
15–24	42.9	56.1	30.8
25–34	9.6	13.7	42.7
35–44	8.1	10.3	27.2
45–54	4.4	5.7	29.5
55–64	2.4	2.3	-4.2
Total 35–64	5.5	6.8	23.6
Total 15–64	15.6	18.7	19.9

(a) Difference between participation rates in 1989 and 1999 expressed as a percentage of the 1989 rate

Source: ABS 2000 *Australian Social Trends*, ABS cat no. 4102.0, 2000.

2. Financial support

About half of all people over 25 years of age enrolled in an educational qualification in Australia in 1997 did not receive any financial support to assist them to study. Financial support received to assist people to study for an educational qualification is detailed in table 4.2. The percentage of people over 25 years of age receiving employer support for study declines with age, with approximately 24 per cent of people aged between 25 and 34 years of age receiving employer support compared to less than 15 per cent of people between 55 and 64 years of age.

Table 4.2: Financial support for all persons who enrolled to study for an educational qualification in 1997

All persons	15–19	20–24	25–34	35–44	45–54	55–64	15–64
Post-school qualification	93.1	93.5	91.7	90.3	84.8	88.4	91.7
Financial support provided	69.7	56.3	42.3	37.8	31.9	39.0	50.5
Employer support	12.4	13.0	23.8	20.3	18.3	14.5	17.2
Main period employer	12.4	13.0	23.3	19.8	17.7	14.5	16.9
Other Employer	0.0	0.2	0.7	0.4	0.6	0.0	0.3
Non-employer support	59.9	45.2	22.9	18.9	17.8	24.4	36.1
Government	22.5	22.1	14.0	12.2	13.5	18.6	17.9
Other	42.1	27.1	10.5	7.1	5.5	5.8	21.0
Not known if non-employer financial support provided	0.2	0.5	0.1	0.5	0.3	0.0	0.3
No financial support provided	23.3	36.7	49.4	52.1	52.7	49.4	40.9
Other qualification	6.9	6.5	8.3	9.7	15.2	11.6	8.3
Certificate of less than one semester	3.4	4.8	7.1	8.8	14.8	8.7	6.5
Secondary school certificate	3.5	1.7	1.2	0.9	0.4	2.3	1.7
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Unpublished data from the ABS 1997 Education and Training Experience Survey

3. Factors influencing adult participation in training

Apart from age *per se*, there are a number of factors that influence adult participation in training. Such factors include attachment to the labor market and labor market status, gender, place of birth and the attainment, or otherwise, of post-school qualifications. It is the interaction of these factors with age which will influence the ability of an individual to access training. Some of the factors will act to nullify the effect of age on an individual's ability to access training. In other instances these factors will compound the effect of age on the ability of an individual to access training. The information presented in this section is based on an analysis of unpublished data from the 1997 ABS Education and Training Experience Survey (Ball 1999).

Gender

As a group, women attached to the labor market have lower training participation rates than men. Women's participation in training is an organizational issue as not all groups of women in the labor market have

lower participation rates than men. In general, participation rates for female wage and salary earners are comparable to the training participation rates of men. Self-employed women however, tend to participate less in training compared with their male counterparts. The group with the largest discrepancies in training participation rates between men and women is the group marginally attached to the labor market.

Labor force status

Details of the participation in training by persons in, or marginally attached to, the labor force in 1997 are presented in table 4.3. Of all people in the labor force, the least likely to access training are those people who are marginally attached to the labor force. By age 45, less than a quarter of each age group participated in training.

Table 4.3: Participation in training by persons in, or marginally attached to, the labor force, 1997

	Employed				Not employed			
	Wage or salary	Own business						
Age group	earner	With Employees	Without Employees	Total(c)	Unemployed	Marginally attached	Total	Total
15–29	83.3	74.1	75.5	82.4	60.1	32.6	47.1	74.9
30–39	85.0	77.2	70.3	82.5	48.6	30.1	38.5	76.5
40–44	83.1	72.6	63.9	79.1	52.9	28.2	40.0	74.5
45–49	79.7	72.7	61.7	76.2	45.5	19.2	31.5	71.9
50–54	74.6	60.8	57.4	69.8	39.5	23.6	32.5	66.0
55–59	66.2	60.9	46.4	61.0	35.6	20.2	27.9	57.0
60–64	53.6	51.3	34.5	48.6	28.6	18.9	21.5	43.6
Total	81.3	70.5	62.9	78.1	53.2	29.0	41.0	72.4
Number (000's)	**6,681.3**	**540.7**	**984.6**	**8,283.4**	**746.3**	**764.3**	**1,510.6**	**9,794.0**

Source: Unpublished data from the ABS Education and Training Experience survey

Participation in training by the unemployed declined for each age group until only 29 per cent of those aged 60 to 64 years participated in any form of training.

In contrast, over four in every five wage or salary earners participated in training. Akin to the unemployed and to those marginally attached to the labor market, participation declined notably for those in the

45–49-year-age group and for older age groups compared with younger age groups.

Although training participation declines with age for all older age groups, location within the labor market is a more important determinant of whether an individual is likely to participate in training as the proportion of wage and salary earners in the labor force declines with age. The employment status of older people changes with age. These changes are mirrored by changes in the vocational education and training system. The number of older full-time workers in vocational education and training declines while the number of older people who are self-employed or who have their own business increases. In addition, the representation of unpaid female workers, part-time male workers and those no longer in the labor force undertaking training also increases with age.

A third of all wage and salary earners participated in some form of in-house training with participation rates increasing with age until 40 years of age. A higher proportion of wage and salary earners participated in on-the-job training compared with other forms of training, with participation rates declining after 40 years of age.

Country of birth

Participation in training is strongly influenced by country of birth. Wage and salary earners who reported in the ABS survey that they were born in a country where English is not the main language were less likely to participate in all forms of training compared to wage and salary earners born in Australia or in another English–speaking country. The majority of older people in the vocational education and training system were born in Australia–almost a third of older students taking vocational courses and less than a quarter of older students in personal enrichment programs were born overseas. Older students from a non-English-speaking background are more likely to do vocational studies than a personal enrichment program.

Post-school qualifications

For labor market participants, the attainment of a post-school qualification is a major factor influencing participation in training. Across all age groups it is more likely that a person who holds a post-

school qualification will participate in some form of training compared with a person who does not. The attainment of a post-school qualification equalizes male and female training participation rates. Women without post-school qualifications have lower training participation rates than men across all age groups. In the vocational education and training system, older students with a lower secondary education are more likely to be undertaking vocational programs than personal enrichment programs. Older students in personal enrichment courses have a higher level of Year 12 completion; however, older students in vocational courses are more likely to have completed post-school qualifications.

Training participation rates for people who are marginally attached to the labor market tend to decline with age for those who hold a post-school qualification. However, participation rates are consistently low for people of all ages who are marginally attached to the labor force and who do not hold a qualification.

Industry and occupation

The age profile varies by industry and occupation with some industries and occupations displaying a relatively aged work force. However, it is not universally the case that industries and occupations with a relatively old workforce also have low training participation rates or that industries and occupations with a relatively young workforce also have high training participation rates. Therefore, the industrial and occupational profiles of older workers do not account for the decline in participation in training with age.

Type of vocational education and training

Information about the type of vocational education and training courses that older people enroll in has been obtained from the 1999 national VET provider data collection managed by NCVER. Older people tend to go to TAFE for vocational programs and to community-based providers for personal enrichment programs. However, both types of training programs offered by community providers become more appealing with age. This is particularly the case for women.

Level of qualification

Older people are equally likely to be undertaking short vocational programs or nationally recognized qualifications. As people age they are more likely to enroll in a non-award course. Details of course enrolments in a VET course by the level of qualification are provided in table 4.4. Between the ages of 25 and 44 about a quarter of all VET course enrolments will be in a non-award course. By 55 years of age, almost 2 in 5 course enrolments will be in non-award courses. People over 25 years of age who are undertaking a VET qualification are predominantly enrolled in courses at the level of AQF certificate II and III. The percentage of enrolments in AQF certificate IV and Diploma level courses declines with age.

Table 4.4: Course enrolments in each level of qualification by age, 1999

All persons	15–19	20–24	25–34	35–44	45–54	55–64	15–64
AQF diploma or higher	9.6	17.8	13.6	10.6	8.0	4.9	11.7
AQF certificate IV or equivalent	5.3	10.3	12.1	12.0	11.0	8.0	9.8
AQF certificate III or equivalent	23.5	24.9	16.5	16.1	15.4	12.8	19.3
AQF certificate II	22.6	14.0	14.4	14.6	14.6	15.3	16.4
AQF –level unknown	3.3	3.4	3.6	3.7	3.6	3.5	3.5
AQF certificate I	13.0	5.2	6.3	6.3	6.0	6.6	7.7
AQF senior secondary	0.4	0.3	0.1	0.1	0.1	0.1	0.2
Other recognized courses	6.6	8.0	10.4	11.3	12.2	12.6	9.6
Non award courses	15.6	16.1	23.0	25.3	29.2	36.2	21.8
Total enrolments	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Total enrolments ('000)	456.6	320.1	428.3	375.5	232.3	73.1	1,885.9

Source: Unpublished data from the 1999 national VET provider data collection managed by NCVER

Older people target courses that offer business management, basic education and IT. Details about the field of study in accredited VET courses undertaken by men and women by age are provided in table 4.5. Vocational courses which provide basic education skills, personal development and IT content become more important with age while interest in business, health and engineering has less priority. Interest in the humanities increases with age. Popularity of mathematics and computing with older men also increases with age while interest by women in this area and the hospitality, tourism and personal services declines. Language and literacy studies become more important to older people.

Table 4.5: Field of study in accredited VET courses by age and gender, 1999

Field of study	15–19	20–24	25–34	35–44	45–54	55–64	15-64
			Women				
Land & marine resources, animal husbandry	2.8	2.9	3.1	2.9	3.0	3.4	3.0
Architecture, building	0.8	1.2	1.5	1.2	1.1	1.1	1.2
Art, humanities & social sciences	6.9	9.2	10.8	9.3	10.4	15.1	9.5
Business, administration, economics	25.7	30.4	29.7	28.7	27.7	23.2	28.2
Education	0.8	1.5	3.0	4.0	4.4	4.8	2.8
Engineering, surveying	2.4	3.4	3.7	3.4	3.5	3.1	3.3
Health, community services	10.9	13.4	12.7	14.2	14.6	10.3	12.9
Law, legal studies	0.6	1.0	0.8	0.5	0.5	0.4	0.7
Science	4.6	4.2	5.9	7.1	7.7	9.6	6.0
Veterinary science, animal care	0.5	0.7	0.4	0.2	0.1	0.1	0.4
Services, hospitality, transportation	26.4	17.9	10.5	8.9	9.0	7.4	14.4
TAFE Multi-field education	17.7	14.2	17.9	19.5	17.9	21.6	17.8
Total enrolments	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Total enrolments ('000)	195.8	139.1	202.1	199.8	127.1	37.0	900.9
			Men				
Land & marine resources, animal husbandry	6.2	6.4	7.5	8.2	9.0	10.7	7.3
Architecture, building	12.5	11.1	7.5	6.3	5.5	4.7	9.0
Art, humanities & social sciences	4.0	4.8	5.2	4.5	4.9	7.1	4.7
Business, administration, economics	9.8	13.2	15.9	17.2	18.0	18.1	14.3
Education	0.4	0.7	1.9	3.3	4.2	4.0	1.8
Engineering, surveying	27.6	28.5	23.3	21.7	18.7	14.9	24.3
Health, community services	2.7	3.8	6.0	7.0	7.6	6.3	5.1
Law, legal studies	0.3	0.7	0.9	0.7	0.7	0.7	0.6
Science	6.2	5.3	6.4	6.8	6.8	7.9	6.3
Veterinary science, animal care	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Services, hospitality, transportation	12.9	14.0	12.4	11.2	11.8	10.6	12.5
TAFE Multi-Field Education	17.3	11.6	12.8	13.1	12.9	14.9	13.9
Total enrolments	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Total enrolments ('000)	260.2	180.3	225.2	174.7	104.6	36.0	981.0

Table 4.5: Field of study in accredited VET courses by age and gender, 1999 (continued)

	All persons						
Land & marine resources, animal husbandry	4.7	4.8	5.4	5.4	5.7	7.0	5.2
Architecture, building	7.5	6.8	4.7	3.6	3.1	2.9	5.2
Art, humanities & social sciences	5.3	6.7	7.8	7.0	7.9	11.2	7.0
Business, administration, economics	16.6	20.7	22.4	23.3	23.3	20.7	21.0
Education	0.6	1.0	2.4	3.7	4.3	4.4	2.3
Engineering, surveying	16.8	17.5	14.0	11.9	10.4	8.9	14.2
Health, community services	6.2	8.0	9.2	10.9	11.5	8.3	8.9
Law, legal studies	0.4	0.8	0.9	0.6	0.6	0.5	0.7
Science	5.5	4.8	6.2	7.0	7.3	8.7	6.2
Veterinary science, animal care	0.2	0.3	0.2	0.1	0.1	0.0	0.2
Services, hospitality, transportation	18.7	15.8	11.6	10.0	10.3	9.0	13.4
TAFE Multi-Field Education	17.5	12.7	15.2	16.5	15.6	18.2	15.8
Total enrolments	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Total enrolments ('000)	456.6	320.1	428.3	375.5	232.3	73.1	1,885.9

Source: Unpublished data from the 1999 national VET provider data collection managed by NCVER

Occupation and industry of training

Course enrolment by adults in vocational education and training courses are relevant to a diverse range of occupations and industries. Details on the most common occupational outcome which the vocational education and training course is designed to provide and the industry type of the course are provided in tables 4.6 and 4.7, respectively. Both men and women are more likely to enroll in a general course that is not related to a specific occupation or industry as they get older. Over half of men and over 60 per cent of women aged between 55 and 64 enroll in a general course.

The percentage of men enrolling in a course related to 'tradespersons and related workers' and 'associate professionals' occupational groupings declines with age, while the percentage of men enrolling in a course related to 'managers and administrators' (5 per cent) and 'intermediate clerical sales and service workers' (7 per cent) occupational grouping does not change with age.

Women are more likely to be enrolled in courses that relate to the 'intermediate clerical sales and service workers' and 'professionals'

occupational groupings than other occupations. However, the percentage of women enrolling in these courses declines with age.

Table 4.6: Courses enrolled by VET students by occupational grouping, by age and gender, 1999

Occupation	15–19	20–24	25–34	35–44	45–54	55–64	15–64
Men							
Managers & administrators	2.1	3.8	4.7	5.1	5.1	5.4	4
Professionals	7.2	10.4	11.2	11.9	11.1	8.8	10
Associate professionals	6.5	12.3	11.8	10.3	8.5	5.7	9.6
Tradespersons & related workers	29	27.8	14.7	11.6	9.4	8	19.5
Advanced clerical & service workers	0.9	0.8	0.8	0.8	1	1.1	0.9
Intermediate clerical sales & service workers	8.7	7.8	7	6.2	6.8	7.1	7.5
Intermediate production & transport workers	2.8	4.8	7.6	8	7.4	5.6	5.8
Elementary clerical sales & service workers	3.5	1.7	1.9	1.7	2	1.7	2.3
Laborers & related workers	12.1	6.9	9	9.5	9.9	9.8	9.7
GEN Codes	27.1	23.7	31.1	34.9	38.9	46.7	30.8
All enrolments	100	100	100	100	100	100	100
All enrolments ('000)	260.2	180.3	225.2	174.7	104.6	36	981
Women							
Managers & administrators	3.5	6.8	4.9	3.5	2.8	2	4.2
Professionals	7.2	12.7	14.4	13.7	12.2	9.9	11.9
Associate professionals	6.3	10.6	8.7	7.8	6.8	3.5	7.8
Tradespersons & related workers	7.6	6.2	4	3.2	3	2.8	4.7
Advanced clerical & service workers	2.8	2.7	2.1	2.4	2.2	1.8	2.4
Intermediate clerical sales & service workers	30.9	23.9	17.1	16.4	15.5	11.4	20.5
Intermediate production & transport workers	0.6	0.9	1.1	1.1	1.1	0.8	0.9
Elementary clerical sales & service workers	5.9	2.3	1.7	1.5	1.4	1	2.6
Laborers & related workers	5.3	3.3	3.9	4.8	5.9	5.5	4.7
GEN Codes	29.8	30.7	42.1	45.8	49.2	61.2	40.3
All enrolments	100	100	100	100	100	100	100
All enrolments ('000)	195.8	139.1	202.1	199.8	127.1	37	900.9

Table 4.6: Courses enrolled by VET students by occupational grouping, by age and gender, 1999 (continued)

	All Persons						
Managers & administrators	2.7	5.1	4.8	4.2	3.8	3.7	4.1
Professionals	7.2	11.3	12.7	12.8	11.7	9.3	10.9
Associate professionals	6.4	11.5	10.3	8.9	7.5	4.6	8.7
Tradespersons & related workers	19.8	18.3	9.6	7.1	5.9	5.4	12.4
Advanced clerical & service workers	1.7	1.6	1.5	1.7	1.6	1.5	1.6
Intermediate clerical sales & service workers	18.3	15	11.9	11.7	11.7	9.4	13.8
Intermediate production & transport workers	1.9	3.1	4.5	4.3	3.9	3.2	3.5
Elementary clerical sales & service workers	4.5	1.9	1.8	1.6	1.7	1.4	2.4
Laborers & related workers	9.2	5.3	6.6	7	7.7	7.6	7.3
GEN Codes	28.3	26.7	36.2	40.7	44.5	54	35.3
All enrolments	100	100	100	100	100	100	100
All enrolments ('000)	456.6	320.1	428.3	375.5	232.3	73.1	1,885.90

The occupational grouping refers to the most common occupational outcome the course is designed to provide.

Source: Unpublished data from the national VET provider data collection managed by NCVER

Table 4.7: Course enrolments by industry type, by age, 1999

All Persons	15–19	20–24	25–34	35–44	45–54	55–64	15–64
1 - Arts entertainment sport & recreation	4.5	3.8	2.7	2.2	2.1	2.8	3.1
2 – Automotive	3.6	2.8	0.8	0.5	0.4	0.4	1.7
3 – Building & construction	6.1	6.1	4.1	3.0	2.5	2.1	4.4
4 - Community services health & education	4.6	6.5	7.4	8.7	8.6	6.0	6.9
5 – Finance banking & insurance	0.8	2.1	2.3	2.0	2.2	1.8	1.8
6 – Food processing	1.6	2.3	2.7	2.9	3.2	3.1	2.5
7 – TCF & furnishings	1.9	1.5	1.1	1.1	1.1	1.3	1.4
8 - Communications	0.5	0.8	0.4	0.3	0.3	0.2	0.4
9 - Engineering & mining	6.4	5.5	4.3	3.5	2.7	2.3	4.6
10 – Primary industry	4.4	4.4	4.7	4.5	4.7	5.7	4.5
11 – Process manufacturing	0.2	0.1	0.3	0.3	0.2	0.1	0.2
12 - Sales & personal services	4.8	4.0	2.8	2.1	2.0	1.4	3.2
13 – Tourism & hospitality	11.9	8.3	4.7	4.0	4.0	3.2	6.8
14 - Transport & storage	0.7	1.8	2.7	2.5	2.3	1.9	1.9
15 – Utilities	3.1	4.3	3.1	2.6	2.1	1.5	3.0
16 - Business & clerical	15.8	16.7	17.4	17.6	16.3	11.8	16.6
17 – Computing	5.0	6.6	9.2	11.4	12.6	15.8	8.8
18 – Science technical & training	4.4	5.2	7.8	8.2	9.3	10.6	6.9
19 - General education & training	19.9	17.3	21.6	22.9	23.2	28.2	21.2
Total enrolments	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Total enrolments ('000)	456.6	320.1	428.3	375.5	232.3	73.1	1,885.9

Source: Unpublished data from the national VET provider data collection managed by NCVER

Although course enrolments by adults in vocational education and training are relevant to a diverse range of industry types, over 10 per cent of adults across each age group in table 4.7 are enrolled in courses relevant to the 'business and clerical' industry type. A relatively high proportion of course enrolments by adults are in courses relevant to the 'community services and health' and 'primary industry' industry type

4. Reasons for participation in training

The reasons why older workers participate in training are different from those of younger people who are at the start of their working life. Information about the reasons why older workers undertake training has been obtained from qualitative research conducted by Barnett (1999) and from an analysis of unpublished data from the 1999 Student Outcomes Survey managed by NCVER. Respondents to the 1999 Student Outcomes Survey were asked the main reason why they chose to study a TAFE course. Details on the responses from TAFE graduates and from people who left TAFE after completing at least one subject are provided in tables 4.8 and 4.9, respectively.

Table 4.8: Main reason for TAFE graduates choosing a TAFE course

All persons	15–19	20–24	25–34	35–44	45–54	55–64	15–64
To get a job (or own business)	43.5	30.4	20.5	23.4	21.2	18.0	27.1
To try for a different career	4.7	8.8	19.2	17.7	15.6	10.2	13.4
To get a better job or promotion	3.9	10.1	19.8	15.3	11.0	6.2	12.5
It was a requirement of my job	13.5	22.4	6.7	6.6	9.9	11.3	12.2
I wanted extra skills for my job	5.4	8.6	15.5	18.8	23.2	20.2	14.1
To get into another course of study	9.7	6.9	5.8	4.6	3.3	4.1	6.0
For interest or personal reasons	14.1	9.8	10.1	11.1	12.8	26.4	11.6
Other reasons	4.2	2.1	1.9	2.2	2.4	2.8	2.4
Not stated/refused	1.0	0.7	0.6	0.5	0.6	0.8	0.7
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Unpublished data from the 1999 Student Outcomes Survey managed by NCVER

Table 4.9: Main reason for subject completers choosing a TAFE course

All persons	15–19	20–24	25–34	35–44	45–54	55–64	15–64
To get a job (or own business)	34.9	25.5	13.9	16.1	12.8	9.3	19.0
To try for a different career	5.3	10.7	14.5	9.5	6.2	2.4	9.2
To get a better job or promotion	2.9	9.2	10.5	7.9	6.3	3.9	7.4
It was a requirement of my job	9.0	15.4	8.5	9.4	14.0	13.7	11.1
I wanted extra skills for my job	6.6	13.9	25.7	26.3	31.3	24.4	22.1
To get into another course of study	5.8	6.0	3.7	3.0	1.7	2.0	3.7
For interest or personal reasons	26.6	14.5	19.3	23.6	23.8	36.1	22.4
Other reasons	7.8	3.8	2.6	3.1	2.6	3.4	3.7
Not stated/refused	1.2	1.0	1.3	1.2	1.5	4.9	1.5
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Unpublished data from the 1999 Student Outcomes Survey managed by NCVER

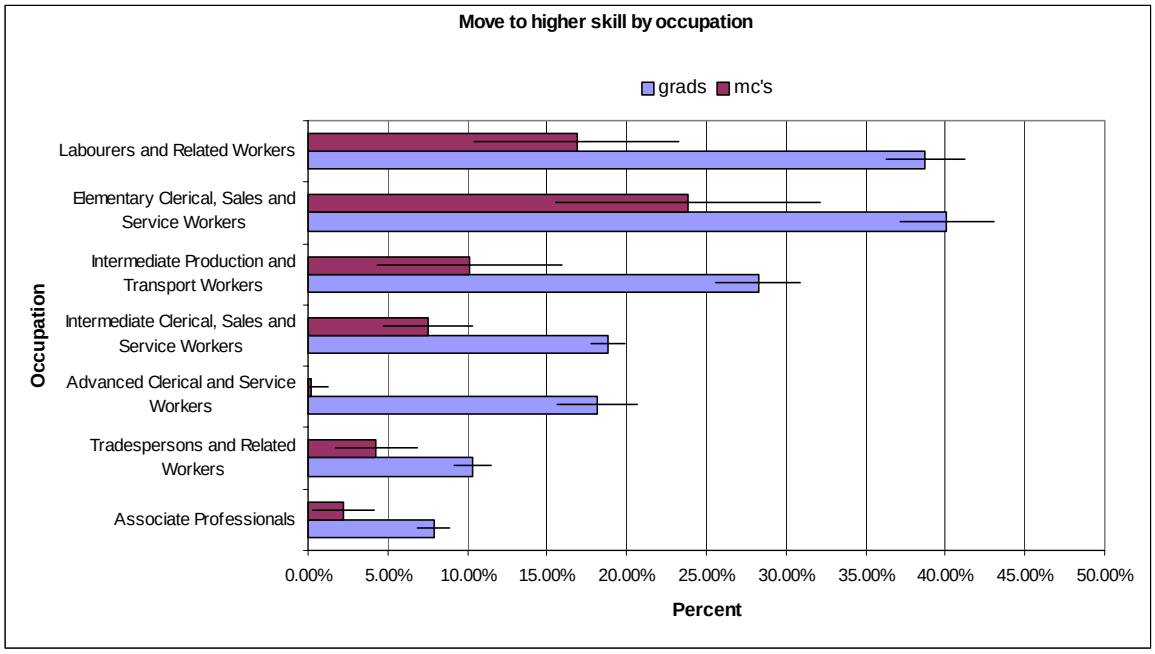
The primary motivation of older people, who responded to the 1999 Student Outcomes Survey, for taking a course was to gain extra skills for their job. This was the primary motivation for both TAFE graduates and for people who were only studying a few subjects and would not complete a qualification. This motivation is reflected in the high proportion of older people (60 per cent) who remained with their employer after completing their studies. Men were more likely than women to stay with the same employer. The majority of workers were employed in organizations with an Australia-wide workforce of more than 100 workers.

The secondary motivation for TAFE graduates was to gain employment or to own a business, followed by interest and personal development. The motivation of TAFE graduates undertaking a course to change careers declines with age with 20 per cent of TAFE graduates between 25 and 35 years of age undertaking a course to change careers compared with 11 per cent of people between 45 and 54 years of age. Older women were more likely to have this objective than older men.

Most older workers who were studying to gain extra skills achieved their objective. Two–thirds of older workers fully or partly achieved getting a better job or a promotion. Many of these workers moved to a more highly skilled occupation after completing their qualification or course of study (see figure 4.1). However, only half of all older graduates who

undertook training as a means of finding employment or establishing their own business achieved their objective. Only three in ten of those unemployed before their course found employment after their course and more than a quarter of these people had found a job before completing their course. The low employment rates suggest that TAFE qualifications had little effect on securing employment for older graduates and is further evidence that prior experience is very important for older workers seeking employment.

Figure 4.1: Movement to higher skilled occupations of employed graduates and module completers aged 25 to 64 years by occupation, 1999 (per cent)



Source: Unpublished data from the 1999 Student Outcomes Survey managed by NCVER

Adult reskilling: apprenticeships and traineeships

Since the removal of age barriers on apprenticeships and traineeships in Australia, a third of adults in a contract of training are over 25 years of age. About 29 per cent of males in a contract of training are over 25

years of age and 9 per cent are over 40 years of age. Almost 44 per cent of females in a contract of training are over 25 years of age and 19 per cent are over 40 years of age.

Table 4.10: Contract of training commencements by occupational grouping by age, 1999

All persons	15-19	20-24	25-34	35-44	45-54	55-64	15-64
1 Managers & administrators	1.5	1.0	0.9	0.6	0.4	0.5	1.1
2 Professionals	0.3	0.7	0.9	1.2	1.1	0.9	0.7
3 Associate professionals	3.1	4.2	4.2	3.7	3.1	1.9	3.6
4 Tradespersons & related workers	46.2	26.3	13.5	7.5	4.6	4.1	27.3
41 Mechanical & fabrication engineering tradespersons	5.7	2.7	1.4	0.7	0.3	0.5	3.1
42 Automotive tradespersons	7.8	3.5	1.6	0.6	0.3	0.3	4.1
43 Electrical & electronics tradespersons	5.7	3.3	1.6	0.8	0.2	0.0	3.3
44 Construction tradespersons	11.4	5.9	2.2	0.6	0.1	0.0	6.1
45 Food tradespersons	6.8	5.7	3.8	2.6	2.1	1.9	5.0
46 Skilled agricultural & horticultural workers	1.3	1.2	0.9	0.9	0.7	0.8	1.1
49 Other tradespersons & related workers	7.6	4.0	2.0	1.3	0.9	0.7	4.4
491 Printing tradespersons	*0.4*	*0.5*	*0.2*	*0.1*	*0.0*	*0.0*	*0.3*
492 Wood tradespersons	*2.2*	*0.8*	*0.3*	*0.2*	*0.1*	*0.0*	*1.1*
493 Hairdressers	*4.2*	*1.8*	*0.7*	*0.3*	*0.1*	*0.0*	*2.2*
494 Textile clothing & related tradespersons	*0.3*	*0.4*	*0.5*	*0.6*	*0.6*	*0.5*	*0.4*
498 Miscellaneous tradespersons & related workers	0.5	0.4	0.2	0.1	0.0	0.1	0.3
499 Miscellaneous tradespersons & related workers	0.1	0.1	0.1	0.0	0.0	0.0	0.1
490 Other tradespersons & related workers	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5 Advanced clerical & service workers	0.0	0.1	0.1	0.0	0.0	0.0	0.0
6 Intermediate clerical sales & service workers	23.9	30.3	27.7	29.7	30.4	23.0	27.2
7 Intermediate production & transport workers	2.1	3.9	8.2	10.4	10.3	11.4	5.4
8 Elementary clerical sales & service workers	15.6	23.7	26.3	20.9	20.3	20.2	20.4
9 Laborers & related workers	7.1	10.0	18.3	26.0	29.9	38.1	14.4
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Total ('000)	72.1	42.0	33.6	22.4	14.7	3.7	188.4

Source: Unpublished data from the contracts of training data collection managed by NCVER

Details about the occupational grouping of people in a contract of training in 1999 are presented in table 4.10. Over half of adults between 25 and 54 years of age are clerical, sales and service workers. Over a quarter of people over 35 years of age in a contract of training are in the

laborers and related workers occupational category. The percentage of people in a contract of training in the tradespersons and related workers occupational category declines with age with 14 per cent of people between 25 and 34 years of age in this occupational category. Less than 5 per cent of people in a contract of training over 45 years of age are in the tradespersons and related workers occupational category.

Training provided by employers

In addition to the formal or recognised training system, adult training is also undertaken in the private sector by employers. This training takes the form of short, specific-purpose programs and is often not accredited.

Although 61 per cent of employers reported in 1997 that they had provided training over a twelve–month period, the amount of training provided by employers differs by industry sector and by size of firm. Employers predominantly provided unstructured training as over half of all employers provided unstructured training and only a third provided structured training. Details on the percentage of employers providing training by industry and by employer size are provided in tables 4.11 and 4.12, respectively.

The industries with the highest percentage of employers providing training were government, administration and defense (99 per cent), electricity, gas and water supply (87 per cent), personal and other services (78 per cent), and education (76 per cent). The industries with relatively few employers providing training were cultural and recreational services (50 per cent), communication services (54 per cent) and mining (54 per cent).

Employers with a large number of employees are more likely to provide training than employers with a small number of employees. Almost all employers with 100 or more employees reported in 1997 that they had provided training over a twelve–month period, with 94 per cent providing unstructured training and 91 per cent providing unstructured training (see table 4.12). However, these larger firms only account for 2 per cent of all Australian employers. Small firms with between 1 and 19 employees account for 90 per cent of all employers. Only 49 per cent of these smaller employers reported in 1997 that they had provided training

Table 4.11: Training provided by employers in the last 12 months, by industry

Training provided in the last 12 months	Employer providing structured training	Employer providing unstructured training	Total employers providing training
By industry			
Agriculture, forestry & fishing			
Mining	37	39	54
Manufacturing	35	60	68
Electricity, gas & water supply	83	77	87
Construction	29	36	47
Wholesale trade	40	53	61
Retail trade	29	55	60
Accommodation, cafes & restaurants	24	52	55
Transport & storage	31	37	43
Communication services	37	45	54
Finance & insurance	47	53	68
Property & business services	36	53	60
Government admin. & defence	99	88	99
Education	52	64	76
Health & community services	42	59	68
Cultural & recreational services	29	44	50
Personal & other services	36	70	78
All industries	35	53	61

Source: ABS 1997 *Employer training practices*, *Australia*, cat no. 6356.0

Table 4.12: Training provided by employers in the last 12 months, by firm size

By sector	Employer size			
Provided training	1–19 employees	20–99 employees	100 or more	All employers
Structured training	30	71	94	35
Unstructured training	49	86	91	53
Employers providing training	57	94	99	61
Proportion of all employers	90	8	2	100

Source: ABS 1997, *Employer training practices, Australia*, 1997 cat no. 6356. Employees who were employed as associate professionals or professionals, managers and administrators were more likely to have received both structured and unstructured training from their employers over the twelve months to 1997 than other employees (see table 4.13).

over a twelve–month period, with 30 per cent providing structured training and 57 per cent providing unstructured training.

Table 4.13: Training provided by employers in the last 12 months, by occupation

By occupation	Employer providing structured training	Employer providing unstructured training	Total employers providing training
Laborers and related workers	72	79	89
Production and transport workers	78	85	91
Elementary clerical, sales and service workers	77	84	93
Intermediate clerical, sales and service workers	80	86	92
Advanced clerical, sales and service workers	77	85	90
Tradespersons and related workers	79	78	90
Associate professionals	90	87	96
Professionals, managers and administrators	88	89	94
All employees	80	84	92

Source: ABS 1997 *Employer training practices, Australia*, 1997 cat no. 6356.0

The main methods used by Australian employers in 1997 to identify their training needs are informal training methods, individual employees identifying their own training needs, performance appraisals and the requirements of regulations and awards. Details about the methods used by employers in 1997 to determine structured training requirements are provided in table 4.14.

Table 4.14: Methods used most often to determine requirements for structured training in last 12 months

Method used to determine structured training requirements	Employers providing structured training
Performance appraisal	15
Skills audits/training needs analysis	11
Training determined by regulations and awards	15
Individual employees flag their own training requirements	18
Informal methods	24
response to external client feedback	2
Other	7
No methods	9
Total	100

Source: ABS 1997 *Employer training practices, Australia*, 1997 cat no. 6356.0

An age profile of people who reported in 1997 that they had participated in on-the-job training is provided in table 4.15. Participation in on-the-job training for adults aged over 25 years of age declines with age with 68 per cent of people between 25 and 34 participating in on-the-job training compared with 56 per cent of people aged between 55 and 64. Adults over 25 years of age participated in all forms of on-the-job training including asking questions of co-workers, watching others work, being shown how to do the job and self-teaching.

Table 4.15: All persons who undertook on-the-job training activities in the last 12 months

All persons	15–19	20–24	25–34	35–44	45–54	55–64	15–64
Employed in the last 12 months	37.1	88.3	90.4	91.0	92.7	89.4	84.4
Did on-the-job training	32.7	74.1	68.3	64.7	59.0	45.7	60.4
Asking questions of co-workers	24.0	55.7	49.7	45.5	36.3	24.7	41.9
Teaching self	19.7	54.8	55.8	54.7	49.0	36.0	48.3
Being shown how to do the job	28.0	53.0	36.7	27.1	20.2	13.9	30.4
Watching others work	23.8	49.4	39.6	32.3	23.9	14.9	32.3
Other	1.4	4.5	4.6	3.8	2.9	2.4	3.5
Did not do on-the-job training	4.4	14.2	22.1	26.3	33.7	43.7	24.0
Not employed in the last 12 months	10.3	11.6	9.6	9.0	7.3	10.6	9.4
Still at secondary school	52.5	0.1	0.0	0.0	0.0	0.0	6.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: ABS 1997 *Employer training practices, Australia*, 1997 cat no. 6356.0

The outcomes reported by wages and salary earners in 1997 from training courses completed in the last 12 months are shown in table 4.16. Respondents to the education and training experience survey conducted by the ABS during 1997 were asked if the training courses they had undertaken while working had improved their job performance, had helped them to obtain a promotion and if the skills they had attained could be used by another employer. About 86 per cent of survey respondents across all age groups reported that the training course they had undertaken had improved their job performance. Almost 88 per cent of all respondents reported that another employer could use the skills they had attained.

Only one in ten respondents to the survey reported that the training courses they had completed had helped them gain a promotion. The likelihood of a training course helping a wage and salary earner gain a

promotion declines with age with only one in eighteen wage and salary earners over 55 years of age reporting that the training courses they had completed had helped them to gain a promotion.

Table 4.16: Outcomes for wage and salary earners from training courses completed in the last 12 months

Age	Improved job performance	Helped obtain promotion	Skills could be used by another employer
25–34 years	86.4	10.9	87.5
35–44 years	86.2	8.4	87.1
45–54 years	86.0	6.2	88.5
55–64 years	86.2	5.6	85.0
All ages (15-64 years)	86.0	9.2	87.6

Source: ABS 1997, *Education and Training Experience, Australia*, Table 7.5, ABS cat no. 6278.0

The results of the survey indicate that training courses undertaken by wage and salary earners are successful in improving their job performance and the skills that are attained are transferable to other employers. In general, training courses undertaken by wage and salary earners at work are relevant to the tasks performed in the current job and are not preparing wage and salary earners for a higher level job.

Korea

1. Participation of adults in education

There are little data on the participation of adults in vocational education and training in Korea. The most reliable data existing in Korea are from *The social statistics survey* conducted by the National Statistics Survey in 1996.

According to the survey, the participation rate of people aged over 15 in lifelong learning (workplace education, learning at private institutes, liberal arts education, job training, learning through TV and radio and others) is 17.37 per cent. Overall, people who are young and male are more likely to take lifelong learning than if they are old and female.

Table 4.17: Annual participation rate in adult learning programs, age and gender, 1996

	Partici-pation rate	Work Place Training	Learning at institutes	Cultural arts Program	Job Training	Mass-Media Lectures	Others
Total	**17.37**	**9.08**	**3.47**	**3.13**	**2.24**	**3.79**	**0.38**
15–19	19.36	10.79	7.77	2.06	1.43	2.19	0.15
20–24	24.83	13.51	10.80	2.81	1.96	3.93	0.28
25–29	25.69	15.29	8.01	3.13	1.57	5.47	0.50
30–34	22.76	13.36	3.87	4.30	1.72	5.61	0.61
35–39	20.62	11.35	2.95	4.28	2.12	4.80	0.55
40–44	17.16	8.23	1.90	4.00	2.52	3.87	0.43
45–49	15.79	7.44	1.58	3.19	3.27	3.70	0.46
50–54	12.47	5.64	1.14	2.40	2.87	2.97	0.26
55–59	10.27	4.03	0.39	2.33	3.26	2.14	0.15
60–64	8.61	2.37	0.26	1.81	3.45	1.87	0.15
65+	3.43	0.42	0.11	1.20	1.25	0.68	0.07
Men	21.62	13.18	3.35	2.45	3.73	3.78	0.42
Women	13.49	5.34	3.58	3.74	0.88	3.79	0.35

Source: National Statistical Office 1996, *Report on the Social Statistics Survey*

The results of the survey show that the chances of adult learning increase with educational qualifications; those holding higher education

qualifications being most likely to have access to adult learning (see table 4.17)

.

There are differences in the participation of adults in lifelong learning in terms of occupation. Those in managerial, professional and clerical posts undertook more education than other groups.

Table 4.18: Annual participation rate in adult learning programs, educational level and occupation, 1996

	Partici-Pation rate	Work Place learning	Learnig at institutes	Cultural arts Programs	Job Training	Mass-Media Lectures	Others
Total	17.37	9.08	3.47	3.13	2.24	3.79	0.38
Educational							
Primary graduate	4.28	0.54	0.17	0.82	2.38	0.59	0.08
Middle S	8.29	2.32	0.66	1.83	2.39	2.09	0.22
High S	18.53	9.07	3.52	3.60	2.19	4.25	0.27
College	41.82	27.54	10.68	6.55	2.01	8.87	1.23
Occupation							
Managerial Professional	44.56	32.50	9.43	6.69	2.35	8.26	1.19
Clerical	39.53	29.33	11.49	4.17	1.88	5.30	0.67
Sales & service	11.38	4.49	1.77	2.31	1.65	2.85	0.17
Agriculture & fishing	13.67	0.27	0.30	1.65	11.61	1.24	0.05
Production	12.67	7.15	1.59	1.62	1.86	2.73	0.23

Source: National Statistical Office 1997, *Report on the social statistics survey.*

Participation of adults in VET programs

In the survey, adult training is categorized into workplace learning and job training.[10] The participation rate of people in workplace learning was 9.1 per cent and in job training was 2.24 per cent. Overall, more men participated in education and training. People who are male, young, employed, with a high educational level are more likely to participate in

[10] There is no clear differentiation between workplace learning and job training in the questionnaire. It is reported that workplace learning included training in corporate culture, training by target group, foreign languages, etc undertaken at the workplace. Job training included initial training, and job upgrading training undertaken at the workplace as well as in other institutions.

workplace education and a longer period of training than old, unemployed, and with a low educational level. People who are old and poorly educated are more likely to participate in job training.

Table 4.19: Participation rate of adults in vocational training

	Total	In-house training		Vocational training	
		Rate	Day	Rate	Day
Total	17.4	9.1	12.3	2.2	8.9
Age					
15–19	19.4	10.8	1.9	1.4	0.3
20–24	24.8	13.5	1.5	2.0	0.5
25–29	25.7	15.3	2.2	1.6	0.3
30–34	22.8	13.4	1.7	1.7	0.2
35–39	20.6	11.4	1.5	2.1	0.2
40–44	17.2	8.2	0.8	2.5	0.2
45–49	15.8	7.4	0.9	3.3	0.2
50–54	12.5	5.6	0.6	2.9	0.2
55–59	10.3	4.0	0.4	3.3	0.1
60–64	8.6	2.4	0.2	3.5	0.1
65+	3.4	0.4	-	1.3	-
Educational level					
College graduates	41.8	27.5	14.4	2.0	12.7
High school graduates	18.5	9.1	10.2	2.2	11.9
Middle school graduates	8.3	2.3	6.5	2.4	7.8
Primary school or below	4.3	0.5	8.4	2.4	3.0
Gender					
Men	21.6	13.2	12.6	3.7	7.4
Women	13.5	5.3	11.7	0.9	14.8

Source: National Statistical Office 1997, *Report on the social statistics survey.*

2. Participation of adults in retraining and reskilling

1) Characteristics of those surveyed

Those surveyed were categorized by firm size, industrial sector, occupation, educational level, age and gender as shown in table 4.20

Firm size is categorized by small firms (5-99 employees), medium–size (100–299), large size (300–999) and larger size (more than 1000 employees).

Industrial sector is categorized by manufacturing, wholesale and retail, banking, finance and insurance, and other services.

There are six occupational categories: manager and administrator, professionals and technicians, advanced level clerical workers, low–level clerical workers, sales and service workers, and production workers.

Table 4.20: Characteristics of those surveyed

	Total	Men	Women
	1029	**525(100)**	**504(100)**
Firm size			
5–99	343(33.3)	183(34.9)	160(31.7)
100–299	252(24.5)	127(24.2)	125(24.8)
300–999	207(20.1)	101(19.2)	106(21.0)
1000 or more	227(22.1)	114(21.7)	113(22.5)
Industrial sector			
Manufacturing	302(29.3)	168(32.0)	134(26.6)
Wholesale, & retail	105(10.2)	51(9.7)	54(10.7)
Finance & insurance	304(29.5)	140(26.7)	164(32.5)
Services	318(30.9)	166(31.6)	152(30.2)
Occupation			
Manager & administrator	71(6.9)	60(11.4)	11(2.2)
Professionals & technicians	145(14.1)	102(19.4)	43(8.5)
Advanced level clerical workers	251(24.4)	98(18.7)	150(29.8)
Low level clerical workers	186(18.1)	88(16.8)	121(24.0)
Sales and service workers	193(18.8)	100(19.0)	93(18.5)
Production workers	173(16.8)	87(16.6)	86(17.0)
Educational level			
High school graduate or below	443(43.1)	174(33.1)	269(57.5)
Junior college	586(56.9)	351(66.9)	235(46.6)
Age			
Less than 24	76(7.4)	12(2.3)	64(12.7)
25–34	652(63.4)	320(61.0)	332(65.9)
35–44	240(23.3)	153(29.1)	87(17.3)
45–54	58(5.6)	37(7.0)	21(4.2)
More than 55	3(0.3)	3(6.0)	0(0.0)

Source: KRIVET 2000, Training Experience Survey

Educational level is sub-divided into two: high school graduate or below and junior college and above.

There are five age group categories: 24 years old or less, 25–34, 35–44, 45–54, and 55 years old or more.

The sample size was weighted to reflect the present male to female employee ratio (currently approximately 3:1) in the labor market. This accounts for a slight margin of error when calculating category totals or percentages.

2) Reasons for undertaking training

The reasons why workers participate in training are different depending on the age group. The primary motivator of people who responded to the survey for taking a training course was to meet requests by their supervisor or manager to undertake training (49.2 per cent). The secondary motivator was to be promoted or obtain a certificate, followed by self-motivated (personal interest). Only 1.9 per cent of people undertook training for the purpose of obtaining a certificate or being promoted. This implies that training is not related to career advancement.

Table 4.21: Reasons for undertaking training

	Total	Type A	Type B	Type C	Type D	Type E	Others	No Answer
Total	**682**	**11.7**	**12.3**	**1.9**	**49.2**	**8.2**	**12.0**	**4.7**
Age								
24	47	16.8	13.3	-	49.9	1.7	14.7	3.6
25–34	428	11.1	7.7	1.8	53.1	5.9	13.8	6.6
35–44	165	8.9	25.0	2.4	37.9	13.7	9.8	2.3
45–54	41	21.0	3.2	2.7	55.8	12.7	4.5	-
55	1	-	100.0	-	-	-	-	-
Gender								
Men	367	11.1	14.2	1.6	48.0	8.3	11.9	4.9
Women	315	12.9	8.7	2.3	51.3	8.0	12.2	4.4

Type A: self-motivated

Type B: labor-management agreement

Type C: for promotion or obtaining a certificate

Type D: requested by supervisors or managers

Type E: next-in line training

3) Courses of enterprise training

Courses of employer-provided training are divided into several categories. They include training for target groups, job upgrading training, computer literacy training, training for internationalization and corporate culture training.

Training courses for target groups are provided to groups such as new entrants, new executives, executives, factory managers, managers, female workers. The type of training includes leadership training, competency development training and skills development training, etc.

Courses in job upgrading training include management and planning, financing and management, personnel, international trade, production management, production technology, plant automatization, information management, marketing, financing and insurance, quality control, industrial safety and environmental management.

Courses in training for internationalization include English for trade, Japanese for trade, strategy for overseas marketing and international negotiation skills.

Courses in computer literacy training include word processing, spread sheets, data base, computer communication including internet and webpage design.

Corporate culture training includes special lectures, workplace etiquette, work ethics, corporate strategy and labor relations.

According to the results of the survey, a majority of workers (about 66.3 per cent) received training of a some sort during the previous 12 months. However, while 37.7 per cent of workers took a course in job upgrading training, 34.2 per cent in corporate culture training, and 24.2 per cent in training for target group, only 5.2 per cent of those surveyed received training for internationalization in the same period.

Overall, men received more training than women. Men received more training in generic knowledge and skills, and job–specific training than women, while women received more training in corporate culture than

men.

Table 4.22: Workers receiving training during the previous 12 months, by course and sex Unit: %

	Total	Men	Women
Training for target group	24.2 (353)	25.5	22.2
Job–upgrading training	37.7 (432)	41.1	32.6
Computer literacy training	18.7 (256)	20.2	16.3
Internationalization	5.2 (73)	7.1	2.3
Corporate culture training	34.2 (398)	36.3	31.0

Source: KRIVET 2000, Training Experience Survey

4) Job–upgrading training

Participation of job–upgrading training

Overall, according to the survey, 37.7 per cent of employees of working age received job-related training in the twelve-month period prior to the survey. A greater proportion of men than women received training: 41.1 per cent as opposed to 32.6 per cent (table 4.22).

The proportion of employees trained increases as firm size increases: 26.0 per cent of employees in small firms (5–99 employees) received job–related training, whereas 62.9 per cent of employees in large firms with more than 1 000 employees received training.

More employees received training, on average, in the services sector than those in the manufacturing sector. In the service sector, employees in banking, finance and insurance received significantly more training than employees in wholesale and retail and other services. Employees in 'other services', including education, medical and other health services, received the lowest proportion of training, with about 36.3 per cent receiving job–upgrading training.

There are differences in training experience in terms of occupation. Those in managerial, professional, technical and advanced level clerical posts received more training from employers than other groups. The survey found the highest proportion of employees trained to be in

professional posts and the lowest in low-level clerical and production worker categories (see table 4.23).

There are also differences in training experiences in terms of the types of workers who receive training. For instance, younger workers receive more training than older workers. This clearly fits the predictions of the human capital model. On the one hand, young workers generally have lower levels of existing skills and experience than older workers; on the other hand, they have longer expected working lives remaining in which to recover the cost of the investment in their training.

The survey found that the chances of receiving job-related training increase with educational qualifications. Those most likely to receive training are young people with previous qualifications (those holding some higher education qualification being the most likely to have access to job-related training). Individuals with existing qualifications are likely to be more 'trainable' than those without, and are therefore likely to receive more training

For example, the longer the number of post-investment returns expected, the more likely an individual is to be receiving training. The data confirm that younger people receive more training. Similarly, individuals who have invested in a substantial amount of formal education have demonstrated 'trainability', an ability to absorb knowledge and skills quickly. This indicates to employers that the cost of training is lower for them than for the less–educated. The data again support the hypothesis that training is positively correlated with prior educational achievement. These and other patterns in the data indicate that firms and individuals act rationally in the training field.

Table 4.23: Workers receiving job–upgrading training during the previous 12 months

Unit: %

	Total	Received training	Not received
Total	**100 (1029)**	**37.7**	**62.3**
Firm size			
5–99	100 (343)	26.0	74.0
100–299	100 (252)	43.4	56.6
300–999	100 (207)	38.3	61.7
1000	100 (227)	62.9	37.1
Industrial sector			
Manufacturing	100 (302)	37.3	62.7
Wholesale & retail	100 (105)	37.9	62.1
Finance & insurance	100 (304)	54.8	45.2
Services	100 (318)	36.3	63.7
Occupation			
Managers & administrators	100 (71)	42.8	57.2
Professionals & technicians	100 (145)	41.9	58.1
Advanced–level clerical workers	100 (126)	47.9	52.1
Low–level clerical workers	100 (321)	25.7	74.3
Sales & service workers	100 (193)	43.5	56.5
Production workers	100 (173)	32.5	67.5
Educational level			
High school graduates or below	100 (443)	35.6	64.4
Junior college graduate or more	100 (586)	41.0	59.0
Age			
Less than 24	100 (76)	30.5	69.5
25–34	100 (652)	33.7	66.3
35–44	100 (240)	48.8	51.2
45–54	100 (58)	41.9	58.1
55 or more	100 (3)	12.3	87.7
Gender			
Men	100 (525)	41.1	58.9
Women	100 (504)	32.6	67.4

Source: KRIVET 2000, Training Experience Survey

Fields of training[11]

[11] Field of training in Korea is different from that (field of study) of Australia. While field of study in Australia is specific and is similar to field of specialization in junior college in Korea, field of training in Korea is more likely to be general.

Workers were asked what fields they had received job–upgrading training in during the previous 12 months. The job–upgrading training was categorized into 13 fields as shown in Table 4.24.

Since the fields of training courses are defined differently depending on the training providers, the category of 'other' accounted for about 32.1 per cent of courses followed by 10.8 per cent in industrial safety (10.8 per cent), quality control (9.4 per cent), financing and accounting (9.2 per cent), etc.

It is interesting to note that almost half (45.5 per cent) of women received job upgrading training categorized as "other", while only 25.2 per cent of men fell into this category. The difference implies that men are more likely to receive job-specific training.

Table 4.24: Fields of upgrading training undertaken during the last 12 months, by gender

Fields of training	Total	Men	Women
Total	100.0 (432)	100.0 (233)	100.0 (199)
Management & planning	8.5	8.3	8.8
Financing & accounting	9.2	9.9	8.0
Personnel	4.2	3.6	5.3
International trade	0.8	0.6	1.2
Production management	4.1	5.5	1.3
Production technology	6.9	9.5	1.7
Plant automization	1.0	1.5	-
Office automization & information management	6.8	6.3	7.7
Marketing	9.1	10.8	5.8
Financing & insurance	4.6	3.0	7.7
Quality control	9.4	11.3	5.5
Industrial safety	10.8	14.5	3.6
Environmental management	2.0	2.0	2.1
Other	32.1	25.2	45.5

Source: KRIVET 2000, Training Experience Survey

Table 4.25: Field of training, by occupation of workers

Occupation Field of training	Total	Managers & administ-rators	Profess ionals & techni-cians	Clerical workers	Sales & Services workers	Pro-duction workers
Total	432 (100.0)	37 (100.0)	58 (100.0)	192 (100.0)	89 (100.0)	56 (100.0)
Management & planning	8.5	24.9	7.8	5.0	7.1	7.5
Financing & accounting	9.2	15.3	5.9	21.4	0.7	-
Personnel	4.2	15.3	5.7	4.4	-	-
International trade	0.8	4.0	0.2	1.4	-	-
Production management	4.1	0.4	8.4	0.7	-	20.5
Production technology	6.9	-	16.9	0.9	-	28.0
Plant automization	1.0	2.1	0.5	-	-	7.6
Information management	6.8	3.2	2.0	19.8	1.3	-
Marketing	9.1	3.9	3.0	6.8	21.2	-
Financing & insurance	4.6	4.6	0.5	10.7	3.5	-
Quality control	9.4	13.2	10.5	2.9	3.5	42.0
Industrial safety	10.8	7.1	15.7	2.2	10.3	30.2
Environmental management	2.0	2.4	2.6	1.1	1.4	5.2
Others	32.1	31.2	27.5	32.8	42.8	9.2

Source: KRIVET 2000, Training Experience Survey

Duration of training

Workers were asked how much job–upgrading training they had received during the previous 12 months. The duration of training was divided into five categories: 1–9, 10–19, 20–39, 40–119, and more than 120 hours

Overall, according to the results of the survey, the duration of job upgrading training is short: the majority of workers (85.1 per cent) receiving training received short-term training of less than 40 hours, while only 14.8 per cent of those received long term training for more than 40 hours during the previous 12 months (see table 4.26).

Using simple comparisons may disguise differences in the length and type of training received. A high *density* (high average number of days of training per employee) could be the result of short spells of training provided for a large proportion of the workforce (high *incidence*), or longer spells for a smaller proportion of employees (high *intensity*). It is clear that there will be differences in the pattern depending on the nature of the job.

For example, within the industrial sector, workers in banking, finance and insurance received a longer period of training than those in other service industries.

Differences in incidence and intensity can be seen in more detail at occupational level. For instance, managers and administrators received longer periods of training while sales and service workers and production workers received short periods of training.

Employees with higher educational qualifications received longer periods of training than those with lower educational qualifications. Younger workers received longer periods of training than older workers.

There are also differences in duration of training depending on gender. Men received a slightly longer period of training than women.

Table 4.26: Workers receiving job–upgrading training during the previous 12 months, by training duration

Unit: %

	Total	1–9 hrs	10–19 hrs	20–39 hrs	40–119 hrs	120 hrs or more
Total	432	44.0	19.4	21.7	12.1	2.7
Firm size						
5–99	100 (96)	42.8	25.7	19.8	8.8	3.0
100–299	100 (102)	53.7	19.8	16.4	8.8	1.3
300–999	100 (95)	24.6	18.9	29.2	21.1	6.3
1000 and more	100 (139)	43.0	10.3	28.4	16.0	2.3
Industrial sector						
Manufacturing	100 (104)	38.5	19.7	23.4	12.0	6.5
Wholesale & retail	100 (40)	41.9	17.8	27.5	12.8	-
Finance & insurance	100 (167)	26.9	18.5	30.9	14.8	8.9
Service	100 (121)	48.7	20.0	18.3	11.6	1.5
Occupation						
Managers & administrators		15.5	18.0	25.2	39.0	2.3
Professionals & technicians	100 (58)	34.6	26.1	30.3	5.2	3.8
Advanced clerical workers			31.3	19.1	12.2	5.1
Low level clerical workers	100 (127)	37.8	25.7	18.8	15.0	2.7
Production	100 (56)	43.0	21.1	11.5	21.9	2.5
Sales & service	100 (89)	70.6	5.2	19.0	4.1	1.1
Education level						
Below high school graduate	100 (152)	63.0	15.7	15.8	4.9	0.7
Junior college or more	100 (280)	29.4	22.4	26.3	17.7	4.2
Age						
Less than 24	100 (32)	34.2	31.0	15.7	12.2	6.8
25–34	100 (254)	40.2	20.5	27.0	10.3	2.0
35–44	100 (119)	44.7	18.6	18.8	15.0	2.8
45–54	100 (26)	69.9	8.2	5.8	12.2	3.9
55 or more	100 (1)	100.0	-	-	-	-
Gender						
Men	100 (233)	42.8	19.3	22.3	12.8	3.0
Women	100 (199)	46.2	19.8	20.8	10.9	2.2

Source: KRIVET 2000, Training Experience Survey

Methods of training

Workers were asked how they had received job–upgrading training during the previous 12 months. The methods of training were divided

into three categories: in-house training, on-line training and external (commissioned) training.

Just over half of those surveyed received in-house training and about 49 per cent received external training, while only 0.9 per cent of those received on-line training (see Table 4.27). Workers in large firms received more external training than workers in smaller firms (the proportion of employees receiving external training increases steadily as firm size increases).

About 2 per cent of workers in large firms with more than 1000 employees received on-line training while only 0.3 per cent of workers in small firms (with 5–99 employees) received on-line training. More than half of workers in manufacturing, wholesale and retail and banking, finance and insurance sectors received in-house training, while more than half of those in other services received external training. It can be noted that about 7.7 per cent of workers in banking, finance and insurance received on-line training compared to less than 2 per cent in other industrial sectors.

Managers and administrators, professionals and technicians received commissioned training while sales and service workers and production workers received more in-house training than commissioned training.

Table 4.27: Workers receiving job–upgrading training during the previous 12 months, by training methods

Unit: %

	Total	In-house	On-line	External	Others
Total	100	51.3	0.9	49.1	1.7
Firm size					
5–99	100	48.1	0.3	49.7	2.6
100–299	100	44.3	0.6	55.4	0.3
300–999	100	50.9	0.9	48.3	0.6
1000 and more	100	68.1	2.0	37.8	3.6
Industrial sector					
Manufacturing	100	59.6	1.4	40.8	0.0
Wholesale & retail	100	57.4	0.0	45.0	0.0
Finance & insurance	100	69.1	7.7	26.3	4.2
Services	100	44.3	0.0	56.1	2.4
Occupation					
Managers & administrators	100	28.0	1.3	72.5	-
Professionals & technicians	100	45.9	-	59.2	0.8
Advanced clerical workers	100	37.7	1.3	60.6	2.2
Low-level clerical workers	100	48.8	2.1	47.0	6.6
Sales and service workers	100	65.8	0.3	33.9	0.2
Production workers	100	67.2	1.5	33.7	-
Education level					
High school graduate or less	100	57.7	0.6	42.1	1.1
Junior college or more		46.4	1.0	54.4	2.1
Age					
24	100	50.4	0.8	54.0	1.9
25–34	100	48.7	1.2	52.7	1.6
35–44	100	56.5	0.5	42.4	1.3
45–54	100	46.6	-	49.8	3.6
55	100	100	-	-	100.0
Gender					
Men	100	52.1	0.9		
Women	100				

Source: KRIVET 2000, Training Experience Survey

5) Financing of training

According to the results of the survey, more workers receiving training by target group and job upgrading training were provided financial support from employers than those receiving computer literacy training and education for training for internationalization. This shows that

workers invest their own money in acquiring transferable skills such as computer literacy training and training for internationalization.

Table 4.28: Workers receiving training during the previous 12 months, by course and financial support

Unit: %

	Total	Employer Support	No financial Support	Employer Partly Supported	Others
Training for target groups	100 (353)	94.7	0.3	1.5	2.8
Job upgrading training	100 (432)	93.9	0.6	3.3	2.7
Computer literacy	100 (256)	87.3	2.4	4.5	5.8
Internationalization	100 (73)	82.0	6.4	9.9	3.3
Corporate culture	100 (398)	91.6	0.2	2.1	6.4

Source: KRIVET 2000, Training Experience Survey

6) Evaluation of training

To evaluate the outcome of the training, the survey examined the relevance of training courses to qualification, promotion, and skills and job–performance enhancement.

Workers were asked if a training course helped them obtain a certificate or some sort or promotion. Only about 18.3 per cent of respondents reported that a training course helped obtain a certificate, while 26.3 per cent thought it had helped obtain a promotion (see table 4.29).

Training courses were more useful to obtain a certificate for the 24–year-old or younger-age group and the 35–44-age-group than other age groups, while they were more useful to obtain promotion for the 25–34-age-group and the 35–44-age-group than other groups. The 35-44 age group is a major beneficiary of a certificate and promotion from undertaking a training course.

This implies that training courses are not closely related to obtaining qualification or promotion.

Those received training courses during the previous 12 months were asked if a training helped them acquire job-related knowledge and skills, or improve job performance.

The results of the survey founds that training courses were useful to 72.8 per cent of those who received a training course for acquiring job-related knowledge and skills and to 81.9 per cent of those for improving job performance.

This implies that training courses are relevant to the acquisition of job-related knowledge and skills and improvement of job performance.

Table 4.29: Relevance of training courses to qualifications and promotion

	Total	Helped obtain a certificate	Helped obtain promotion
Total		**18.3**	**26.3**
24 or less	100 (47)	23.9	14.1
25–34	100 (428)	15.6	28.2
35–44	100 (165)	27.3	30.4
45–54	100 (41)	6.3	10.3
55	100 (1)	-	-
Gender			
Men	100 (367)	19.6	29.6
Women	100 (315)	15.9	20.0

Source: KRIVET 2000, Training Experience Survey

Table 4.30: Relevance of training courses to skills and job performance enhancements

Unit: %

	Acquired job – related knowledge and skills	Improved job Performance
Total	**72.8**	**81.9**
25–34	69.6	80.3
35–44	78.6	84.3
45–54	75.5	86.6
55	100.0	100.0
Gender		
Men	72.0	80.4
Women	74.2	84.5

Source: KRIVET 2000, Training Experience Survey

Reasons for not attending a training course

Those not attending a training course during the previous 12 months were asked why they hadn't taken a training course. Multiple-choice answers available included no need for training, too much work, the lack of information, personal or family reason, not enough time, or financial reason (see table 4.31).

Overall, the most frequently cited reasons for not attending a training course in the last 12 months were the lack of information (32.9 per cent), followed by too much work (21.4 per cent) and no need for training (19.6 per cent), not enough time (9.5 per cent), personal or family reason (7.8 per cent) and the lack of employer support (2.9 per cent).

There are differences in the reasons for not attending a training course in terms of age. For instance, work pressure (too much work) was the major reason for those in the 24–and–younger-age group and those in the 45–54-age group. The lack of information was the major reason for those in the 25–34-age group and no need for training was the major reason for those in the 35–44-age group.

Table 4.31: Workers not attending a training course in the last 12 months: main reason did not train, by age

Unit: %

reason / age	Total	No need for training	Too much work	Lack of informa-tion	Personal or family reason	Not enough time	Financial reason
Total	100 (291)	19.6	21.4	32.9	5.7	9.4	2.9
Below 24	100 (24)	4.0	36.4	6.9	-	17.7	-
25–34	100 (188)	18.6	20.9	36.9	5.8	9.5	3.3
35–44	100 (60)	31.1	12.1	30.2	9.6	2.7	1.1
45–54	100 (18)	8.3	37.7	29.2	-	18.8	6.0
55 +	100 (1)	100.0	-	-	-	-	-

Source: KRIVET 2000, Training Experience Survey

Of those not attending a training course in the last 12 months from the multiple-choice answers available, the main factors to encourage training included: work-related factors, training–related factors, personal factors, fewer caring responsibilities, more time, and less cost.

In relation to work-related factors, improvement in work conditions, or if required for job or employer were the most frequently cited motivators.

These were followed by training-related factors such as, more information or suitable courses available, more time followed by personal factors (being interested).

Fewer caring responsibilities and less cost were the main motivators to take training for only 1.3 per cent of those not attending a training course in the previous 12 months.

Table 4.32: Workers not attending a training course in the last 12 months: main factors to encourage training

Unit: %

	Total	A	B	C	D	E	F	Others	No answer
Total	**291**	**42.0**	**31.8**	**8.2**	**0.7**	**11.1**	**0.6**	**1.5**	**4.0**
Age									
24	100	70.5	8.0	-	-	15.5	-	2.6	3.4
25–34	100	34.6	38.7	10.0	1.0	10.0	0.9	2.2	2.7
35–44	100	52.0	27.6	0.7	0.4	9.8	-	-	9.5
45–54	100	51.1	10.3	19.7	-	18.8	-	-	-
55	100	100	-	-	-	-	-	-	-
Gender									
Men	100	37.9	32.4	7.5	-	14.9	0.7	1.6	5.1
Women	100	48.5	31.0	9.4	1.8	5.2	0.4	1.5	2.2

A: work-related factors: improvement in work conditions, or if required for job or employer

B: training-related factors: more information or suitable courses available

C: personal factors: being interested or motivated

D: fewer caring responsibilities, or children being older

E: more time

F: less cost, less expensive, or having more money

Source: KRIVET 2000, Training Experience Survey

V. Summary and conclusion

1. Comparison–in contexts of adult retraining and reskilling in Australia and Korea

Australia

There has been an increasing focus on the training needs of adults in Australia over the last decade. Demographic changes have increased the proportion of older people in the working age population; the industrial structure of the economy has moved away from the manufacturing industry towards the service sector; changes have taken place in the manner and mode of employment with growth of non-standard employment including a shift to part-time, casual, outsourced or home-based work; downsizing; occupational change and the development of new occupations. During this time, the share of high-skilled workers increased, while the proportion of medium-skilled workers fell.

It is anticipated that the proportion of older people in the vocational education and training system in Australia will continue to increase because of demographic changes on the Australian population and changes in the nature of work which will require people to upgrade their skills and learn new skills throughout their working life. In addition, as people live healthier lives they will want to continue working at older ages.

As the proportion of young people in the Australian workforce declines, employers will increasingly need to look towards older people as a source of labour. Employers' skill requirements, that are currently met through training young people who are entering the labour force will, by necessity, need to be partially met through reskilling of older workers.

Adult education and training

As a result of reforms to the vocational education and training system in Australia over the last two decades, adult education in Australia is now an integral part of the vocational education system in Australia.

The reforms detailed in section III include:

- the introduction of a competency-based training system
- the Australian Qualifications Framework (AQF)–six different core VET qualifications are offered under a national system of education and training qualifications
- the introduction of training packages that have been developed by industry to provide a framework for training

Utilising the AQF, the Australian vocational education and training system has a number of access points for adults entering or re-entering education and training; in general age barriers have been removed from New Apprenticeships, and training can be undertaken on a part-time basis. VET has numeracy and literacy programs (enabling courses) and courses in remedial education that assist students to develop basic skills for further studies or employment. Students can progress from these courses to higher–level qualifications.

Increasingly, training providers undertake skills audits of prospective students to assess and recognise their current competencies (RCC) or their prior learning (RPL) and then provide training in new skills. This procedure means that students do not have to relearn existing skills.

In addition to the formal or recognized training system, adult training is also undertaken in the private sector by employers. This training takes the form of short, specific-purpose programs. The majority of this training falls outside the arrangements for formally accredited programs.

Participation in adult retraining and reskilling

Participation in formal education or study in Australia is increasing amongst adults. In 1999, students aged between 35 and 64 accounted for 18 per cent of all students compared to 15 per cent in 1989. In 1990, less than 18 per cent of people in the vocational training system were over 40 years of age; however, by 1998 almost 27 per cent of vocational students were over 40 years of age.

Apart from age per se, there are a number of factors that influence participation in training by adults in Australia. Such factors include

attachment to the labour market and labour market status, gender, place of birth and the attainment, or otherwise, of post-school qualifications. These factors are discussed in detail in section III of the report.

Reasons for participation in training

The reasons why older workers in Australia participate in training are different from those of younger people who are at the start of their working lives. Qualitative research has revealed that older people are more tactical in the selection of skills they wish to learn and how they can be acquired. They are more focussed on acquiring skills or on updating existing skills rather than on gaining qualifications. Typically, in Australia, older people enrol in formal training programs in order to fill gaps in their overall knowledge. Their credibility in the workplace is established through years of experience and only partially through the qualifications they have attained. In order to meet the training needs of older workers, the training and education system needs to continue to offer its programs on a modularised basis.

The primary motivation of older people taking a formal, accredited course was to gain extra skills for their job. This motivation is reflected in the high proportion of older people (60 per cent) who remain with their employer after completing their studies. The secondary motivation was to gain employment or own a business, followed by interest and personal development. Older people show less interest in studying at TAFE in order to gain a promotion or as part of their job requirements than younger people, although men showed more interest in this area than women.

Most older workers who were studying to gain extra skills achieved their objective. Two–thirds of older workers fully or partly achieved getting a better job or a promotion. Many of these workers moved to a more highly skilled occupation after completing their qualification or course of study.

Type of vocational education and training

In Australia, older people tend to go to TAFE for vocational programs and to community-based providers for personal enrichment programs. However, both types of training programs offered by community providers become more appealing with age. This is particularly the case

for women. Older people are equally likely to be undertaking short vocational programs or nationally recognised qualifications.

Older people target courses that offer basic education, business management and IT. Vocational courses which provide basic education skills, personal development and IT content become more important with age, while interest in business, health and engineering has less priority. Interest in the humanities increases with age. Popularity of mathematics and computing with older men also increases with age while interest by women in this area and the hospitality, tourism and personal services declines. Language and literacy studies become more important to older people. Older men increasingly attend personal enrichment training to acquire computing skills and women become less interested in physical pursuits with age.

Training courses provided by employers

Employers provide job-related training to their employees which may be:

- formal and lead to a nationally accredited certificate or diploma
- structured but not articulated to a formally recognized qualification
- unstructured training provided on–the–job that has no predetermined training plan or organised content

In 1997, almost two-thirds (61 per cent) of Australian employers provided some form of training for employees. As discussed in section IV, the percentage of employers providing training in Australia, differs by industry and employer size. Almost all (99 per cent) employers in the government, administration and defence industry sector provided training compared with only 43 per cent in the transport and storage industry sector. In Australia, larger firms are more likely to provide their employees with training than smaller firms as almost all (99 per cent) employers with more than 100 employees provided some form of training for their employees while only 57 per cent of employers with 1–19 employees provided some form of training.

Korea

There has been an increasing demand for adult training in Korea over the last decade. The industrial structure of the economy has moved from a manufacturing base towards service sector base. The rapid advancement of technology and the globalization of trade and labor markets have resulted in changes in employment categories: an increase in non-regular workers; occupational change and the emergence of new occupations, and the downsizing of firms. During this time, the proportion of highly skilled workers increased, while unskilled workers declined.

It is anticipated that manufacturing's share of total Korean employment will continue to decline and employment growth will remain concentrated in the service sector. The demand for highly skilled workers will continue to grow in the future.

The proportion of older people in the labor force will continue to increase because of demographic changes in the population and changes in the nature of work that will require people to upgrade their knowledge and learn new skills throughout their working life.

Korea is moving toward an OECD-type of mature economy through rapid industrial structural change. In response to the changing environment characterized by new technology and globalization, employers need to invest in the upgrading and reskilling of the existing workforce to ensure that their products remain competitive in the world market.

Adult education and training

The implementation of the Second Educational Reform (including vocational education reform) Program proposed by PCER and the enactment of the *act on promoting workers' vocational training* in the 1990s made adult education and training an integral part of education and training in Korea.

The vocational education reforms proposed by PCER include:

- transformation of higher education institutes into lifelong educational institutions for people of all ages

- expansion of education opportunities for the employed

- building a foundation for lifelong vocational education

The *act on promoting workers' vocational training* includes:

- government financial support for employers who implement vocational training programs

- government support for employees who make an effort to develop their job skills

- government support for the unemployed who want to undertake training for re-employment

Various measures have been undertaken to implement the reforms to establish **a lifelong learning society**. The legal foundation for 'the era of open and continuing education' has been prepared. The legislation on the Credit Bank System in 1996 was enacted to allow part-time registration in colleges on a on trial base.

Programs have been introduced to expand opportunities for employed workers to continue to study in higher education institutes. Polytechnic universities provide open and flexible curriculum and class schedules and are open to employed adults. Priority in selection is given to persons with experience in industry. The technical colleges (Universities) operated by companies are under review to facilitate their being recognized as formal higher education institutes. In order to encourage workers to upgrade their knowledge and skills, the government enacted the *act on promoting workers' vocational training*. As a result, the number of workers trained has increased since the implementation of the new training policy. In addition, most enterprise training schemes include 'advanced (upgrading) courses', instead of basic training as tended to be the case under the levy system.

Participation in adult retraining and reskilling

Participation of adults in formal education in Korea is increasing. In 1999, students aged over 25 in higher educational institutes accounted for 33.5 per cent of all students in higher education compared to 17.8 per cent in 1989.

Of those who participated in training programs, the proportion of adult workers taking upgrading training had increased from 24.8 per cent to 95.0 per cent in the period 1990–1999, while that of younger people taking initial training had decreased from 75.2 per cent to 24.8 per cent in the same period.

In addition to age, there are a number of factors that influence participation in training by adults. Such factors include firm size, industrial sector, labor market status, occupation, educational level, and gender. These factors are discussed in detail in section IV of the report.

Reasons for participation in training

The reasons why adults in Korea participate in training are different from those of younger people. Previous research has reported that older people are more focused on upgrading knowledge and skills, while younger people are focused more on obtaining a qualification or promotion.

According to the survey of workers, the primary motivator of adults undertaking a training course was to meet requests by their supervisor or manager. This motivation is reflected in the high proportion of people in the 25–34-age groups and 45–54-age groups. The secondary motivator was to be promoted or obtain a certificate, followed by interest and personal development. People in the 35–44-age groups showed more interest in taking a training course in order to obtain a certificate or promotion, and men showed more interest in this area than women.

The outcome of the training revealed that the relevance of training to qualification or promotion differs depending on age. The closer relationship between training and qualification or promotion is shown in

the 35–44-age groups rather than in other groups, and men benefited from training for qualification or promotion more than women.

However, training courses helped people of all ages acquire job-related knowledge and skills, or improve job performance.

The following are the available types of vocational education and training:

- formal and leading to a certificate or diploma
- structured but not nationally recognized , although recognized within business group
- unstructured on-the-job training provided by senior workers or colleges

A survey of worker training conducted in July, 2000 showed that about 66.3 per cent of workers had undertaken a training course of some sort during the previous 12 months. About 37.7 per cent of those took a course in job upgrading training, 34.2 per cent in corporate culture training, 24.2 per cent in training for target group, 18.7 per cent in computer literacy training, and 5.2 per cent in education for internationalization.

Overall, workers who are male, young, and with higher educational qualifications are more likely to receive training than if they are female, old, and with lower educational qualifications. Men receive more training in generic knowledge and skills, and job–specific training than women, while women receive more training in corporate culture than men.

In the case of job–upgrading training, a greater proportion of men received training than women: 41 per cent as opposed to 32.6 per cent. The proportion of workers trained also rises as firm size increases: 26 per cent of employees in small firms (5–99 employees) received job–upgrading training, whereas 62.9 per cent of employees in large firms with more than 1 000 employees received training.

A comparison of adult retraining and reskilling in Australia and Korea is shown in table 5.1

Table 5.1: Comparison of adult retraining and reskilling in Australia and Korea

	Australia	Korea
VET system		
Initial training	Apprenticeship and traineeship system or Vocational education and training course leading to an AQF qualification	Initial training is provided at high schools and two-year junior colleges under the formal education system, and at vocational training centers as non-formal education
Relationships between initial training and further training (retraining and reskilling)	Linkage between initial training and further training (retraining and reskilling) is facilitated by the AQF. Adults can upgrade their skills by studying for a higher level of AQF qualification. Alternatively, they can enroll in a module or group of modules to acquire specific skills.	Initial training and further training are not closely linked. Further training is provided at firms with financial support from employers. Initial training emphasizes generic knowledge and skills to learn new skills. Adults are encouraged to continue studying in post-secondary educational institutes
Adult retraining and reskilling		
Accredited training course	System allows multiple–entry points. Adults can access initial training through pre-vocational courses and enabling courses (basic language, literacy and numeracy courses) prior to enrolling in a course leading to an AQF qualification.	The *act on promoting workers training* encourages adult workers to take training with financial support from the Employment Insurance Fund. Courses available include generic skills as well as specific skills
Non-accredited training course–privately funded	Short-specific purpose courses provided by employers for a particular student group	Short-specific purpose courses are provided at private training institutes
Training contents	Training packages developed by industry. Competency-based training focusing on specific skills. Courses are available in core-competencies that teach generic skills.	Training programs developed by industry. Job upgrading training focusing on specific skills. Courses are provided to train generic skills including corporate culture

2. Implications from the Australian–Korea experience

In this section of the report a number of different elements of the experience of both countries are explored in the context of possible implications for the future development of vocational education and training in Korea and Australia.

The vocational education and training systems operating in Australia and Korea reflect the differences that exist in the economic and enterprise structures and industry profiles of the two economies, cultural differences and age profiles of the two countries. These differences are outlined in the different occupational and industrial profiles of the two countries discussed in section I of the report.

Notwithstanding these differences, the vocational education and training systems in both countries need to be responsive to economic changes of a similar nature occurring in both economies. These changes include the growth in the service sector of the economy that is taking place in both countries at the expense of the manufacturing sector; changes in the nature of work including growth in non-standard employment such as part-time and casual work and outsourcing; and increasingly, the need for generic skills in the workplace such as total quality management and teamwork.

Increasingly, both countries will need to give more attention to adult retraining and reskilling as the proportion of young people in the working age population declines. Employers' skill requirements, currently met through training young people, will by necessity need to be met by reskilling older workers. In addition, as the working population ages, a higher proportion of the work–force will need training to upgrade their skills.

1) The implications from the Korean experience

Given the similar forces of change operating in the two economies, Australia, in responding and adapting to these changes, can learn from recent Korean experience. Traditionally, adult education and training in Korea has been predominantly the domain of enterprises. The growth of the large industrial conglomerates meant that employees would remain with the one employer for a long period of time. This work culture

meant that the larger employers were virtually assured of recouping the benefits of any investment made in the training of employees.

In Australia, pathways have been opened up to adults in publicly–funded education and training offered in TAFE colleges. These institutions are highly flexible in that they allow adults to return to learning at frequent periods, and at times and circumstances that meet their needs (OECD 2000, p. 147, 2000).

Outcomes from training provided by employers

The research undertaken for this project suggests that the proportion of employers providing training to employees is comparable in Australia and Korea. However, the type of training provided and the outcomes for employees differs between the countries. Typically, employers in both countries provide short training courses. More than 80 per cent of employees in both countries who completed training courses indicated that the training had improved their job performance. However, based on the responses from employees, employers in Korea are much more likely to also provide training that will assist an employee to gain the higher-level skills to enable an employee to gain a promotion. A higher proportion of survey respondents in Korea (see table 4.13) indicated that their training had been relevant to gaining a promotion–28 per cent at ages 25-34 and 30 per cent at ages 35-44, compared with 11 per cent and 8 per cent, respectively, in Australia. In general, training courses undertaken at work by Australian wage and salary earners are relevant to the tasks performed in the current job and are not preparing wage and salary earners for a higher level job (see table 4.16).

However, employers in Korea expect workers to finance their own training in job-transferable skills such as computer literacy training and internationalization.

Factors affecting incentives to firm-based training are outlined in Burke (2000). Other things being equal, firms' incentives to invest in training will be greater:

- the greater the increases in productivity of the employees trained

- the greater the period of work or the retention of workers while the training is still effective

- the smaller the proportion of the benefits of the productivity that are paid to the workers in higher wages and salaries

- the more cost effective is the training

- the greater the firm's awareness of the benefits

There are differences in the likely retention rate of workers after training for firms operating in Australia and Korea and in the wage outcomes for employees. These differences, in part, explain differences in the propensity of employers to provide training and the type of training provided in the two countries.

Differences in the anticipated length of job tenure will account for part of the observed difference in the training patterns of Australian and Korean employers. When an employee obtains a promotion, the employee has captured part of the benefit of training. This will act as a disincentive for enterprises to provide training.

In Australia, many people over 25 years of age enroll in training programs in the publicly–funded VET system to improve their skills to gain a better job or a promotion. However, Korean employers seem to be more prepared to provide specialist training for their employees leading to promotion and further career development. Australian firms would do well to learn from their Korean counterparts and develop a training culture which encourages employer sponsorship of training in higher–level skills that helps their employees to access promotion opportunities.

Encouragement of enterprise training–the Employment Insurance Scheme

Both Australia and Korea have operated levy schemes to encourage employers to invest in training. These schemes required minimum levels of employer training expenditure as a percentage of wages or contributions for collectively funded training. These schemes had been disbanded in both countries by the mid–1990s. However, in Australia

some industries, such as construction, still operate schemes of this type under the auspices of State governments.

The Korean government introduced the Employment Insurance Scheme (EIS) in 1995. Vocational training forms part of this scheme and the contribution rate for the vocational training component of the system ranges from 0.1 per cent to 0.7 per cent of the total wage depending on the size of the firm. The vocational competency development scheme under the EIS is an incentive scheme to induce voluntary training funded from the EIS fund. The scheme, which initially targeted firms with more than 70 workers, was expanded during 1998 to cover all enterprises, regardless of their size. Firms receiving support for vocational education and training costs can get up to 180 per cent (120 per cent for conglomerates) of the insurance premium paid that year.

Despite the incentives provided by the scheme, the scheme has had limited success in increasing the amount of training provided by small firms. Large firms have been the main beneficiaries of the training programs with 'windfall' gains accruing to large firms. Not all firms that contribute to the fund actually provide training for their workers.

However, the number of workers trained has increased since the implementation of the new training policy under the EIS. Notably, most in-plant training schemes include 'advanced' courses, instead of basic training as tended to be the case under the levy system.

Therefore, a scheme such as the EIS could be considered by Australian governments as a means of encouraging firms to provide higher–level training for their employees. The Korean experience suggests that, to be successful, a scheme of this type should be designed to include part-time and casual workers and older workers.

Lifelong learning

The results of this study indicate the value of high school completion and post-school qualifications for lifelong learning. Both Korean and Australian experience indicates that the better educated tend to participate more in training throughout life. As discussed, employers are more inclined to train the greater the increases in productivity of the employees trained. This study has shown that the better educated

participate in longer training programs while the poorly educated tend to participate in shorter courses delivered on–the–job.

Korea has low rates of attrition from schooling before the completion of secondary school and high rates of entrance to tertiary education. Although increasing school retention rates has been a focus of Australian governments since the 1970s, Australian retention rates are lower than those of Korea. Based on the higher school retention rates in Korea, it would appear that Korean students are better prepared for operating in an environment where lifelong learning is the norm.

2) Implications from the Australian experience

VET through lifelong learning

Australia has developed a VET system which is very broad in its coverage and scope. The Australian Committee on Technical and Further Education recommended that adult education be regarded as an integral part of TAFE and of technical college activities and that access to adult education be as open as possible. The reforms that have taken place to Australia's vocational education and training system in the last two decades have removed barriers restricting access to adults retraining and reskilling.

As of 1998, nearly 1.5 million Australians or 12 per cent of the entire working age population (that is, 15–64 years of age) enroll in a publicly funded VET program each year. Nearly 60 per cent of those who enroll in VET in Australia each year are now over 25 years of age.

Most VET participants in Australia are part-time students. Half of all VET participants in 1998 were enrolled in programs of under 100 hours of training. Only around 10 per cent of Australia's VET students are undertaking courses as full-time full-year students. The proportion of female students/trainees in VET in Australia has now almost reached 50 per cent.

The proportion of Australia's VET students/trainees who are school age students, early secondary school leavers or entry level trainees is relatively small. Only 20 per cent of all VET students/trainees are under

20 years of age, although they account for one-third of the total training hours delivered .

Most VET participants are adults who are training or re-training for job–related purposes. One–quarter of all VET participants in Australia are over 40 years of age.

In fact, in Australia a VET student/trainee is far more likely to be an adult who is already employed and upgrading his or her job skills, than a young person who is studying in VET to gain an entry-level vocational qualification.

Publicly funded training

There have been relatively recent moves in Australia to develop competition amongst training providers and to foster the growth of private training providers so that clients can have greater choice in where they obtain their training.

Notwithstanding these developments, the hallmark of the Australian system of VET over the past 30 years has been a policy by successive governments to establish and develop a comprehensive system of public TAFE colleges and institutes across the nation. The overwhelming majority of publicly funded VET training is provided through the 100 or so TAFE institutes and other government providers in around 1000 campuses across Australia.

Australia's current VET system, involving a very diverse offering of VET training at different levels to such a high proportion of the total population, would simply not be possible without a strong system of public TAFE institutes and other public VET providers.

Flexible delivery and the modularization of training delivery

Australia has developed a modularized training system. In 1998 some 1.5 million people enrolled in one or more publicly funded VET courses or programs.

The modularization of VET programs involves breaking up longer courses into shorter programs (such as subjects) that are capable of assessment as each element or subject is completed. This has promoted the enrolment of a more diverse range of students in VET, particularly adults who are already employed. Modules have encouraged people to take shorter bouts of training to meet a particular skill acquisition need, without requiring them to immediately enroll in a full VET course leading to a qualification.

Australia's VET system is based on the concept of flexible delivery of training. The various training pathways described in section IV of this report were developed historically to:

- ensure that people from rural and remote areas in Australia could gain equitable access to VET programs

- encourage more adults needing to upgrade skills to undertake VET by providing more part-time, night-time and weekend, and alternative open learning options to participate in training

- provide alternative learning options to some disadvantaged groups of Australians, such as Indigenous people, people with special learning needs and people with different language requirements

More recently, the focus has also been on ensuring that there are more work-based and non-classroom pathways for VET to ensure that the skills being gained are more relevant to industry's needs.

These policies have had great success in Australia. Equitable VET participation is now largely occurring between rural and urban Australia and amongst different ethnic groups. More needs to be done, however, to improve VET access to people with disabilities.

The Australian Qualifications Framework

People can enrol in a VET program simply to gain skills from one or more modules (that is, subjects/short courses) or they can undertake a full program leading to a certificate or diploma qualification.

In Australia there are six different core VET qualifications being offered under a new comprehensive national system of education and training qualifications—the AQF (table 3.1).

The AQF was designed to provide consistent recognition of the outcomes achieved from education and training across all sectors of senior secondary schooling and universities. The AQF includes recognition of the integration of learning in the workplace with the incorporation of structured training into the system (with apprenticeships and traineeships covered by Certificates I to IV under the AQF). Moreover, the AQF was designed to provide a clear and rational structure in which an increasingly deregulated training market can operate while maintaining credibility within the overall education and training system.

The AQF system in the VET sector is designed around a set of competency standards that need to be achieved in different training programs, rather than qualifications being set according to the amount of time taken to undertake a course of study. Thus, different people will take different amounts of time to complete any given VET qualification.

Students who successfully complete the requirements of a recognized course or training package qualification with a registered training organization are entitled to a certificate or diploma under the AQF confirming this. Status or credit for subjects or units of competency completed with another training provider, or through recognition of prior learning, should be taken into account when determining entitlement to a recognized qualification. In most instances the certificate is issued by the registered training organization on application by the student.

The Korean government is trying to integrate workplace learning into the VET system through the amendment of the vocational qualification system. The Australian experience suggests that the reforms take place in the broader context of the VET systems in Korea.

References

Australia

Alto, R, Isaacs, I, Knight, B, Polestico, R.V, 2000, *Training systems in South-East Asia*, National Centre for Vocational Education Research, Adelaide.

Australian Bureau of Statistics 2000, *Australian economic indicators, March 2000,* Catalogue number. 1350.0, Canberra.

— —, *Labor Force, Australia* Catalogue number 6203.0, May 1995, May 1999, November 1999, May 2000, Canberra

— —, *Transition from education to work, May 2000* Catalogue number 6227.0, Canberra

— —, *Population projections* Catalogue number 3222.0 Canberra

— —, 1997, *Education and training experience*, Catalogue No. 6278.0, Canberra.

— —, 1997, *Employer training practices*, Catalogue No.6356.0, Canberra.

— —, 2000, *Australian social trends*, Catalogue No. 4102.0, Canberra.

Australian Qualifications Framework Advisory Board 1996, *Introduction to the Australian Qualifications Framework* (AQF), Curriculum Council, Melbourne.

— —1999, The Australian Qualifications Framework, twelve qualifications, http://www.aqf.edu.au/twelve.htm accessed

Ball, K 1999 'Training and labour market issues' in *Creating a future:Training, learning and the older person,* ed Andrew Smith, NCVER, Adelaide.

Ball, K & Lamb, S (forthcoming), 'School non-completers: Outcomes in vocational education and training', *VOCAL, The Australian Journal of Vocational Education and Training in Schools*, 2000–2001 edition.

Barnett, K 1999, '*Case studies'* in Creating a future: Training, learning and the older person, ed Andrew Smith, NCVER Adelaide.

Burke, G 2000, 'Improving the incentives for investment in learning by adults: financing lifelong learning' in Proceedings of the 3rd AVETRA conference, Canberra, March 2000.

Cully, M 1999 'Booming Australian labour market: state variations' in *Australian bulleting of labour*, vol 25, no. 3, September 1999 p.205-215

National Centre for Vocational Education Research 1999 'Student outcomes survey', NCVER, Adelaide
— — 1999 'Employment satisfaction survey', NCVER, Adelaide
OECD 2000, *From initial education to working life: Making transitions work – preliminary edition*, OECD, Paris.
Robinson, C 2000, 'Vocational education and training developments in Australia's vocational education and training system' paper presented to the Central Institute of Vocational and Technical Education Beijing, PR China.
Smith, A, Oczkowski, E, Noble, C and Macklin, R (forthcoming), *New management practices and enterprise training*, NCVER, Adelaide

Korea

Chung, Taik Soo (1999). *A scheme to promote in-company training*, KRIVET, Seoul (in Korean).
Jang, Chang-Won et al. 1998, *Industrial manpower outlook in Korea and policy implications*, KRIVET, Seoul (in Korean).
Kim, Jang-Ho and Chang-Hee Won 1997, 'Human resources development in Korea: Evaluation of its policy and practices with Special Reference to ILO Convention NO. 142 and Recommendation NO. 150', unpublished paper.
Korea International Labor Foundation 1997, *Labor reform in Korea towards the 21st century*, KOILAF, Seoul
KOILAF 1999, *Labor relations in Korea*, KOILAF, Seoul
Korea Educational Development Institute (KEDI) 1999, *Educational Indicators in Korea,* KEDI, Seoul.
Korea Manpower Agency 1997. *Technical training, testing a employment promotion*, KOMA, Seoul
Korea Labor Institute 1999, *An evaluation of the Employment Insurance System* KLI, Seoul, (in Korean),
Lee, Young-Hyun 1995, Social institutions and skill formation in manufacturing industry in Korea. A comparison with Japan, Ph.D. dissertation, University of Wisconsin-Madison.
Lee, Young-Hyun 2000, *Technical and Vocational Education and Training in Korea*, KRIVET, Seoul

Ministry of Education (MOE), Republic of Korea 2000, *Education in Korea 1999–2000*, MOE, Seoul.

Ministry of Education (MOE) and the Korea Educational Development Institute (KEDI), Republic of Korea 2000, *Statistical yearbook of education*, MOE and KEDI, Seoul (in Korean).

Ministry of Education, Republic of Korea 1999, *Education in Korea 1999–2000*, MOE, Seoul.

Ministry of Labor 1991–2000, *The current status of vocational training programs*, MOL, Seoul (in Korean).

— — 2000, *Labor administration,* MOL, Seoul, 2000.

— — 2000, *Yearbook of Labor Statistics*, MOL, Seoul (in Korean).

National Statistical Office, 1971, 19981, 1991, 1996, 1999, *Economic statistics yearbook*, NSO, Seoul, (in Korean).

— — 1996-2000, *Economically active population report, 1996-2000*, NSO, Seoul, (in Korean).

— —, *Social Indicators in Korea, 1990, 1999*, NSO, Seoul, (in Korean).

— — 1996, *Estimation of future population*, NSO, Seoul, (in Korean).

— — 1996, *Report on the social statistics survey* NSO, Seoul, (in Korean).

Oh-Young-Hoon and Hyewon Koh 1999. An Interpretation of the Act on Promoting Workers' Vocational Training, KRIVET, Seoul (in Korean).

Organization of Economic Cooperation and Development 2000, *Pushing ahead with reform in Korea*. OECD, Paris

The Presidential Commission on Education Reform 1997, *Education reform for the 21st century,* PCER, Seoul.

Appendix I

A Korea-Australia Joint-seminar on Vocational Education and Training

PROGRAM

09:30 - 10:00 Registration
10:00 - 10:30 Opening Ceremony
Opening Remarks
Dr. Moo-Sub Kang, *President of KRIVET*
Congratulatory Remarks
Mr. Tony Hely, *Ambassador of Australia*

Presentation & Discussion

10:30 -12:00 Overview
Vocational Education and Training in Korea & Australia
Presenter: Ms. Katrina Ball (NCVER)
Dr. Ik-Hyun Shin (KRIVET)
Discussant: Dr. Kwanchoon Lee (Myungji Junior College)
12:00 -13:30 Lunch
13:30 -14:50 Topic 1
Linkages between VET Providers and Industry
Presenter: Dr. Josie Misko (NCVER)
Dr. Jihee Choi (KRIVET)
Discussant: Mr Kyungook (Samsung Electronics)
Dr Ik-Tae Kang (Yeonam Junior College)
14:50-15:10 Break
15:10 -16:30 Topic 2

Adult Retraining and Reskilling
Presenter: Ms. Oanh Phan & Katrina Ball(NCVER)
Dr. Young-Hyun Lee (KRIVET)
Discussant: Dr Soonhee Kang (KLI)
Mr. Hwa-Ik Jang (Ministry of Labor)
16:30 -17:00 Wrap-up Discussion
Moderator: Dr Jeongtaik Lee (KRIVET)