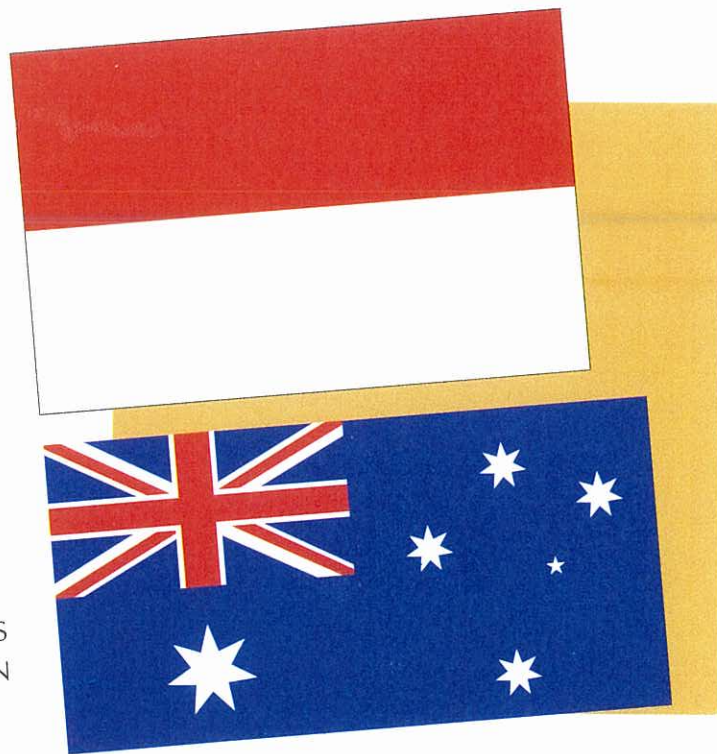


Developments in
the vocational education
and training systems
of **Indonesia**
and **Australia**



CHRIS
ROBINSON



NCVER

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vocational education and
training systems of
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Chris Robinson



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ISBN 0 87397 531 6

TD/TNC 57.22

ii

Published by

National Centre for Vocational Education Research Ltd

A.C.N. 007 967 311

252 Kensington Road, Leabrook, SA 5068

PO Box 115, Kensington Park, SA 5068, Australia

www.ncver.edu.au



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Preface

THE INDONESIA AUSTRALIA Partnership for Skills Development (IAPSD) is a five year program of development assistance agreed between the Australian and Indonesian governments. The program involves the Indonesian Ministry of Education and Culture (MOEC), the Ministry of Manpower (MOM), and the Ministry of Industry and Trade (MOIT), as well as the Indonesian Chamber of Commerce (KADIN). IAPSD is funded by AusAID, the Australian agency for international development. The views expressed in this publication do not necessarily represent the views of AusAID or those of the partners of IAPSD.

The overall goal of the program is to assist in improving workforce skills, so that skill formation arrangements better meet the needs of Indonesian industry. IAPSD will assist vocational education and training agencies to strengthen their capacity to provide programs based on workforce needs.

This report has been prepared as part of the IAPSD program as a reference document about the technical and vocational education and training situation in Indonesia and Australia. Extracts of the report were presented at the IAPSD launch conference held in Jakarta, Indonesia, on 7 October 1998 (see Robinson 1998a). The conference was attended by industry representatives, ministry officials and training authorities. Analyses of relevant Indonesian and Australian developments are provided in this report.

Chris Robinson

Technical Director, IAPSD and

Managing Director, National Centre for Vocational Education Research Ltd

Abbreviations, acronyms and definitions

ADB	Asian Development Bank
ANTA	Australian National Training Authority
APEC	Asia Pacific Economic Community
ARF	Australian Recognition Framework
ASEAN	Association of South East Asia Nations
AusAID	Australian Agency for International Development
BAPPENAS	Badan Perencanaan Pembangunan Nasional/Indonesian National Development Planning Agency
BLI	Industrial Training Centres
BLK	Bali Latihan Kerja/Ministry of Manpower Skills Training Centre (Medium and Large)
BPSKK/VSIA	Badan Pelaksana Standar Keterampilan Kejuruan/Vocational Standard Implementation Agency
DEETYA	Australian Department of Employment, Education, Training and Youth Affairs
DIKDASMEN	Pendidikan Dasar dan Menengah/Primary and Secondary Education
DPDK/MOEC	Departemen Pendidikan dan Kebudayaan/Indonesian Ministry of Education and Culture
DPMK/DTVE	Direktorat Pendidikan Menengah Kejuruan/Directorate of Technical and Vocational Education within MOEC
DPPKN/NVETC	Dewan Pendidikan dan Pelatihan Kejuruan Nasional/National Vocational Education and Training Council
DTK/MOM	Departemen Tenaga Kerja/Indonesian Ministry of Manpower
ILO	International Labour Organisation
ITAB	Australian Industry Training Advisory Board
KADIN	Indonesian Chamber of Commerce
KK/VC	Kursus-kursus Kejuruan/Vocational Courses
KLK	Kursas Latihan Kerja/Ministry of Manpower Skills Training Centre (Small)
KPIN/NITG	Kelompok Pelatihan Industri Nasional/National Industry Training Group

KPPPK/VETIG	Kelompok Pelaksana Pendidikan dan Pelatihan Kejuruan/Vocational Education and Training Group
MA	Madrasah Aliyah/Islamic Senior Secondary School
MCEETYA	The Australian Ministerial Council of Employment, Education, Training and Youth Affairs
MI	Madrasah Ibtidaiyah/Islamic Primary School
MINCO	The Australian Ministerial Council of the national and State/Territory ministers responsible for training
MOIT	Indonesian Ministry of Industry and Trade
MPKN/NVEC	Majelis Pendidikan Kejuruan Nasional/National Vocational Education Council
MT	Madrasah Tsanawiyah/Islamic Junior Secondary School
NCVER	National Centre for Vocational Education Research, Australia
PBK/CBT	Pelatihan Berdasarkan Kompetensi/Competency Based Training
PENTING	Program in Education and Training to support Industrial Growth
PPI/ITC	Pusat Pelatihan Industri/Industrial Training Centre
REPELITA	Indonesia's five-year national development planning cycle
SAKERNAS	Indonesia's National Labour Force Survey
SD	Sekolah Dasar/primary school
SLTA	Sekolah Lanjutan Tingkat Atas/generic term for all types of senior secondary schools
SLTP	Sekolah Lanjutan Tingkat Pertama/generic term for all types of junior secondary schools
SMA	Sekolah Menengah Akademia/senior secondary school (academic)
SMEA	Sekolah Menengah Ekonomi tingkat Atas/economic or commercial senior high school
SMK	Sekolah Menengah Kejuruan/senior secondary vocational school
SMKK	Sekolah Menengah Kesejahteraan Keluarga/home economics senior secondary school
SMU	Sekolah Menengah Umum/general high school
STM	Sekolah Teknologi Menengah/senior secondary vocational school or senior secondary technical school
SUSENAS	Indonesia's National Social Economic Survey
TAFE	Technical and Further Education in Australia
TVE	Technical and Vocational Education
TVET	Technical and Vocational Education and Training
UPSKK/VSIU	Unit Pelaksana Standar Keterampilan Kejuruan/Vocational Standard Implementation Unit
VET	Vocational Education and Training

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Executive summary

THE PAST TWO years have seen very disturbing developments throughout Asia which have had a serious impact in Indonesia. This followed a sustained period of economic growth in Indonesia which has seen the emergence of new high technology and service industries; although the agricultural, traditional and informal sectors remained the biggest utilisers of labour in the Indonesian economy. Nevertheless, the need for a more diverse range of technical and vocational skills in Indonesia has been emerging for some time, particularly at the more advanced skill levels.

Another significant development in Indonesia is the projection of an ageing of the Indonesian population and workforce over the next 20 to 30 years. Youth will not dominate the population of Indonesia in the 21st century to nearly the same extent that has been seen in the 20th century.

Over the past three decades there have been huge developments in the provision of primary and junior secondary education to the point where almost all children complete a primary education and around half participate in junior secondary schooling. Literacy levels in Indonesia have improved enormously. Senior secondary education has also expanded rapidly in recent years.

The centrepiece of vocational education in Indonesia is the development of a range of vocational secondary schools. By the mid-1990s some 1.7 million young people were attending such vocational schools, accounting for over a third of all senior secondary enrolments in Indonesia.

Around one-third of all higher education enrolments or some 790 000 students were enrolled in diploma level programs by the mid-1990s, noting that these programs can be considered to be technical and vocational education and training (TVET) orientated. This level of participation is only 5% of the total 19–22 year old population.

The other main facet of organised skills training in Indonesia is the 28 000 training centres (most of which are private training centres) providing some kind of training to some 4.5 million people each year. Much of this training is in short and informal courses.

These factors point to two significant issues for further developing Indonesia's TVET system.

- ❖ First, there will need to be greater emphasis on advanced and high level technical skills arising from changes in economy, and more generally a greater focus will be needed on making sure TVET is able to better meet industry requirements.
- ❖ Second, the ageing of the population and the fact that most formal vocational education is directed to secondary school students at the present time, means that a greater focus on post-secondary age young people and on adults in TVET will be needed in the longer term.

Developments in the Australian vocational education and training (VET) sector are described and analysed for the purposes of information and discussion. Some factors which may be useful for consideration by Indonesia in developing the TVET system relate particularly to:

- ❖ developing a system of continuous and lifelong learning
- ❖ further developing a system of advanced and high level skills training
- ❖ developing an industry-led training sector, possibly including competency-based training, so that training better meets industry skill needs
- ❖ flexible delivery of training and modularisation of training courses so that adults can more easily participate
- ❖ having a greater focus on the output and outcomes of training
- ❖ having a consistent national training recognition framework (i.e. qualifications) which has some national standards to improve the quality and relevance of training
- ❖ having a strong system of public post-secondary training institutes in addition to developing high quality private training providers

1 Introduction

BOTH INDONESIA AND Australia have put in place major education and training developments and reforms over the past 20 to 30 years to meet better a rapidly changing set of economic and social needs in each country.

Both countries have placed considerable emphasis on the development and reform of technical and vocational education and training (TVET). Both countries are trying to ensure that their workforce skills are better developed to meet the contemporary skills needs of their workforces. Both countries have recognised the need to transform their economies in order to adjust to the rapid technological change and the increasing globalisation of the economies of individual nations that has been occurring in the latter part of the 20th century.

TVET developments in Indonesia and Australia are described and analysed in some depth in this report. Indonesia has made giant strides forward in developing its education and training system in the past two decades, particularly in the provision of basic education. In this context, TVET developments have been particularly focussed on an expanded vocational secondary education system. On the other hand, Australia has put its focus on the provision of vocational education and training (VET) at the post-secondary schooling level. Some possible implications of the Australian experience for Indonesia are also considered in this report.

2 Skill formation developments in Indonesia

2.1 The economic and labour market context

THE PAST TWO years have seen a significant downturn in the Indonesian economy, following on from an economic crisis across South East Asia, China, Japan and Korea, that began in the latter part of 1997.

The downturn has resulted in a currency crisis, with the value of the rupiah against the United States dollar and other foreign currencies declining rapidly over the past two years. The annual inflation rate exceeded 40% by mid-1998, and interest rates climbed to over 50%. Unemployment has risen sharply and is expected to continue increasing at this stage. The International Labour Organisation (ILO) recently released predictions that if current trends continue unabated, then two-thirds of the population could be in poverty by the year 2000.

The crisis is impacting on all facets of the economic, social and community life in Indonesia.

The recent downturn in the Indonesian economy followed on from two decades of steady economic growth. Employment in all sectors of the Indonesian economy grew strongly over the decade 1980 to 1990, as can be seen in table 1.

Annual growth rates in total employment throughout the 1980s and up to the 1990s were very strong in all sectors, exceeding 5% per year in most sectors. The main exceptions were agriculture (which employs almost half the labour force) and services (which includes public sector employment).

Over the same period wage employment, which constitutes around one-third of the workforce, grew at an even faster rate in most industry sectors. Again, the major exception was agriculture.

The events of the past year have had a very significant effect in slowing the previously high rates of economic growth to the point where negative rates of growth are now expected. This will affect employment growth substantially as well. Recent ILO estimates put current job losses in the Indonesian economy at over 15 000 per day in mid-1998.

Table 1: Annual growth rates in employment by industry in Indonesia from 1980 to 1990

Industry sector	Wage employment (%)	Total employment (%)
Agriculture	1.3	2.2
Mining	12.9	6.3
Manufacturing	10.0	5.7
Electricity	8.8	7.8
Construction	7.2	5.9
Trade	10.3	4.7
Transportation & communications	6.2	6.0
Finance & banking	9.4	8.5
Services	4.5	2.7
Other	-4.4	7.1
Not stated	8.3	7.4
Total	5.5	3.3

Source: World Bank (1997), p.2

The Indonesian economy remains highly agricultural in terms of employment (46.3% of total employment), although agriculture's contribution to total gross domestic product (GDP) had fallen to 17% by 1994. These patterns are shown in table 2.

Manufacturing in Indonesia also grew strongly in terms of both employment and contribution to GDP from the mid-1980s to the mid-1990s. Over the same period the construction and transport sectors also grew strongly, as did the finance sector although, in the case of the finance and banking sector, employment is less than 1% of total employment. The recent economic crisis has halted these longer term trends of employment growth.

Table 2: Structural changes in the Indonesian economy, 1985 to 1994

Industry sector	Contribution to GDP (%)			Proportion of total employment (%)		
	1985	1990	1994	1985	1990	1994
Agriculture	22.7	19.6	17.4	54.7	50.0	46.3
Mining	18.2	15.2	8.3	0.7	1.0	0.9
Manufacturing	15.8	19.3	23.9	9.3	11.6	13.2
Utilities	0.4	0.6	1.0	0.1	0.2	0.2
Construction	5.3	5.8	7.4	3.4	4.0	4.4
Trade	14.6	16.2	16.6	15.0	15.0	17.0
Transportation & communications	5.3	5.5	7.2	3.1	3.8	4.1
Finance & banking	6.4	6.7	8.9	0.4	0.8	0.8
Other services	11.3	11.1	9.3	13.3	13.6	13.1
Total	100.0	100.0	100.0	100.0	100.0	100.0

Source: MOEC (1997a), p.6

Up until the 1997 economic crisis, the growth in employment had been more than able to outstrip population growth that occurred in Indonesia over the past

two decades. As can be seen in table 3 the total population increased by just over 2% each year between 1980 and 1995. Over the same period total employment grew by more than 4% each year, so that by 1995 just under 90 million people were in the Indonesian workforce. In overall terms then, until the late 1997 economic crisis, the Indonesian economy had not experienced labour absorption problems.

Female employment grew even faster than that for males. One-third of the employed workforce were female in 1980, whereas the total proportion of the employed population who were female had reached 40% by the mid-1990s.

Table 3: Population and labour force in Indonesia, 1980 to 2000

Year	Total population (million)	Labour force					
		No. in labour force			Proportion (%)		
		Male	Female	Total	Male	Female	Total
1980	146.8	35.1	17.3	52.4	67.0	33.0	100.0
1985	165.2	42.5	24.5	67.0	63.4	36.6	100.0
1990	179.3	46.7	25.7	72.4	64.5	35.5	100.0
1995(a)	195.8	53.7	34.8	88.5	60.7	39.3	100.0
2000(a)	210.3	60.3	41.3	101.6	59.4	40.6	100.0

Note: (a) Projected population and labour force

Source: Batubara (1991), p.2

Despite these changes, the Indonesian economy is dominated by agriculture and what is referred to as the informal sector.

Batubara (1991, p.63) stated that 'businessmen and salaried workers represent only about 25% of the total labour force. The remaining 75% are self-employed, engaged in family businesses and/or the informal sector'.

Table 4: Employed labour force in the formal and informal sectors by industry in Indonesia, 1982

Industry sector	No. employed ('000)			Proportion of employment (%)		
	Formal	Informal	Total	Formal	Informal	Total
Agriculture	2 638.7	28 954.7	31 593.4	8.4	91.6	100.0
Mining	112.2	278.5	390.7	28.7	71.3	100.0
Processing industries	2 912.1	3 109.8	6 021.9	48.4	51.6	100.0
Electricity, gas & water	46.9	14.7	61.6	76.1	23.9	100.0
Construction	728.4	1 417.8	2 146.2	33.9	66.1	100.0
Trading	1 904.5	6 649.4	8 553.9	22.3	77.7	100.0
Transportation & communications	600.7	1 195.4	1 796.1	33.4	66.6	100.0
Finance & banking	105.4	7.5	112.9	93.4	6.6	100.0
Services	4 865.1	2 260.3	7 125.4	68.3	31.7	100.0
Other	0.4	0.3	0.7	57.1	42.9	100.0
Total	13 914.4	43 888.4	57 802.8	24.1	75.9	100.0

Source: Batubara (1991), p.72

Apart from agriculture, employment in the mining, construction, transport and trading sectors is predominantly informal. On the other hand, the majority of employment is formal employment in the finance and banking, utilities and services sectors.

Thus the informal sector is a critical part of the Indonesian economy. It is characterised by small family or individual business operations, requiring relatively small levels of investment, although some of these businesses have grown to become large operations. Businesses in the informal sector tend to be comparatively unregulated.

Another key feature of the Indonesian labour market is the level of labour utilisation. Until the 1997 economic crisis, there were relatively low levels of recorded unemployment in Indonesia. As can be seen from table 5, the official unemployment rate in 1988 was under 3%. Batubara (1991) described a problem of relatively high levels of underemployment in the Indonesian economy pointing to the 40% of employed workers working less than 35 hours per week. Moreover some 4% of the employed workforce were engaged in work for less than ten hours per week. Obviously the recorded unemployment levels in Indonesia have increased significantly in the past two years.

Table 5: Employment and unemployment in Indonesia, 1988

Labour force status	No. of people (millions)
Employed: fewer than 10 hours per week	3.1
10–34 hours per week	25.4
35 or more hours per week	44.3
Total employed	72.8
Unemployed (as officially measured)	2.1
Total labour force	74.9

Source: Batubara (1991), p.6

6 There had been strong growth in the Indonesian economy until the 1997 economic crisis, particularly in the modern sectors of the economy. Growth had been strongest in manufacturing, construction, transport and communications and finance, although some of these sectors employ relatively few people compared with agriculture (noting that agriculture still employs half of the workforce). The informal sector still accounts for three-quarters of the workforce. Until recently the growth in employment in the Indonesian economy had been more than able to outstrip population growth since the 1970s. As yet it is difficult to predict what lasting effect the current economic crisis will have. The negative consequences of the crises on reducing employment and increasing unemployment during 1998 to date have been enormous.

2.2 Current skill levels

The previous section highlights some key aspects concerning the demand side for labour in Indonesia and its implications for skill formation. Skill formation policies also need to be shaped by reference to the 'supply side'.

The quality of labour supply is indicated by examining the level of skills held by those in the labour force. The levels of education attainment of the population labour force in Indonesia are shown in table 6.

Skill formation, as indicated by levels of education attainment, has improved in Indonesia over the past two decades. Those with no schooling fell from over 21% of the labour force in 1985 to just over 16% by the mid-1990s. There was also strong growth in primary and junior secondary schooling completion rates.

The proportion of the labour force who had completed primary schooling rose from 27.5% to 30.4% between 1985 and 1994. The junior secondary schooling completion rate for the same period almost doubled, rising from 5.9% to 10.7%.

Only around 11% of the labour force aged ten years or over have attempted or completed senior high school or further education by 1994, with just under 4% having completed senior vocational secondary schooling.

Table 6: Education attainment in Indonesia, 1985 to 1994

Level of education	Proportion of the labour force (%)		
	1985	1990	1994
No schooling	21.4	17.1	16.2
Did not finish primary school	34.0	27.4	31.5
Completed primary school	27.5	31.4	30.4
Completed junior secondary school	5.9	9.1	10.7
Completed senior general secondary school	4.1	6.5	5.8
Completed senior vocational secondary school	4.8	5.5	3.9
Higher education diploma	0.8	2.0	0.8
Higher education—university	1.5	1.0	0.7
Total	100.0	100.0	100.0

Source: Reprinted from Suwarna (1996), p.22. (Primary sources are Supas [1985], Sensus Pandaduk [1990] and Sakernas [1994].)

According to Batubara (1991, p.7) 'the present low level of education indicates a low productivity among the Indonesian labour force'. He went on to say that 'Those who went to institutes of higher learning (diploma programs, academy or university) totalled only 1.4 million or 1.1%'.

This suggests there are some considerable skills acquisition needs that will need to be addressed as Indonesia recovers from the current economic crisis, and as it continues to restructure the economy away from agriculture and the

informal sectors of the economy towards the formal and higher technological sectors of the economy.

2.3 The impact of demographic changes

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

Currently Indonesia has a relatively young population. As can be seen in table 7, there were 64 million people under the age of 15 years in 1995—almost one-third of the population. Well over half the population are under 25 years of age.

However, projections reported by the Ministry of Education and Culture (shown in table 7) show that the Indonesian population is likely to 'age' considerably over the next two decades. By the year 2020, nearly two-thirds of the population are likely to be over 25 years of age, with only around 20% of the total population likely to be less than 15 years of age.

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

Table 7: Indonesian population and demographic projections, 1990 to 2020

Age	1990 ^(a)	1995 ^(a)	2000	2010	2020
	No. of people (millions)				
Less than five years	21.6	21.7	21.4	19.0	15.5
5-14 years	43.2	42.4	42.4	41.2	35.8
15-24 years	36.8	41.3	42.5	41.8	40.8
25-64 years	71.7	81.7	93.6	118.1	133.7
65 years or more	7.1	8.6	10.1	13.5	16.8
Total	180.4	195.7	210.0	233.6	242.6
	Proportion of people (%)				
Less than five years	12.0	11.1	10.2	8.1	6.4
5-14 years	24.0	21.7	20.2	17.6	14.8
15-24 years	20.4	21.1	20.2	17.9	16.8
25-64 years	39.7	41.7	44.6	50.6	55.1
65 years or more	3.9	4.4	4.8	5.8	6.9
Total	100.0	100.0	100.0	100.0	100.0

Note: (a) Actual numbers

Source: MOEC (1997a), p.10

3 Education and training in Indonesia

3.1 The structure of the education and training system

IN ORDER TO understand the nature of technical and vocational education and training, it is necessary to consider it in the overall context of Indonesia's education and training system.

Figure 1 shows the different elements of the education system, together with the ages of people generally, when they participate in any of the different levels of education in Indonesia.

The first level is pre-school education. Children aged 4–6 years enter kindergartens for one to two years of pre-school education. This could be at a general kindergarten or an Islamic kindergarten.

The next level is nine years of basic education. This consists of:

- ❖ six years of primary schooling
- ❖ three years of junior secondary education

Primary schooling in Indonesia occurs through general primary schools, Sekolah Dasar (SD) or special primary schools for children with handicaps (SDLB). In addition, students may attend Islamic primary schools, Madrasah Ibtidaiyah (MI), which are administered by the Ministry of Religious Affairs.

Junior secondary education occurs through junior secondary schools offering the three year program for 13–15 year olds—Sekolah Lanjutan Tingkat Pertama (SLTP). Again there are special junior secondary schools for students with disabilities and learning difficulties. Students are also able to attend Madrasah Tsanawiyah (MT), which are Islamic junior secondary schools.

Senior secondary education programs are a further three years of advanced school education for 16–18 year olds. There is a range of senior secondary schools—Sekolah Lanjutan Tingkat Atas (SLTA). These include:

- ❖ Sekolah Menengah Akademia (SMA) which are academic senior secondary schools

- ❖ Sekolah Menengah Economic tingkat Atas (SMEA) which are economics or commercial senior high schools
- ❖ senior secondary vocational or technical schools known as Sekolah Menengah Kejururan (SMK) or Sekolah Teknologi Menengah (STM)
- ❖ Madrasah Aliyah (MA) which are Islamic senior secondary schools

Senior secondary education in Indonesia encompasses service secondary education, which prepares people for entry to the civic service, and special senior secondary education for students with physical or mental disabilities.

Figure 1: The education and training system in Indonesia

Official school age	Higher education	Islamic Doctorate Program	Doctorate Program	Professional Program			
		Islamic Master Program	Master Program	Professional Program			
		Islamic Graduate Program	Graduate Degree Program	Diploma 4 Program	Diploma 3 Program	Diploma 2 Program	Diploma 1 Program
	18	Secondary education	Islamic SSS	General SSS	Vocational SSS		
	17						
	16						
	15	Basic education					
	14		Islamic JSS	General JSS			
	13						
	12		Islamic primary school	Primary school			
11							
10							
9							
8							
7							
6	Pre-school	Islamic kindergarten	Kindergarten				
5							

Note: SSS = senior secondary school; JSS = junior secondary school

Source: MOEC (1997a), p.30

The term higher education encompasses all forms of formal post-secondary education in Indonesia. The length of programs vary and students typically enter aged 19 years or older. Higher education consists of:

- ❖ academic education offering degree and higher degree education aimed particularly at service, technology and research
- ❖ professional education offering diploma programs and aimed at developing more practical skills

Higher education in Indonesia is offered in:

- ❖ an academy which conducts applied science education in one or part of a discipline, technology or the arts (professional education)
- ❖ a polytechnic which conducts applied science education across a number of fields (professional education)
- ❖ a university consisting of several faculties or disciplines offering academic education and/or professional education in several disciplines, technologies or arts (academic or professional education)

In addition to the formal education and training sector in Indonesia that is carried out through education and training institutions, there are several modes of non-institutional learning known as 'out-of-school' education. Out-of-school education is organised outside formal institutions through teaching and learning activities, which do not have to be hierarchical or continuous. The relationship between the formal or school/institutionally delivered education and training sector and the non-institutional 'out-of-school' sector is depicted in figure 2.

'Out-of-school' education is characterised by informal and flexible arrangements in relation to:

- ❖ the time spent in programs
- ❖ the age of learners
- ❖ the course content
- ❖ organisation of the education and training materials

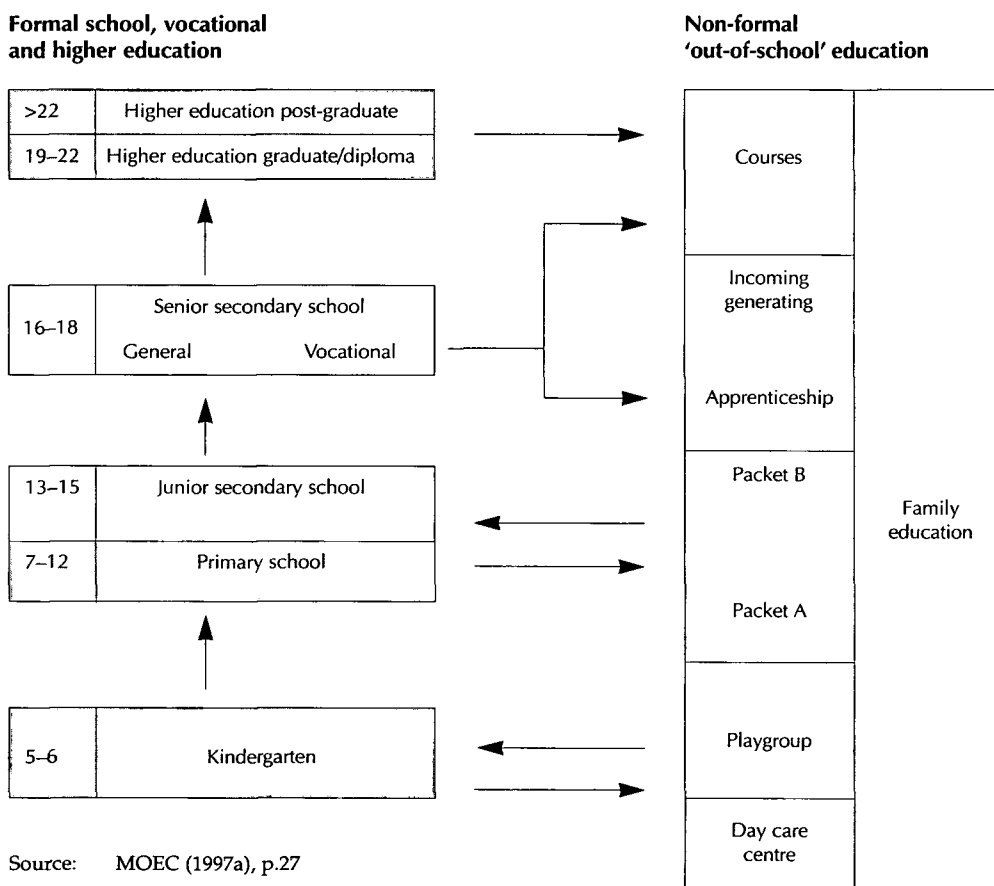
Such education and training can be provided by government agencies, or by non-government, private or community organisations.

'Out-of-school' or non-formal education and training includes:

- ❖ a pre-school play groups system that operates outside the formal kindergarten system, and that generally applies to children aged three years and under
- ❖ groups studying in what is called 'Packet A' programs organised to obtain the equivalent of primary school level education
- ❖ 'Packet B' programs organised to obtain the equivalent of junior high school level education

- ❖ the development of particular skills programs such as apprenticeships, the 'income generating' program and a range of informal skills courses aimed at early school leavers or adults which are designed to equip people with work skills, as an alternative to formal senior secondary or formal higher educational programs

Figure 2: The relationship between formal and non-formal ('out-of-school') education and training in Indonesia



The above descriptions have been drawn from the Ministry of Education and Culture report, *Education development in Indonesia* (MOEC 1997a).

Further statistical information about the nature of each level of education in Indonesia is available in MOEC (1997b). Further information about the education and training system is also given in World Bank (1991), Siddiqui (ed.) (1993), Arlianti (1995), UNESCO (1995), Suwarna (1996), Syarif (1996), MOEC (1997c) and World Bank (1997). Information about the way in which the Indonesian education system relates to the Australian education system is given in the National Office of Overseas Skill Recognition (1995).

3.2 Overall trends in the formal education and training sector

There has been massive development of the formal education and training sector in Indonesia over the past 30 years or so. This has seen the number of students rise some 300%, from just over 15 million at the beginning of the 1970s to approaching 50 million students today.

This shift represents an increase in the proportion of the total population of Indonesia who are involved in some form of schooling or formal education and training from under 10% in 1990 to some 24% today.

The numbers of children attending kindergarten have grown fourfold since the early 1970s as shown in table 8. By the beginning of the 1990s, some 40% of all 5–6 year olds attended kindergarten in Indonesia, as shown in table 9. The numbers attending primary school have more than doubled since the beginning of the 1970s, rising to 30 million by the mid-1990s (table 8). By the beginning of the 1990s, the participation rate of 7–12 year olds in primary schooling had reached 95% (table 9). Thus, today, few Indonesian children miss the opportunity for primary education.

The proportion of students making the transition from primary school to junior secondary school has risen from under 60% in the mid-1970s to over 70% by the mid-1990s. There has been a massive sixfold increase in the number of junior secondary students in Indonesia since the early 1970s. By 1995–96 there were nearly 8.5 million junior secondary students (table 8). This means that nearly 50% of all 13–15 year olds are participating in junior secondary schooling (table 9).

The number of senior secondary students (including those in vocational senior secondary education) have increased 7.5 times since the early 1970s. By the mid-1990s there were 4.75 million senior secondary school students in Indonesia (table 8). The participation rate of 16–18 year olds in senior secondary schooling had reached 27.5% by the early 1990s (table 9).

These changes have been massive and have resulted in a massive reduction of illiteracy in Indonesia. The proportion of people who are illiterate in Indonesia has fallen from 39% in 1971 to 28.8% in 1980. This fell even further to 15.9% by 1990.

The numbers in higher education, although still small, increased more than tenfold between 1970–71 and 1995–96, reaching some 2.7 million students by 1995–96 (table 8). This represents 17% of the 19–22 year old population, although some of the students counted here are actually more than 22 years of age. This slightly inflates the education and training participation rate of 19–22 year olds.

The proportion of students in each formal education and training sector in Indonesia are depicted in figure 3.

Table 8: Trends in student numbers in Indonesia, 1970–71 to 1995–96

Education sector	No. of students (millions)			
	1970–71	1980–81	1990–91	1995–96
Pre-school	0.39	0.98	1.60	1.65
Primary school				
Islamic	na	na	3.06	3.50
Other	12.96	22.55	26.35	25.95
Total	12.96	22.55	29.41	29.45
Junior secondary school				
Islamic	na	na	0.99	1.46
Other	1.35	3.41	5.69	6.95
Total	1.35	3.41	6.68	8.41
Senior secondary school				
Islamic	na	na	0.33	0.45
Other	0.62	1.75	3.90	4.30
Total	0.62	1.75	4.23	4.75
Higher education				
Islamic	na	na	na	0.35
Other	0.21	0.54	1.59	2.34
Total	0.21	0.54	1.59	2.69
Total students	15.53	29.23	43.51	46.95

Note: na = not available/not applicable

Source: Derived from MOEC (1997a, 1997b)

Table 9: Coverage of education in Indonesia, 1990–91 and 1995–96

Type of education	Age cohort (years of age)	No. of students as a proportion of the total population in the age cohort (%)	
		1990–91	1995–96
Pre-school	5–6	35.5 ^(a)	39.2
Primary schooling	7–12	91.2 ^(a)	94.8
Junior secondary schooling	13–15	37.5 ^(a)	46.5
Senior secondary schooling	16–18	27.0 ^(a)	27.5
Higher education	19–22	11.5 ^(b)	17.0 ^(b)

Notes: (a) Estimated net figure

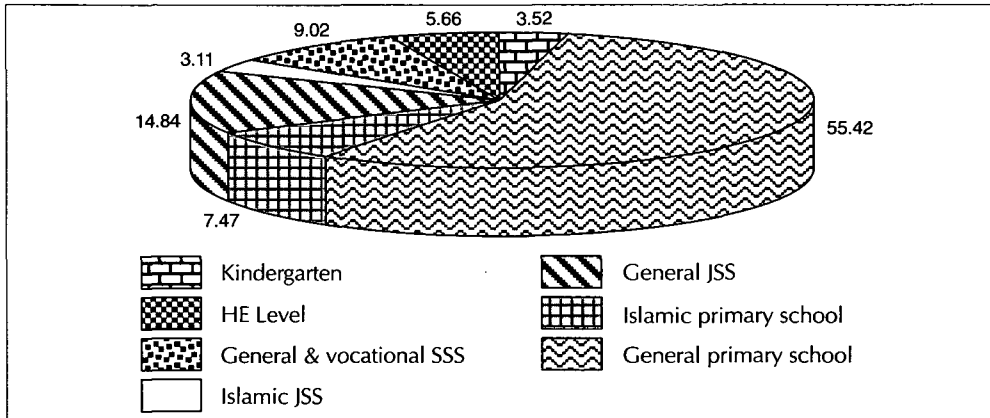
(b) Some students are older than 22 years old but have still been included in these ratios

Source: Derived from MOEC (1997b), tables 2 & 3

There has been similar massive growth in the number of education institutions since the early 1970s, as shown in table 10.

Overall the number of institutions has risen more than fourfold from just over 80 000 in 1970–71 to nearly 260 000 by 1995–96. The vast majority of these institutions are kindergartens or schools providing basic education (i.e. primary and junior secondary). There are some 15 000 senior secondary schools including those providing senior secondary vocational education and over 1500 higher education institutions of one kind or another.

Figure 3: The percentage of students in each level of education in Indonesia, 1995



Note: JSS = junior secondary school; SSS = senior secondary school; HE = higher education

Source: MOEC (1997a), p.39

Table 10: Growth in the number of education institutions in Indonesia, 1970-71 to 1995-96

Type of education institution	No. of schools/education institutions ('000)			
	1970-71	1980-81	1990-91	1995-96
Kindergartens	9.50	18.99	39.12	40.72
Primary school				
Islamic	na	na	22.15	24.46
Other	64.19	105.65	147.07	149.95
<i>Total primary schools</i>	<i>64.19</i>	<i>105.65</i>	<i>169.22</i>	<i>174.41</i>
Junior secondary school				
Islamic	na	na	7.27	8.12
Other	6.78	10.96	20.61	20.00
<i>Total junior secondary schools</i>	<i>6.78</i>	<i>10.96</i>	<i>27.88</i>	<i>28.12</i>
Senior secondary school				
Islamic	na	na	2.67	3.08
Other	2.68	4.90	11.49	12.09
<i>Total senior secondary schools</i>	<i>2.68</i>	<i>4.90</i>	<i>14.16</i>	<i>15.17</i>
Higher education				
Islamic	na	na	na	0.27
Other	0.25	0.40	0.96	1.30
<i>Total higher education</i>	<i>0.25</i>	<i>0.40</i>	<i>0.96</i>	<i>1.57</i>
Total education institutions	83.40	140.90	251.34	259.99

Note: na = not available/not applicable

Source: Derived from MOEC (1997a, 1997b)

Another important change in the provision of formal education and training in Indonesia has been a change in attitudes towards the participation of girls and young women beyond primary schooling. Table 11 shows that just under half of all primary school children are females, and this has changed little over a long period of time.

Table 11: Percentage of female students in each education sector in Indonesia, 1973 to 1994–95

Education sector	Year					
	1973	1978–79	1983–84	1988–89	1993–94	1994–95
Primary school	45.3	47.0	47.6	48.3	48.3	48.2
Junior secondary school	38.3	40.9	42.5	45.0	46.5	47.3
Senior secondary school	33.9	37.5	40.6	43.5	45.7	45.7
Higher education	22.5	26.5	29.6	34.9	37.0	38.3

Source: MOEC (1997a), p.74

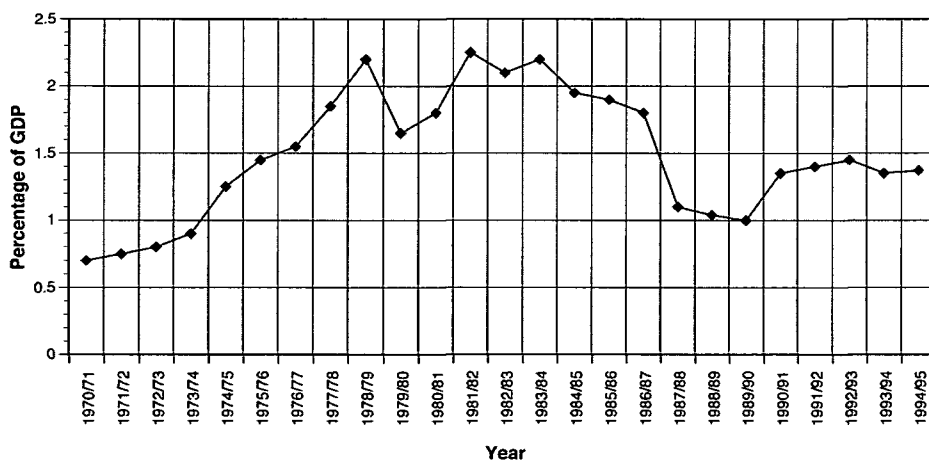
However, there have been large increases in the proportion of females in other education and training sectors. For instance:

- ❖ female secondary education participation, while still not quite being equal with that of males, is now approaching 50%, with:
 - ◆ female participation in junior secondary school having grown by nearly 25% since 1970–71
 - ◆ the participation of females in senior secondary schooling having grown by over one-third since 1970–71
- ❖ female participation in higher education reached just under 40% by the mid-1990s, having grown from just over 20% in the early 1970s

As can be seen in figure 4, public spending by the education portfolio rose from well under 1% of GDP in the early 1970s to over 2% of GDP by the early 1980s. Spending remained on or near 2% of GDP until around 1986–87. It then dropped substantially to around 1% of GDP for the rest of the 1980s, before increasing to around 1.4% to 1.5% of GDP during the 1990s (to the mid-1990s).

Figure 4: Education expenditure as a proportion of GDP in Indonesia, 1970–71 to 1994–95

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Source: MOEC (1997a), p.55

3.3 The vocational secondary education system

The oldest and largest element of Indonesia's system of technical and vocational education and training is the system of specialised vocational education schools. Specialist vocational secondary education is now totally provided at the senior secondary level. Although it was also previously at the junior secondary level before junior secondary vocational education was phased out prior to the mid-1990s.

The total number of vocational secondary students in Indonesia grew by more than 60% from the early 1980s to the present time. As shown in table 12, in 1983–84 there were just over one million vocational secondary students. This figure reached over 1.6 million by 1995–96.

This represents some 35% of all senior secondary students in Indonesia or some 13.6% of the 16–18 year old population.

Table 12: The number of vocational secondary students in Indonesia, 1983–84 to 1995–96

Year	No. of students in vocational secondary education ('000)			Proportion of total enrolments (%)		
	Junior secondary	Senior secondary	Total	Junior secondary	Senior secondary	Total
1983–84	441.2	564.5	1005.7	1.71	21.81	23.52
1988–89	419.6	1089.5	1509.1	1.57	27.80	29.37
1993–94	221.1	1355.3	1576.4	0.84	35.83	36.67
1994–95	(a)	1642.2	1642.2	(a)	38.86	38.87
1995–96	(a)	1648.5	1648.5	(a)	35.25	35.25

Note: (a) Vocational education was phased out at junior secondary level in these years

Source: Derived from MOEC (1997a, 1997b)

Vocational education programs are offered at the senior secondary level at specialist vocational secondary schools by:

- ❖ Sekolah Teknologi Menengah (STM)—technical/vocational senior secondary schools
- ❖ Sekolah Menengah Ekonomi tingkat Atas (SMEA)—senior secondary schools of economics, business and commerce
- ❖ Sekolah Menengah Kesejahteraan Keluarga (SMKK)—home economics senior secondary schools

As can be seen from table 13, almost half of the vocational secondary students are taking programs in senior secondary schools of economics, business and commerce. A further 40% are studying in technical senior secondary schools and just over 3% are studying in home economics senior secondary schools. The

remaining 7% of vocational senior secondary students were in other vocational senior secondary schools of various kinds.

By 1995–96, there were over 3800 vocational senior secondary schools located throughout Indonesia.

Table 13: Number of vocational senior secondary students and schools in Indonesia by type of vocational school, 1995–96

Type of vocational senior secondary school	Students		Schools	
	Number ('000)	Proportion of all vocational secondary students (%)	Number	Proportion of all vocational senior secondary schools (%)
SMEA—economics, business and commerce senior secondary school	812.2	49.3	2060	54.0
SMKK—home economics senior secondary school	53.9	3.3	166	4.4
STM—technical senior secondary school	661.3	40.1	1120	29.4
SMKL—other vocational senior secondary school	121.1	7.3	467	12.2
Total	1648.5	100.0	3813	100.0

Source: MOEC (1997b), tables 6–7

3.4 Apprenticeships

In order to ensure that entry-level vocational education is better orientated to the needs of the industry and the workplace, Indonesia has embarked on a policy to overhaul and rapidly develop its comparatively small apprenticeship system. The system overhaul was based on a decision taken in 1994 to adopt a dual system—System Ganda.

Apprenticeships run for three years, the typical duration of vocational secondary school programs. However, under this scheme students spend part of their time working in companies as apprentices.

As shown in table 14, the decision to develop an enhanced apprenticeship system in Indonesia had led to a massive increase in the number of apprentices from just under 7000 in 1991–92 to nearly 115 000 by 1994–95.

Apprenticeships are targeted towards a range of occupations including secretarial, travel and tourism, bookkeeping, retailing occupations, hairdressing, dressmaking/clothing manufacturing and food preparation/processing.

Table 14: Apprenticeship participants^(a) in Indonesia, 1989–90 to 1994–95

Year	No. of apprentices ('000)
1989–90	1.0
1990–91	1.7
1991–92	6.7
1992–93	12.7
1993–94	27.8
1994–95	114.8

Note: (a) The number of apprenticeship participants in out-of-school education

Source: MOEC (1997a), p.93

3.5 Formal post-secondary vocational education

As described earlier, the higher education sector in Indonesia encompasses all forms of academic, professional and technical formal post-secondary education. These programs are offered in a range of public and private institutes such as academies, polytechnics and universities.

The post-secondary programs leading to sub-degree awards can be classified as the technical and vocational element of Indonesia's higher education sector. These education and formal training programs are of between one and four years' duration, leading to a range of diploma-level awards. These are:

- ❖ Diploma 1 programs requiring one year of full-time study
- ❖ Diploma 2 programs requiring two years of full-time study and mainly offered in the fields of education (the most prevalent), economics, secretarial studies and forestry/agriculture
- ❖ Diploma 3 programs requiring three years of full-time study and offered in a wide range of fields including engineering, computer science, foreign languages and business studies
- ❖ Diploma 4 programs requiring four years of full-time study and offered in a comparatively limited number of fields including engineering, business administration and tourism/hospitality

By 1995–96, there were over three-quarters of a million students undertaking diploma programs in Indonesia, as shown in table 15. This means that some 30% of all students in the total higher education sector in Indonesia are undertaking diploma programs that can be classified as post-secondary vocational education. These students represented some 5% of the total Indonesian 19–22 year old population of nearly 16 million in 1995–96. Some two-thirds of these students were undertaking their diploma programs in public higher education institutions.

Table 15: The number of students in Indonesia by level of post-secondary education, 1995–96

Type of higher education institutions	Level of program		Total ('000)
	Diploma ('000)	Graduate ('000)	
Public institutions	521.4	610.5	1131.9
Private institutions	270.6	1247.4	1518.0
Total	792.0	1857.9	2649.9

Source: MOEC (1997b), pp.48–49

3.6 Other vocational education and training

There is a range of other vocational training arrangements operating in Indonesia in addition to the formal diploma programs being offered in the higher education sector. These include:

- ❖ a wide range of short courses offered at vocational training centres that are publicly funded by the Ministry of Manpower
- ❖ a host of other short vocational courses offered by a diverse range of private training centres that are registered with the Ministry of Education and Culture or the Ministry of Manpower

There are some:

- ❖ 53 Bali Lotihan Kerjas (BLKs) which are large and medium-sized vocational training centres scattered throughout Indonesia operated by the Ministry of Manpower
- ❖ a further 104 small-sized vocational training centres known as Kursus Latihan Kerjas (KLKs) operated by the Ministry of Manpower

These centres focus on the provision of trade training. The nature of the training provided is documented in Ministry of Manpower (1992) and is focussed on training in the following areas:

- ❖ metal trades including machining, plumbing, welding and sheet metal work
- ❖ automotive trades, motor cycle servicing, motor boat trades and panel beating
- ❖ electrical trades including radio and TV repair, electrical installation and refrigeration servicing
- ❖ building trades including woodworking, masonry, building design and furniture making
- ❖ commerce trades including secretarial, typing, bookkeeping and English
- ❖ agricultural trades including farming, plantation and forestry, animal husbandry, fisheries, agricultural products processing, agricultural machinery servicing and maintenance

- ❖ miscellaneous trades including dressmaking, metal and wood carving, Batik, cooking, hair and beauty, Rattan and bamboo works, tiling and ceramics and embroidery

According to World Bank (1997), during the 1980s it had been envisaged that BLKs/KLKs would provide trades training to over 120 000 people annually. By 1988 enrolments fell to under 25 000, but have recovered since then to be in the order of 50 000 per year.

Indonesia has a very diverse range of private training centres that are attempting to cater to a wide range of skills needs.

World Bank (1997, p.25) describes them as:

... centres ranging from small store front shops offering a single short term course such as hairdressing or flower arranging, to large urban institutions with over a thousand students offering a range of multi-year programs in areas such as accounting, computers or secretarial which lead directly to well paid employment. They are most commonly owner operated and located in urban areas.

As shown in table 16, there are well over 25 000 private training centres in Indonesia catering for over 4.5 million students each year.

Table 16: Private training centres in Indonesia, 1989 and 1994

	1989	1994
Number of centres ('000)		
Registered with MOEC	18.4	19.7
Registered with MOM	2.8	8.3
Total	21.2	28.0
Number of trainees ('000)		
Registered with MOEC	na	3360.0
Registered with MOM	na	1170.0
Total	na	4530.0

Note: na = not available

Source: World Bank (1997), p.76

3.7 Employer-provided training

According to the Ministry of Education and Culture/Ministry of Manpower figures, shown in table 17, over 2600 Indonesian companies opened their own training centres to provide formal training, involving over 230 000 trainees.

Some surveys of manufacturing companies in Indonesia, reported by the World Bank (1997, pp.90–94), found that:

- ❖ as many as 50% of companies in the formal manufacturing sector reported providing in-service formal or informal training in 1989

Table 17: Company-provided training in Indonesia, 1994

Company training centres	
Registered with MOEC	2500
Registered with MOM	133
Total	2633
Trainees in formal training ('000)	
Registered with MOM	89.4
At company training centres	115.0
In apprenticeships	26.0
Total	230.4

Note: Data supplied by the Ministry of Education and Culture and the Ministry of Manpower

Source: World Bank (1997), p.90

- ❖ some 10–15% of manufacturing companies had formal training programs with specialised training staff, training classrooms and workshops in 1992
- ❖ in 1989 some 17% of manufacturing firms surveyed reported expenditure on training for their employees to a level averaging 1.7% of total payroll
- ❖ only 4% of firms in the 1992 Manufacturing Survey claimed a tax deduction even though some 20% of firms were in a position to report training expenditures

Smith (1995) reported the results of a Bureau of Manpower Development Survey in West Java. It was found that:

- ❖ only 20% of firms reported any kind of training expenditure
- ❖ 20% of firms had introduced some kind of skills certification
- ❖ only 4% of firms had claimed tax relief on training costs
- ❖ only 25% of firms had undertaken a training needs assessment of their workforce
- ❖ enterprises rated a lack of operator skills as the second most important constraint to production, behind a lack of quality in raw materials and components

The surveys conducted are restricted to firms in the formal sector of the economy and are biased towards larger-sized enterprises of 200 or more employees. Thus these results cannot be extrapolated to gauge the level of employer-provided training across the whole Indonesian economy as most enterprises are much smaller in size and are found in the informal sector of the economy.

Finally, SEAMEO VOCTECH (1996) conducted a survey of industry respondents in eight member countries including Indonesia. SEAMEO VOCTECH (1996) reported that:

- ❖ 48% of industry respondents in Indonesia reported that at least four months of on-the-job training was required by skills/trades personnel trained in TVE institutions to become fully productive, compared with an average of 59% for all Association of South East Asia Nations (ASEAN) countries
- ❖ the corresponding figures for technicians were 53% for Indonesia and 54% for all ASEAN countries

4 The nature of Australia's technical, vocational education and training system

4.1 The structure of Australia's VET sector

THERE ARE MANY and 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 through undertaking a VET module offered by a Technical and Further Education (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 of professional skills through a graduate or post-graduate award program at a university
- ❖ job-related skills gained 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 recognised qualification
 - ◆ unstructured training provided on the job that has no predetermined training plan or organised 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 organisations and adult and community education organisations.

Australia does not have a 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 vocational programs within general secondary schools are becoming increasingly popular.

However, not all of the above education and training pathways are considered to be part of the VET sector in Australia. The VET sector normally refers to a recognised VET program undertaken through a registered training provider. Most VET programs are undertaken in a TAFE institute, although private training organisations 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.

Thus 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 organisations are 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.

Australia has a complex VET system as can be seen from figure 5.

The national system is a joint responsibility of the national (i.e. Commonwealth) government and the eight States and Territory (i.e. provincial) governments.

The key national decision-making body is a council of ministers responsible for training from the national and State/Territory governments—known as the ANTA Ministerial Council (MINCO). This ministerial council also takes account of the decisions of a larger national ministerial council—MCEETYA—which frames national policy across the wider policy sphere of employment, education, training and youth affairs issues.

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The key national agency with responsibility for advising on national planning, funding and strategic objectives to achieve a national focus for VET in Australia is the Australian National Training Authority (ANTA). ANTA is a Commonwealth statutory authority that is governed by an industry board.

The Commonwealth Department of Education, Training and Youth Affairs and each State and Territory training authority have a prime policy and operational responsibilities to implement agreed national VET decisions in their respective jurisdictions.

Australia has a highly developed set of industry training advisory bodies (ITABs) operating at both the national and State/Territory levels. ITABs provide advice on key training issues within a particular industry, and their boards are comprised of industry, business and labour union representatives. National ITABs receive financial support from ANTA to do a variety of things. Most

important is to participate in national planning of the VET system and to develop national industry standards for training.

The National Centre for Vocational Education Research (NCVER) is the other major national government VET body in Australia. NCVER has responsibilities for developing and implementing Australia's national VET research and evaluation effort, together with the collection and reporting of national VET statistics.

Australia's governments have also established a non-profit company—called Australian Training Products Limited—to develop and publish national training products and materials.

There is also an array of other national advisory bodies and committees involved in the VET sector.

VET in Australia is funded from government and private sources (e.g. companies purchasing training for their employees). Individuals also make a contribution through the payment of fees. Government funding of VET in Australia totalled \$A3.96 billion in 1997. Around 30% was provided by the national government, and the remainder by State and Territory (i.e. provincial) governments. At the provider level specific allocations are made by government training authorities to TAFE institutes, other public training providers or a host of community and private training providers for them to provide VET training to industry and individual training clients.

The level of public funding of VET in Australia of \$A3.96 billion represented almost 0.8% of total GDP in 1997. Australian governments spent around 5.7% of GDP on all forms of education and training (i.e. schooling, VET and universities) in 1994 (Lenahan, Burke & Hing Tong Ma 1998, p.19).

VET programs in 1997 were provided by:

- ❖ around 100 TAFE or other government institutes (such as agricultural colleges providing VET programs) operating at some 1000 separate locations around Australia
- ❖ some 600 community education centres
- ❖ almost 1500 other registered training providers such as private training organisations, schools, business enterprises who provide formal training, special industry training centres, etc.

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It is important to note that there are over 3500 registered training organisations in Australia, so not all of them are providing publicly funded VET programs in any one year.

Increasingly greater amounts of funding are put up to competitive tendering amongst TAFE, community-based and private training providers.

People can enrol in a VET program simply to gain skills from one or more modules (i.e. short courses) or they can undertake a full program (i.e. a full course) 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 called the Australian Qualifications Framework (AQF). They are shown in table 18. A seventh qualification, the senior secondary certificate, is also offered by some TAFEs. The AQF was first introduced in 1995 and it is being 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 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 18: 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	
Senior secondary	Certificate II	
Certificate of education	Certificate I	

Source: Australian Qualifications Framework Advisory Board (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 centre
- ❖ '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 to be 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

4.2 Participation in VET

The number of students/trainees in publicly funded VET programs in Australia has grown very strongly over the past decade. Ten years ago under one million people participated in VET in Australia, as shown in table 19. Today almost 1.5 million people are undertaking a publicly funded VET program. This represents over 12% of the entire Australian population aged 15 to 64 years (i.e. the working age population).

Table 19: The number of VET students/trainees in Australia, 1988 to 1997

Year (a)	Number in VET ^(b) ('000)			Proportion who are female (%)
	Males	Females	Persons	
1988	503.5	448.1	951.6	47.1
1989	492.9	439.7	932.6	47.1
1990	534.1	432.7	966.8	44.8
1991	541.1	444.8	985.9	45.1
1992	572.1	470.4	1042.5	45.1
1993	606.9	514.5	1121.4	45.9
1994	612.3	519.2	1131.5	45.9
1995	672.2	600.5	1272.7	47.2
1996	706.3	641.1	1347.4	47.6
1997	756.9	701.7	1458.6	48.1

Notes: (a) Minor changes were made to the collection arrangements or the scope of the series in 1993 and 1994. Moreover, community providers of VET were included since 1995 and private providers since 1996

(b) Numbers who participated at some time throughout the calendar year

Source: NCVET (1998a)

Most VET participants in Australia are part-time students. Half of all VET participants in 1997 were enrolled in programs of under 100 hours of training. Only around 10% of Australia's VET students are undertaking courses as full-time full-year students.

As shown in table 20 the proportion of female students/trainees in VET in Australia has now almost reached 50%.

Table 20: Characteristics of VET participants in Australia, 1997

Characteristic	Proportion of clients (%)	Proportion of total hours of training delivered (%)
Sex		
Male	51.9	52.6
Female	48.1	47.4
Total	100.0	100.0
Age		
Under 15 years	0.4	0.2
15-19 years	19.9	31.2
20-24 years	17.9	22.5
25-29 years	12.9	11.6
30-39 years	22.5	17.9
40-49 years	16.6	11.5
50-59 years	7.2	3.9
60-69 years	1.2	0.6
65 years and over	1.3	0.6
Total	100.0	100.0
Geographic region		
Capital city	58.6	61.7
Other metropolitan	7.1	7.5
Rural	29.6	25.1
Remote	3.5	2.7
Outside Australia	1.2	3.0
Total	100.0	100.0
Total ('000)	1 458.6	302 199.6

Source: NCVET (1998a)

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% of all VET students/trainees are under 20 years of age, although they account for one-third of the total training hours delivered (see table 20).

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.

Australia is a highly urbanised country, yet around one-third of VET participants are undertaking their VET program outside a major metropolitan area (as shown in table 20).

Australia has progressively improved its VET delivery to indigenous people, migrants and people whose first language is not English, to the point where such groups are equitably represented in the total VET student/trainee

population. However, people with disabilities and handicaps are still under-represented in VET.

This level of participation has resulted in Australian participation rates in VET being high. As mentioned earlier some 12% of the entire 15–64 year old population participated in VET in 1997. In terms of the different age groups, VET participation rates in 1997 were:

- ❖ nearly 20% for 15–19 year olds
- ❖ 17% for 20–24 year olds
- ❖ nearly 7% for 25–64 year olds

This does not include participation in other forms of education such as in schools and universities. Estimates of total education participation rates in all forms of education and training in Australia in the relevant age cohorts in 1995 were that:

- ❖ the net primary school participation rate was 98%
- ❖ the net secondary school participation rate was 89%
- ❖ the tertiary (i.e. VET and university) participation rate of youth was 72%

(Lenahan, Burke & Hing Tong Ma 1998, p.22)

4.3 The amount and type of VET training provided

The aggregate amount of publicly funded training provided by the VET sector in Australia is shown in table 21. The key features are:

- ❖ almost 1.5 million VET clients (i.e. students or trainees) enrolled in a VET program during 1997
- ❖ people enrolled in over 1.8 million VET courses during 1997 and, between them, they enrolled in almost 10 million VET modules
- ❖ over 300 million hours of training were delivered by the VET sector in 1997

Some two-thirds of all training hours provided by VET in Australia were in just four fields of study, as shown in table 22. These are:

- ❖ business, administration and economics courses account for almost 20% of total training hours in 1997
- ❖ TAFE multi-field education (i.e. general vocational education, languages and preparatory courses) with just over 17% of total training hours
- ❖ engineering and surveying courses with just under 17% of total VET training hours in 1997
- ❖ services, tourism and hospitality and transportation courses accounting for 12% of total training hours delivered in 1997

Table 21: Indicators of VET training activity in Australia, 1997

Indicator	Type of registered training organisation			
	TAFE & other government providers	Community education	Private providers & other	Total of all providers
Clients (i.e. students/trainees)				
Number ('000)	1140.8	225.2	92.6	1458.6
Proportion (%)	78.2	15.4	6.4	100.0
Course enrolments				
Number ('000)	1453.0	291.6	99.6	1844.2
Proportion (%)	78.9	15.8	5.4	100.0
Module enrolments				
Number ('000)	8738.7	365.5	776.5	9880.7
Proportion (%)	88.4	3.7	7.9	100.0
Training hours delivered				
Number (million)	272.0	11.0	19.2	302.2
Proportion (%)	90.0	3.6	6.4	100.0

Source: NCVET (1998a)

Table 22: The amount of training provided in each field of study in Australia, 1997

Field of study	Proportion of training hours provided (%)
Animal husbandry, land & marine resources	4.6
Architecture & building	6.5
Arts, humanities & social sciences	8.2
Business administration & economics	19.3
Education	1.3
Engineering & surveying	16.8
Health & community services	8.5
Law & legal studies	0.6
Science	4.5
Veterinary science & animal care	0.2
Services, hospitality & transport	12.1
TAFE multi-field education	17.4
Other	0.1
Total	100.0
Total hours (million)	302.2

Source: NCVET (1998a)

Somewhat similar patterns are observed when training activity is considered in terms of module enrolments in each discipline group, as shown in table 23. Module discipline classifications in table 23 describe the area of learning for each module undertaken independently from the course in which it is taken (noting the fields of study classification used earlier in table 22 relates to a classification of VET courses undertaken).

One-fifth of all module enrolments are in the administration, business, economics and law area. The other important areas of VET module enrolments are mathematics and computing (13.2%), engineering and processing (12.4%) and social, education and employment skills (12.3%).

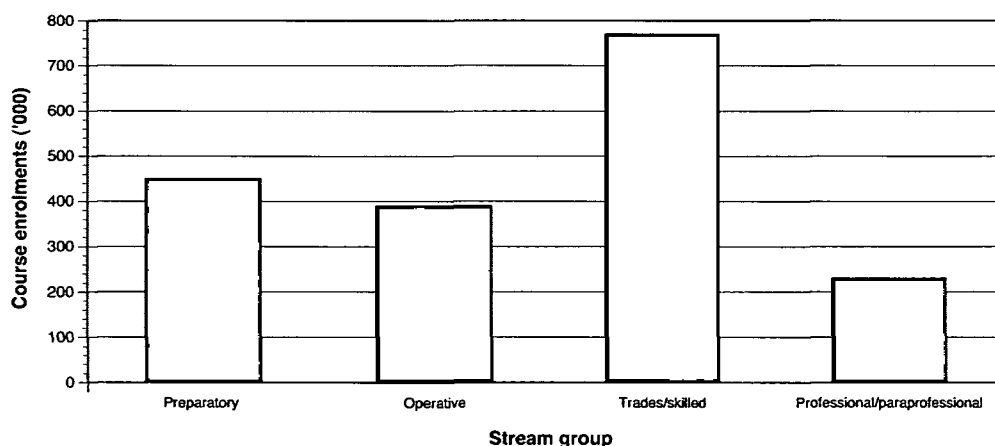
The overall pattern of VET taken in Australia can be summarised by referencing the information in figure 6. Most enrolments are in the trades and skilled training area.

Table 23: Module enrolments in each area of learning in Australia, 1997

Area of learning (i.e. discipline)	Proportion of module enrolments (%)
Humanities	7.2
Social studies	1.2
Education	1.3
Sciences	2.6
Mathematics & computing	13.2
Visual & performing arts	3.0
Engineering & processing	12.4
Health sciences	8.4
Administration, business, economics & law	20.2
Building & environment	4.5
Agriculture & renewable resources	4.2
Hospitality, tourism & personnel services	9.5
Social, educational & employment skills	12.3
Total (%)	100.0
Total ('000)	9880.7

Source: NCVET (1998a)

Figure 6: Course enrolments by type of VET study in Australia, 1997



Source: NCVET (1998a)

The important point about the information in table 24 is that only a little over half of all course enrolments in 1996 were in programs leading to a qualification. However, a further 16.5% of course enrolments were in programs leading to statements of attainment (issued to those partially completing a qualification and indicating the units of competency achieved under nationally endorsed competency standards) or certificates of competency or proficiency, etc.

The remaining enrolments (26.8% in 1996) were in non-award courses and courses not leading to a formally recognised qualification (or not leading to the issue of a statement of attainment, etc.)

Table 24: Course enrolments by qualification level in Australia, 1996

Qualifications	Number of enrolments ('000)	Proportion of enrolments (%)
Full qualifications^(a) still under old system		
Diploma	7.6	0.4
Associate diploma	107.6	6.0
Advanced certificate—post trade	9.7	0.6
Advanced certificate—other	68.2	3.8
Certificate—trade	85.2	4.8
Certificate—n.e.c	273.4	15.3
<i>Sub-total in old system</i>	<i>551.7</i>	<i>30.9</i>
Full qualifications^(a) under AQF framework		
Advanced diploma	28.4	1.6
Diploma	73.2	4.1
Certificate IV	69.0	3.9
Certificate III	130.7	7.3
Certificate II	99.0	5.5
Certificate I	54.8	3.1
Senior secondary	6.2	0.3
<i>Sub-total AQF</i>	<i>461.3</i>	<i>25.8</i>
Sub-qualification level statements of attainment etc.		
Statements of attainment	269.6	15.1
Certificates of competency	20.0	1.1
Certificates of proficiency	1.8	0.1
Endorsements to certificates	3.3	0.2
<i>Sub-total statements, etc.</i>	<i>294.7</i>	<i>16.5</i>
Non-award/other	478.6	26.8
Total course enrolments	1786.3	100.0

Note: Qualifications awarded or being sought

Source: Robinson (1998b)

4.4 Outputs and outcomes of VET

Some 65% of all modules undertaken in Australia's VET system in 1997 were completed successfully as shown in table 25. This means that a pass or credit for prior learning or studies done elsewhere was achieved in over 90% of cases where modules were both completed and assessed.

The information in table 25 also shows that only 25% of all module enrolments culminated in a fail. Some 20% were not assessed or were enrolments in modules that continued past the end of the 1997 calendar year.

Table 25: Assessment outcomes from participation in VET in Australia, 1997

Module outcomes	Proportion of module enrolments (%)
Assessed and successful outcome gained	
Pass	59.2
Recognition of prior learning credit granted	2.3
Credit transfer granted for subjects completed elsewhere	3.3
Total successful	64.8
Assessed and successful outcome not gained	
Fail	4.9
Result withheld	2.2
Total unsuccessful	7.1
Not assessed	
Continuing in studies	5.0
Satisfactorily completed class hours but not assessed	5.7
Withdrew	8.8
Total not assessed	19.5
Outcome not reported	8.6
Total modules undertaken (%)	100.0
Total modules undertaken ('000)	9880.7

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Source: NCVET (1998a)

Another facet of the outputs from VET in Australia is the number of qualifications being issued. The number of qualifications reported as being issued in 1997 is shown in table 26.

Of the full VET qualifications awarded in Australia:

- ❖ only 15% were diplomas or advanced diplomas
- ❖ some 17% were Certificate IV level qualifications
- ❖ some 40% were Certificate III level qualifications
- ❖ the remaining 28% were Certificate I and II level qualifications

Table 26: VET qualifications issued in Australia, 1997

Type of awards issued ^(a)	Number (‘000)	Proportion (%)
Full qualifications awarded		
Diplomas and advanced diplomas	23.8	7.5
AQF Certificate IV & equivalent	27.2	8.6
AQF Certificate III & equivalent	68.5	21.6
AQF Certificate I or II & equivalent	36.5	11.5
Total full qualifications	156.0	49.2
Sub-qualification level		
Other certificates and endorsements	12.4	3.9
Statements of attainment	65.8	20.7
Statements from courses of less than 50 hours duration	83.3	26.2
Total sub-qualification certificates/statements	161.5	50.8
Total awards issued	317.4	100.0

Note: (a) Awards reported as being issued

Source: NCVER (1998a)

It is important to note that the above qualifications data are incomplete because not all awards issued are reported or because not everyone who is eligible for an award is issued with one. Arrangements to improve awarding practices and reporting are currently under review in Australia.

The most important outcome from VET participation is an employment outcome. After all most VET students in Australia cite a job-related reason as the main reason for undertaking VET in the first place. For example, the results of NCVER’s 1997 TAFE Graduate Destination Survey show that the main reasons graduates gave for undertaking a TAFE course in 1996 were:

- ❖ to get a job or start a business (28.8%)
- ❖ for interest or personal development (13.6%)
- ❖ to get extra skills for an existing job (13.1%)
- ❖ to try for a different career (12.3%)
- ❖ to get a better job or promotion (12%)
- ❖ it was a requirement of any job (10.5%)
- ❖ to get into another course of study (6.4%)
- ❖ other reasons (2.5%)

The same survey traced the employment status of graduates as at May 1997, who had earlier undertook their VET study and graduated sometime during 1996. As shown in table 27 some 71% of graduates had obtained employment by 30 May 1997. Most were in full-time jobs. The employment outcomes were better for males, with 78% having jobs, than for females with only 66% having jobs.

Table 27: Employment outcomes of TAFE graduates in Australia, 1997

Labour force status at 30 May 1997	TAFE graduates who graduated during 1996 (%)		
	Males	Females	Total
Employed			
Full time	63.4	34.8	47.3
Part time	10.6	26.8	19.7
Employed but type not stated	3.7	4.2	4.0
Total	77.7	65.8	71.0
Unemployed			
Seeking full-time work	10.8	10.3	10.5
Seeking part-time work	2.4	6.3	4.6
Total	13.2	16.6	15.1
Not in the labour force	9.0	17.5	13.8
Total	100.0	100.0	100.0

Source: NCVER (1997a)

The survey also shows some 15% were unemployed and looking for full-time or part-time work, and just under 14% were not in the labour force (i.e. neither employed or actively looking for a job).

Of course not all graduates were unemployed at the time of commencing their course. Some 36% had a full-time job before commencing their course, noting that rate rose to over 47% after graduation. Similarly, some 25% had a part-time job before commencing their courses. The part-time employment rate fell to 20% after graduation.

These results show there are two key aspects of the employment outcomes being obtained from VET in Australia. These are:

- ❖ a significant improvement in overall employment outcomes arises from successfully completing a significant VET course
- ❖ an even greater conversion from part-time to full-time work arises as a result of such VET study

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Another feature of the outcomes from VET in Australia concerns the satisfaction of employers with the training provided, and the impact that such training has had on business productivity.

As shown in table 28, some 78% of all employers of VET graduates in Australia are satisfied or very satisfied with the VET training provided. Large enterprises with 100 or more employees are slightly more satisfied than are employers running medium or small-sized enterprises. Yet the level of satisfaction varies only marginally with the size of the business.

Table 28: Employer satisfaction with VET in Australia, 1997

Satisfied or very satisfied with VET training provided	Proportion of employers (%)
Large enterprises (100+ employees)	84
Medium enterprises (20–99 employees)	80
Small enterprises (1–19 employees)	77
All employers	78

Source: NCVET (1997b)

Another critical finding from the NCVET's Employer Satisfaction Survey is that nearly three-quarters of employers in Australia who have employed a VET graduate within the last two years have reported an increase in productivity that they attribute to the skills received from VET.

4.5 Apprenticeships

A very significant feature of Australia's VET system is the apprenticeship system. The 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.

Apprenticeships in Australia conventionally 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 training on the job. 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 involved one day, or sometimes two days, per week off the job. Trainees are paid lower wages than fully trained adult workers employed in the same areas.

The number of apprentices and trainees in a contract of training with an employer reached record levels of over 175 000 by June 1997. Such training has grown from under 130 000 in 1985 (as shown in table 29).

Table 29: Apprentices and trainees in Australia, 1985 to 1997

30 June	Number in training contracts ('000)		
	Apprentices	Trainees	Total
1985	128.6	0.0	128.6
1986	130.4	1.0	131.4
1987	138.9	6.4	145.3
1988	147.1	9.2	156.3
1989	151.7	12.2	163.9
1990	161.0	11.8	172.8
1991	151.0	9.2	160.2
1992	142.9	9.0	151.9
1993	122.7	14.8	137.5
1994	123.3	7.8	131.1
1995	122.9	12.0	135.8(a)
1996	124.4	29.7	158.0(a)
1997	123.1	47.8	175.4(a)

Note: (a) From 1995 to 1997 some contracts of training cannot be identified as apprentices or trainees. These are included in the totals only

Source: NCVER (1998b)

The key features of this trend are:

- ❖ a rapid growth in the four-year apprenticeships from 1985 to the early 1990s
- ❖ an equally rapid decline in apprenticeship numbers from the early to the mid-1990s, with numbers in training at 30 June stabilising since 1993 at around 123 000 to 125 000
- ❖ a major expansion in shorter traineeships since 1995, from 12 000 to almost 50 000 today

Another important development has been the removal of any age barriers to participation in apprenticeships and traineeships over the last decade or so. Today only 44% of apprentices/trainees are under 20 years of age. Around one-quarter are more than 25 years of age, as shown in table 30.

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Table 30: Characteristics of apprentices and trainees in Australia, 1997

Age group	Number in training ^(a) contracts ('000)			Proportion of age cohort (%)		
	Males	Females	Persons	Males	Females	Persons
15-19 years	60.7	16.9	77.6	9.1	2.7	6.0
20-24 years	58.2	12.8	71.0	8.3	1.9	5.2
25-29 years	9.1	2.9	12.0	1.2	0.4	0.8
30-64 years	9.6	5.2	14.8	0.2	0.1	0.2
Total 15-64 years	137.6	37.8	175.4	na	na	1.4

Notes: (a) Number in training on 30 June 1997
na = not available

Source: NCVER (1998c)

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.

As shown in table 31, 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 labour market as a whole.

Table 31: Occupational categories of apprentices and trainees in Australia, 1985 and 1997

Occupation	November ('000)(a)		Proportion (%)	
	1985	1997	1985	1997
Managers and administrators	0	1.8	0	1.0
Professionals	0	0.2	0	0.1
Para-professionals	0	3.2	0	1.8
Metal trades	44.5	21.4	34.6	12.2
Electrical	18.3	16.8	14.2	9.6
Building	21.9	24.3	17.1	13.8
Printing	3.4	3.2	2.6	1.8
Vehicle trades	6.0	21.2	4.7	12.1
Food	11.0	17.1	8.6	9.8
Horticulture	(b)	3.2	(b)	1.8
Hairdressing	(b)	9.7	(b)	5.5
Clerks	0	13.9	0	7.9
Salespersons & personal services	0	16.8	0	9.6
Plant & machine operators & drivers	0	2.2	0	1.3
Labourers & related workers	0	12.9	0	7.4
Miscellaneous/other	23.5	7.5	18.2	4.3
Total	128.6	175.4	100.0	100.0

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Notes: (a) Numbers in training contracts on 30 June 1997

(b) Horticulture and hairdressing were counted in the miscellaneous category in 1995

Source: NCVER (1998b)

The most recent development of this system of training in Australia is the establishment of New Apprenticeships on 1 January 1998. The New Apprenticeships system covers all former apprenticeship 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. Another feature of the New Apprenticeships system is 'user choice', where employers can select their own VET training provider for the off-the-job component.

4.6 Employer investment in training in Australia

As shown in table 32, over 60% of all employers in Australia reported the provision of some kind of structured or unstructured training to their employees during the year ending February 1997.

According to the Australian Bureau of Statistics (ABS), structured training refers to:

... all training activities which have a predetermined plan and format designed to develop employment-related skills and competencies. It consists of periods of instruction, or a combination of instruction and monitored practical work. The instruction can take the form of workshops, demonstration sessions or monitored self-paced training packages. It can also include structured on-the-job training.

(ABS 1998, p.66)

Unstructured training refers to:

... training activity that does not have a specific content or predetermined plan. It includes unplanned training that is provided as the need arises and training activity that is not monitored such as self-training through reading manuals or using self-training computer packages.

(ABS 1998, p.66)

Table 32: Employer provision of structured training in the last 12 months by enterprise size in Australia, 1997

Enterprise size	Proportion of employers who provided structured and/or unstructured training (%)	Proportion of employers who provided structured training (%)
Small business sector		
1-4 employees	45	20
5-9 employees	74	43
10-19 employees	86	60
Total small business (1-19 employees)	57	30
Medium enterprises		
20-99 employees	94	71
Large enterprises		
100 or more employees	99	94
All employers	61	35

Source: ABS (1998)

The provision of structured or unstructured training by employers is widespread in medium and large enterprises in Australia. Virtually all large enterprises (i.e. with more than 100 employees) provide some kind of training to the workforce, and some 94% of medium-sized enterprises (i.e. with 20-99 employees) do likewise (as shown in table 32). However, these enterprises

account for only 10% of Australia's enterprises (large enterprises being 2% of all enterprises and medium-sized enterprises being 8%).

The small business sector (i.e. 1–19 employees) accounts for some 90% of all enterprises in Australia. In this sector only a little over half of all small businesses reported an involvement in some kind of structured or unstructured training during the year ending February 1997 (as shown in table 32).

The smaller the business, the less likely it is that training (either structured or unstructured) will be provided. As shown in table 32, only 45% of employers in very small enterprises (with a workforce of 1–4 people) report an involvement in training. These enterprises make up 63% of the small business sector.

Some three-quarters of small enterprises with 5–9 employees provide training to their workforce. These enterprises account for 26% of the small business sector (see table 32).

Only 14% of enterprises in the small business sector have a workforce in the 10–19 employee range and 86% of these enterprises provide training to their employees (see table 32).

In terms of the provision of some kind of structured or unstructured training, a widespread training culture can be said to exist in medium to large-sized enterprises in Australia. However, the pattern is rather different in the small business sector, which accounts for 90% of all Australia's enterprises, particularly in those enterprises with fewer than five employees, which dominate the sector.

The provision of structured training by employers gives a better indication of the level of commitment to training amongst Australia's enterprises. Structured training represents a significantly more intensive level of skill formation activity, than simply considering all training activity which includes unstructured training.

Some 35% of employers provided structured training to their employees in the 12 months ending February 1997, as shown in table 32. However, this masks the very different patterns of structured training provision in different sized enterprises. The overwhelming majority of large enterprises (94%) not only provide training but also provide structured training to employees. This indicates a substantial commitment to training in Australia by the corporate sector and amongst large public sector organisations.

Similarly over 70% of all medium-sized enterprises provide structured training to their employees (table 32).

Only 30% of small business enterprises are involved in providing structured training to their employees. As shown in table 32, considerable variation occurs within the small business sector itself, with only 20% of enterprises with 1–4 employees being involved in structured training, whereas 60% of enterprises with 10–19 employees provide structured training to their employees.

There are also variations across industries as shown in table 33. The government administration and defence industry stands out as one where virtually all

enterprises provide structured or unstructured training to their employees. Other industries with a much better than average proportion of enterprises providing training are electricity, gas and water; education; and personal and other services.

Industries that have proportions of enterprises providing training that are near or just above the Australia-wide average for all industries are manufacturing; health and community services; finance and insurance; wholesale trade; retail trade; and property and business services.

Those industries well below the industry average are culture and recreational services; mining; communication services; and accommodation, cafés and restaurants.

The transport and storage and construction industries are the only industries where fewer than half of all enterprises provide structured or unstructured training to their employees.

These variations suggest some clear patterns concerning industry's commitment to training and a training culture. Those industries with a high proportion of large enterprises or public sector enterprises appear to have an 'ingrained training culture'. On the other hand there appears to be a much lower commitment to training in industries with a high proportion of small firms or where there are higher proportions of casual or sub-contracted labour.

Table 33: Employers providing structured and/or unstructured training in the last 12 months by industry in Australia, 1997

Industry	Employers providing training (%)	Employers not providing training (%)	All employers (%)
Mining	54	46	100
Manufacturing	68	32	100
Electricity, gas & water	87	13	100
Construction	47	53	100
Wholesale trade	61	39	100
Retail trade	60	40	100
Accommodation, cafés & restaurants	55	45	100
Transport & storage	43	57	100
Communication services	54	46	100
Finance & insurance	68	32	100
Property & business services	60	40	100
Government administration & defence	99	1	100
Education	76	24	100
Health & community services	68	32	100
Cultural & recreational services	50	50	100
Personal & other services	78	22	100
All employers	61	39	100

Source: ABS (1998)

Turning to employer expenditure on training, employers in Australia spent \$A1178.8 million on structured training during the 1996 September quarter as shown in table 34. These results are from ABS surveys of employers' training expenditure patterns for the period July to September 1996. Full year training expenditure figures are not available. However, if we extrapolate the survey results to the whole of 1996, then some \$A4.7 billion was spent by employers on structured training in 1996.

Table 34: The components of employer expenditure on structured training in Australia, September quarter 1996

Item	Actual (\$A million)	Proportion (%)
Employees' wages and salaries for time receiving training	549.2	46.6
Cost of wages and salaries of in-house trainers	271.9	23.1
Fees paid to consultants and other institutions	204.2	17.3
Other expenditure such as training materials, equipment, travel, accommodation and meals, training venues, payments to industry training bodies	153.5	13.0
Total structured training expenditure	1178.8	100.0

Source: ABS (1997)

Just under 47% of the total expenditure on structured training by employers was for the wages and salaries of their employees for the time they were receiving structured training. The cost of paying fees to trainers accounted for a further 40% of the total spent by employers on structured training. The remaining 13% of the total cost of structured training met by employers was for other items such as training equipment and materials, training venues, accommodation and travel (table 34).

In terms of total training expenditure, almost 70% was spent on training conducted in-house. Only 30% was conducted by external consultants or training institutions such as Technical and Further Education institutes.

This expenditure provided an average of \$A185 per employee being spent on structured training by employers during the July to September 1996 period, accounting for an average of almost five hours of structured training per employee during the three-month period (table 35). The \$A1.179 billion spent by employers on structured training during the September quarter of 1996 amounted to 2.5% of the total payroll for the period.

The really critical issue with respect to the patterns of employer expenditure on structured training is the different patterns between small, medium and large employers (table 36). Large companies and public sector agencies (with at least 100 employees) spent almost four times as much per employee on structured training than did small enterprises (with less than 20 employees). Large employers spent nearly twice as much per employee on training than medium-sized organisations (with 10-99 employees).

Table 35: Measures of employer provision of structured training in Australia, September quarter 1996

Indicator	
Total training expenditure (\$A billion)	1.179
Expenditure per employee (\$A)	185
Training per employee (hours)	4.9
Employers providing structured training (%)	17.8
Proportion of payroll spent on structured training (%)	2.5

Source: ABS (1997)

Only 13% of small employers spent money on training for their employees during the September quarter of 1996, whereas 50% of medium-sized employers and nearly 90% of all large employers provided expenditure for structured training during the September quarter of 1996 (table 36).

Table 36: Measures of employer expenditure on structured training by enterprise size in Australia, September quarter 1996

Indicator	Less than 20 employees	20-99 employees	100 or more employees	All employers
Total training expenditure (\$A million)	115.0	168.4	895.4	1178.8
Expenditure per employee (\$)	71.0	136.0	256.0	185.0
Training per employee (hours)	2.4	3.8	6.5	4.9
Proportion of employers providing training (%)	13.4	50.5	88.3	17.8
Proportion of total payroll spent on structured training (%)	1.2	1.9	3.2	2.5

Source: ABS (1997)

5 Implications from the Australian experience

IN THIS SECTION of the report a number of different elements of the Australian experience are explored in the context of the possible implications for the future development of Indonesia's technical and vocational education and training (TVET) system.

5.1 Having a clear national policy for TVET

Having a clear national policy statement is an essential ingredient in any consistent national development of the TVET system.

Like Indonesia, Australia has a system of government which involves the national government and a number of State and Territory (provincial) governments. Agreement was recently reached amongst Australian ministers for training over a new national policy statement for the next five years. The policy issued by the Australian National Training Authority (ANTA)—*A bridge to the future: Australia's national strategy for vocational education and training 1998–2003*—outlines:

- ❖ a national mission statement for the VET sector
- ❖ five key national objectives for VET in Australia to underpin the mission statement
- ❖ a set of national strategies and agreed processes to achieve each of the objectives
- ❖ national monitoring arrangements, including the adoption of seven key performance measures through which to gauge progress in implementing the national VET policy (ANTA 1998a)

This is the third such national VET strategy in Australia.

The strategy document is not the key issue. Rather it is the process embarked upon to gain widespread consensus about what the key objectives for TVET ought to be that is important.

Essential elements of any successful national framework for TVET need to include:

- ❖ widespread consultations about the appropriate direction to take that goes well beyond discussions amongst various government officials or colleges and other training providers
- ❖ extensive discussions with the clients of the training system, these being industry representatives and students and trainees
- ❖ a consideration of the key issues that are separate from the development of other education policies for schooling or universities so that the work-related nature of TVET can be kept fully prominent
- ❖ the framing of national objectives for TVET that are capable of being measured/monitored so that progress can be reviewed

The recent taskforce report on the development of vocational education and training in Indonesia—*Skills toward 2020* (MOEC 1997c)—is a major step towards the development of a clear national policy.

5.2 Moving towards lifelong learning

Australia has developed a VET system which is very broad in its coverage and scope. Nearly 1.5 million Australians or 12% of the entire working age population (i.e. 15–64 years of age) enrol in a publicly funded VET program each year. Nearly two-thirds of those who enrol in VET in Australia each year are now over 25 years of age. Moreover, most enterprises in Australia with more than ten employees provide some kind of training to their employees. While there is still much to be done in Australia to improve the scope, coverage, quality and relevance of VET, the notion that skill learning and re-learning must continue throughout one's lifetime is gradually becoming an ingrained feature of Australia's economic, social and cultural landscape.

It is no longer sufficient to have a TVET system that is mainly focussed on preparation of youth for entry to the workforce. There are two key reasons for this.

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- ❖ First, on the *demand* side, technological change and other changes stemming from globalisation of economies around the world are now so rapid that people cannot expect to work in the same areas over a lifetime. Even within a work area, changes are occurring continuously.
- ❖ Second, on the *supply* side, the workforces of most countries are ageing. There will be relatively fewer young people in the workforce than in the past. Skill formation policies must, therefore, also be focussed on the adult workforce.

The changing nature of work and its implications for skill formation policies has been recognised in Indonesia. For instance, the Ministry for Education and Culture in its 1997 report—*Education development in Indonesia*—argued that:

- ❖ demand will increase for 'mind workers' whose key skills will need to be the utilisation of intellectual capacities and innovations to be creative and innovative

- ❖ development of workers' abilities to be able to contribute to and participate in work decision-making will be more important in the future
- ❖ complex expertise and skills in using advanced technology will be needed more in the future
- ❖ the development of manpower that is able to process and utilise information will be critical (MOEC 1997a, pp.112–114)

Forecasts by the Ministry of Education and Culture (see earlier in this report) show that a major upward shift in the age profile of the Indonesian population will occur over the next 20 years.

Both of these factors mean that there will need to be a corresponding shift of emphasis towards lifelong learning and re-skilling in Indonesia's TVET system.

5.3 Developing advanced and high-level skills training

A feature of the Australian VET system is the diversity and comprehensiveness of its coverage from short programs of training through to intensive advanced VET programs across a wide range of skill areas. Over one-third of the total hours of training delivery in VET each year are advanced level courses (i.e. diploma, advanced diploma and Certificate IV programs).

In Indonesia the provision of advanced TVET programs is less widespread and the numbers involved are comparatively small. The emphasis in higher education is more on graduate programs than on advanced technical training. The Ministry of Education and Culture (MOEC 1997a, pp.88–100) has identified high level science and technology studies as the area where the greatest potential skill shortages in Indonesia will exist in the future.

Given the relative cost of providing top quality advanced technical training, it will be critical to establish a comprehensive dialogue with the relevant areas of Indonesian industry to identify those areas of advanced technical training that need to be accorded the top priority.

5.4 Competency-based training

Australia has been developing and implementing a competency-based training system for the past decade or more. Competency-based training is probably the most critical feature that distinguishes the Australian VET from other TVET systems in the Asia Pacific region.

Competency-based training is aimed at trying to make VET programs much more relevant to meeting the needs of industry and Australia's enterprises.

Under the Australian approach the industry training organisation network (called industry training advisory bodies or ITABs) has been heavily involved in:

- ❖ identification of the competencies required by industry from formal training at different levels
- ❖ developing industry competency standards for each training program with a system of national training packages for each industry
- ❖ identifying the qualifications that are included in each industry's national training package
- ❖ developing assessment guidelines for assessing whether or not required competencies specified in national training packages have been achieved by each trainee

In Australia there has been widespread agreement with the move to make VET provision more relevant to industry needs, rather than continuing with the previous system where training providers largely determined the content of VET courses.

However, the introduction of competency-based training has not been without controversy, which is to be expected with such a major reform. Certainly the success with which competency-based training has been introduced to date has varied considerably across the sector.

Perhaps the most controversial element has been to shift the focus so heavily away from curriculum content and standard amounts of time in each level of training, towards only assessment of the competencies required in each case.

Some have argued that this is leading to short-term focus on specific tasks and skills relating to existing jobs, with insufficient emphasis on broader vocational knowledge and the general skills that are required in the continuous shift in technological knowledge, particularly in emerging technologically based industries and occupations.

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There have also been criticisms that the development of competency-based training in Australia has been overly complex and focussed on too much detail being prescribed from the national level, with industry bureaucracies replacing the government bureaucracies that once existed.

Incorporation of a focus on the competencies needed in different areas of the labour market is really an essential feature of any world class training system. However, care is needed to ensure general skills and more general vocational knowledge is also included, where appropriate, in vocational programs so that training is not only concerned with the short-term and immediate needs of industry.

Longer-term industry and national considerations are even more important. Those skills that will improve the future job mobility of individuals, as nations continually adjust to the unrelenting pressures for structural and technological change, are more important now than at any time in the past.

5.5 The development of an industry-led training sector

Notwithstanding the above discussion, the development of new ways to ensure the skills being developed in training programs are, in fact, highly relevant to existing and future needs of industry, is an essential core feature of any effective training system.

Australia has embarked upon developing an industry-led VET system of several levels. These include:

- ❖ ANTA being established with an industry board in the early 1990s to promote the national development of Australia's VET sector
- ❖ each State/Territory training authority having a high level industry-based training board
- ❖ the full incorporation of a wide array of ITABs across all industries and States and Territories into the process of developing industry standards for the competencies required by each industry at each level of training
- ❖ much more recently, the encouragement of TAFE institutes and local training providers to work directly with local employers and industries to provide training programs that more directly meet their needs

The latter is currently the least developed area in Australia, which probably offers the best prospects of further developing a system which better meets employer needs and which provides individuals with VET programs that will maximise their job prospects in the future.

This needs to be complemented with measures to encourage greater industry investment in training (see Robinson 1999).

5.6 Flexible delivery and the modularisation of training delivery

Australia has developed a modularised training system. In 1997 some 1.46 million people enrolled in one or more publicly funded VET courses or programs; this amounted to 1.84 million courses. It involved enrolment in 9.88 million modules and the provision of over 300 million hours of training but only 55% of enrolments were in programs leading immediately to a diploma or certificate qualification.

The modularisation 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 enrol in a full VET course leading to a qualification.

More work is needed in Australia to make sure all publicly funded training is nevertheless capable of articulation to one or more full qualifications programs, should the participant decide to do further VET modules in the future. Similar better mechanisms to record the training already successfully completed, such as the development of a national skills passport system, also need to be further explored.

Australia's VET system is based on the concept of flexible delivery of training. The various training pathways described in section 4 of this report were developed historically to:

- ❖ ensure 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 alternate 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 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.

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Such policies could have particular relevance to Indonesia given its geographic dispersion and its different ethnic groups.

5.7 Establishing competition amongst training providers

Australia has adopted a policy of increasing competition amongst training providers. Increasing amounts of funding, that were once exclusively allocated to TAFE institutes and other public training providers, have been made available for competitive tendering. By the end of 1996 nearly 17% of VET clients were enrolled with non-TAFE providers, although 95% of the total training hours delivered were still done so by TAFE.

Not surprisingly, such a policy has been controversial. The benefits have been:

- ❖ a greater choice of training provider for industry/business and individual clients of the VET system
- ❖ the development of specialist private training providers in new areas that were previously under-serviced
- ❖ competitive efficiencies leading to lower unit costs in some cases
- ❖ the development of a competitive environment with a much greater focus on meeting customer needs

However, some have argued that competition has led to a reduction in quality because of its focus on cost of delivery, and dissipation of funds that were once directed to the enhancement of the public TAFE system.

The impact of development of a training market in Australia is documented in detail in the book *The market for vocational education and training* (Robinson & Kenyon [eds] 1998).

The key issue is that such policies have produced more focus on the clients of training, which is essential. The Australian experience is also that considerable reform in this area can be achieved by opening up relatively small amounts of funding to the competitive process. It is important also to ensure the continuation of a high quality public training system.

5.8 A strong system of public training institutions

As mentioned above, 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.

Of course, there is still more to be done to ensure that VET providers, including TAFE, are even more responsive to client needs than is currently the case.

5.9 A framework for the national recognition of VET

A key development in the Australian VET system has been the adoption of the Australian Recognition Framework (ARF).

The Australian Recognition Framework:

- ❖ is a comprehensive approach to the national recognition of VET across all States and Territories of Australia
- ❖ involves the national registration and quality assurance of training organisations seeking to:
 - ◆ deliver training
 - ◆ assess competency outcomes
 - ◆ issue VET qualifications under the Australian Qualification Framework (AQF)

Organisations can be registered under the ARF to be able to operate in two areas:

- ❖ first, the provision of training delivery, assessment and the issuing of nationally recognised AQF qualifications
- ❖ second, the provision of skill recognition or assessment services only for the issuing of nationally recognised AQF qualifications

These arrangements are based on two key principles, which are:

- ❖ a requirement for any AQF qualification issued by a registered training organisation or any State/Territory training authority to be recognised by any other State/Territory training authority or registered training organisation across Australia
- ❖ a system of quality assurance to register training organisations

These arrangements commenced on 1 January 1998 and replaced a system where each training course was assessed for national accreditation, instead of registering the training organisation.

The features of the ARF are described further in the document, *Australian Recognition Framework arrangements* (ANTA 1998b).

The further development of national recognition arrangements whereby training organisations are registered if they meet certain standards and where they are quality assured through compliance audits will also be an important issue in the further development of TVET in Indonesia.

5.10 A focus on outputs and outcomes

A very important development in the Australian VET system has been in the focus placed on the outputs from and outcomes of the VET sector. This focus has accompanied the shift in Australia from a largely provider-determined training system to an industry and demand-led training system.

The *outputs* from VET refer to the qualifications, skills and competencies achieved from undertaking a VET program. Robinson (1998b, p.106) described this in the following way:

Conceptually, the key outputs of the VET sector can be viewed in the following ways:

- ❖ *the qualifications attained by people successfully completing VET programs that are valued by employers and widely recognised as currency in the labour market*
- ❖ *the skills and competencies gained by individuals to improve their economic and labour market prospects and/or to improve their skills to enable them to do their current jobs better*
- ❖ *the skills and competencies required by business to improve the bottom line of business enterprises in terms of productivity, profitability, etc. and to contribute to Australia's overall economic competitiveness*

A deliberate distinction is being made here between the core outputs of VET (i.e. skills and qualifications) and outcomes from VET such as gaining new employment, obtaining new skills to gain promotions or new jobs or gaining new skills to increase job security in existing employment.

In recent years Australia has embarked on a process to develop nationally consistent frameworks for the treatment of VET qualifications through the adopting of the Australian Qualifications Framework and the Australian Recognition Framework arrangements, described earlier.

Further processes are currently under way to:

- ❖ develop a set of agreed protocols to ensure nationally consistent policies are in place in each State and Territory in relation to how qualifications are awarded to VET students and trainees around Australia
- ❖ develop a nationally consistent approach to the measurement of outputs at the sub-qualification level (referred to in Australia as 'units of competence')

The outcomes from VET (as distinct from the outputs) refer to ultimate outcomes from VET for individual students and trainees or for Australia's enterprises who rely on the VET sector to meet all or part of their skill requirements. In the case of individuals, the outcomes from VET include:

- ❖ gaining employment in cases where the student did not previously have a job
- ❖ improving job prospects through greater job security, gaining a promotion or a better job, more hours of work, moving from part-time to full-time employment, etc.
- ❖ increasing employment income as a result of gaining new skills

In the case of employers, the outcomes from VET are:

- ❖ improvements in productivity as a result of skills gained from VET
- ❖ satisfaction that the VET system is meeting enterprise skill requirements

NCVER conducts regular national surveys to gauge the outcomes from VET.

These include:

- ❖ a Graduate Destination Survey (GDS) to measure the employer outcomes of TAFE graduates
- ❖ an Employer Satisfaction Survey (ESS) to measure the level of employer satisfaction with VET provision and to ascertain employers' views about the impact of VET on enterprise productivity

NCVER is also currently developing a broader VET student outcomes survey that will be conducted in 1999 to look at the job outcomes of all VET students, and not just graduates from TAFE in programs of at least 200 hours in duration.

A highly developed statistical information base is an essential ingredient to developing a training system that better meets the needs of both individuals and industry clients of the sector. It is essential that such systems place as much focus on measuring the outcomes as they do on measuring student characteristics, training activity and the costs of training.

5.11 Research and evaluation to improve VET

Australia is the only country (that we are aware of) that has developed and published a national policy to govern its research and evaluation effort in TVET.

The policy called *The national research and evaluation strategy for vocational education and training in Australia 1997–2000* (NCVER 1997c) commenced in July 1997. The policy was developed by NCVER, in conjunction with ANTA, to:

- ❖ increase Australia's national VET research and evaluation effort
- ❖ prioritise the national VET research undertaken to improve the quality of decision-making about VET by policy-makers and planners, training authorities and training providers, industry bodies, employers and enterprises, students and trainees, teachers and trainers and others with an interest in the VET sector

Of particular importance in the policy is the dissemination of research results to interested parties in addition to carrying out various research projects as part of a co-ordinated national program of research and evaluation work.

Robinson and Guthrie (1998) reported that nearly 50 research projects were undertaken or commenced in the first year of the policy, and that a further 35 projects have already been agreed to or commenced for 1998–99. National funding of over \$A2.5 million per annum is directed towards the policy by ANTA and NCVER.

A comprehensive national program of research and evaluation is already providing useful strategies for continuous improvement and quality enhancement of the Australian VET sector.

In the longer term, modest enhancements of Indonesian research, together with greater access to research results from other countries, could prove to be an important ingredient to any policies designed to develop and improve Indonesia's TVET system. With respect to the latter point NCVER runs an international research information database (called VOCED) which can be accessed on the internet <http://www.ncver.edu.au/voced.htm>

6 Conclusions

THE DISCUSSION IN this report is not meant to imply that key elements of Australia's vocational education and training could or should be adopted in Indonesia.

Australia does have a well-developed VET system. Yet, despite the many similarities in vocational education and training issues faced by both Indonesia and Australia, Indonesia's unique economic, social and cultural requirements mean that some features of the Australian system are likely to be inappropriate in the Indonesian context. Moreover, some of the Australian developments have yet to pass the 'test' of whether they deliver benefits beyond the cost of putting them in place.

Rather, the Australian developments outlined in this report are presented for the purposes of information and discussion. Some of them at least may have potential application in the Indonesian context. Undoubtedly this would not be without significant modification to meet particular Indonesian requirements. This is a matter of judgement for the Indonesian partners of IAPSD to consider.

Perhaps the most significant feature of the Australian VET system is the extent to which attempts have been made in recent years to make it an industry-led system. Nothing could be more important than ensuring the skills and vocational knowledge being gained by young people and adults alike are pertinent and relevant to the nation's workforce needs.

Of course, this issue is well recognised at the official level in Indonesia. Key reports such as *Skills toward 2020* (MOEC 1997c) and *Education development in Indonesia* (MOEC 1997a) have emphasised the need to develop education and training that is better orientated to future industry requirements.

Indeed this issue has previously been the subject of discussion and co-operation between Australia and Indonesia through a joint co-operative conference *Education and training for industry growth* (Australian International Education Foundation 1995).

References

- ABS (Australian Bureau of Statistics) 1997, *Employer training expenditure in Australia, July to September 1996*, cat.no. 6353.0, Canberra.
- — 1998, *Employer training practices in Australia, February 1997*, cat.no.6356.0, Canberra.
- ANTA (Australian National Training Authority) 1998a, *A bridge to the future: Australia's national strategy for vocational education and training 1998–2003*, ANTA, Brisbane.
- — 1998b, *Australian Recognition Framework arrangements*, Australia's National Training Framework, ANTA, Brisbane.
- Arlianti, R 1995, 'Management of change in technical and vocational education in Indonesia', paper presented at the National Centre for Vocational Education Research international conference: Management Matters, June, Surfers Paradise, Gold Coast.
- Australian International Education Foundation 1995, *Education and training for industry growth*, conference proceedings: Australia–Indonesia Co-operating in Education and Training, Jakarta conference 1995, Australia International Education Foundation, Canberra.
- Australian Qualifications Framework Advisory Board 1996, *Introduction to the Australian Qualifications Framework (AQF)*, Curriculum Council, Melbourne.
- Batubara, C 1991, *Manpower problems and policy in Indonesia*, Department of Manpower, Jakarta.
- Lenahan, R, Burke, G & Hing Tong Ma 1998, *Selected Asian economies and Australia: An overview of educational experience and participation*, Centre for Economics and Training, Monash University and Council for Education Research, Department of Employment, Education, Training and Youth Affairs.
- Ministry of Manpower 1992, *Vocational training at vocational training centres*, Centre for Vocational Training, Ministry of Manpower, Jakarta.
- MOEC (Ministry of Education and Culture) 1997a, *Education development in Indonesia*, Office of Educational and Cultural Research and Development, Jakarta.
- — 1997b, *Indonesia education statistics in brief 1995/1996*, MOEC, Jakarta.
- — 1997c, *Skills toward 2020*, taskforce report on the development of vocational education and training in Indonesia, MOEC, Jakarta.
- National Office of Overseas Skills Recognition 1995, *Indonesia: A comparative study*, Country Education Profiles, Department of Employment, Education and Training, Canberra.
- NCVER (National Centre for Vocational Education Research) 1997a, *Australian TAFE graduate destination survey 1997, National report*, NCVER, Adelaide.

- NCVER 1997b, *Employer satisfaction with vocational education and training 1997*, National report, NCVER, Adelaide.
- — 1997c, *The national research and evaluation strategy for vocational education and training in Australia 1997–2000*, NCVER, Adelaide.
- — 1998a, *Australian VET statistics 1997: An overview*, NCVER, Adelaide.
- — 1998b, *Apprentices and trainees in Australia 1985 to 1997: At a glance*, NCVER, Adelaide.
- — 1998c, *Australian apprentice and trainee statistics 1997*, NCVER, Adelaide.
- Robinson, C 1998a, 'Developing Indonesia's vocational education and training system: Some implications from the Australian experience', paper presented at the Indonesia Australia Partnership in Skills Development Launch Conference, 7 October 1998, Jakarta.
- — 1998b, 'The VET product and the development of training market', in *The market for vocational education and training*, eds C Robinson and R Kenyon, NCVER, Adelaide, pp.102–124.
- — 1999, 'Promoting a training culture in industry', in *Lifelong learning: Developing a training culture*, eds C Robinson and K Arthy, NCVER, Adelaide, pp.1–21.
- — & Guthrie, H 1998, *The national research and education strategy for vocational education and training: The first year*, NCVER, Adelaide.
- — & Kenyon, R (eds) 1998, *The market for vocational education and training*, NCVER, Adelaide.
- SEAMEO VOCTECH (Southeast Asian Ministers for Education Organisation Regional Centre for Vocational and Technical Education) 1996, *A study of VTE–industry co-operation*, SEAMEO VOCTECH, Negara Brunei Darussalam.
- Siddiqui, A (ed.) 1993, *Vocational training and the labour market: South-east Asia*, Asia and Pacific Skill Development Program, International Labour Organisation, Bangkok.
- Smith, P 1995, *Industry training in Indonesia: A survey of selected Indonesian companies*, a co-operative project of the Advanced Technology Training Centre, Bandeng, Indonesia and Gordon Technical College, Geelong, Australia.
- Suwarno, A 1996, 'Skills toward 2020: A plan to improve and coordinate skills training in Indonesia', paper presented at the UNESCO–UNEVOC regional conference, Royal Melbourne Institute of Technology, 11–14 November, Melbourne.
- 02 Syarif, A 1996, 'Vocational education: The Indonesian experience', paper presented at the UNESCO–UNEVOC regional conference, Royal Melbourne Institute of Technology, 11–14 November, Melbourne.
- UNESCO (United Nations Education, Science and Cultural Organisation) 1995, *National profiles in technical and vocational education in Asia and the Pacific: Indonesia*, UNESCO Asia Pacific Centre for Education and Development and the Colombo Plan Staff College for Technician Education, UNESCO, Bangkok.
- World Bank 1991, *Indonesia employment and training: Foundations for industrialisation in the 1990s*, World Bank Population and Human Resources Division, Asian Region Report No. 9350-IND, July, Washington DC.
- — 1997, *Training and the labor market in Indonesia: Productivity gains and employment growth*, World Bank East Asia and Pacific Region, report no. 16990-IND, July, Washington DC.

Appendix

Summary of *Skills toward 2020*

The report at a glance

THIS REPORT MAKES proposals to implement policies on vocational education and training which have previously been announced by the minister. Specifically the implementation involves the following steps.

- ❖ Industry will be involved in developing standards, which will be the basis of teaching and learning materials, assessment and certification of skills. This work will build upon the industry/education structures which already exist and will concentrate on a limited number of industry areas in the first few years. The emphasis will be on the production of high quality teaching and learning materials, designed for Indonesia and available to all training providers.
- ❖ This approach would be implemented in SMKs but would be designed for use also in industry training and training institutions run by other ministries. The aim is to enable the existing workforce to have access to training and certification which is the same as available to learners in the formal sector. The provision of training which is relevant to the needs of existing workers is a priority.
- ❖ Certification would be by way of skills passports which would specify skills held in terms of industry determined competencies. This system would operate, at least for an initial period, in parallel with the existing range of academic awards and certificates.
- ❖ Industry would be involved at all levels in the management of the new system. At the national level, a national vocational education and training council and a vocational standards implementation agency are proposed. There would be provincial/regional structures underpinning these national bodies. Pending the formal establishment of these bodies, the National Council for Vocational Education (MPKN) must fill this void. This council would seek the co-operation of other ministries in areas of common interest.

- ❖ A program of quality improvement would be instituted for SMKs. This would involve the introduction of performance agreements as the principal planning and accountability tool for SMKs. It will require a major staff development effort to bring this devolved administrative arrangement into place. Formal quality assurance programs (such as total quality management) will be part of the quality improvement program.
- ❖ Performance agreement would also be the means by which SMKs developed their commitment to Pendidikan Sistem Ganada.
- ❖ A public information campaign would be required, aimed first at the industries where the new system is introduced.

(MOEC 1997c, *Skills toward 2020*, pp.xxii-xxiii)

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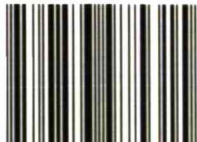
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ISBN 0-87397-531-6



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