

**FUTURE DIRECTIONS
IN MIDDLE-LEVEL VOCATIONAL
EDUCATION AND TRAINING:
RESEARCH REPORT**

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Executive Summary

PURPOSE¹

The purpose of this research report is to

- outline the future prospects for middle-level occupations,
- predict the demand for middle-level qualifications and to
- propose strategies to meet the needs of the key stakeholders.

AQF 5 and 6 programs (defined to include the former Associate Diploma and Diploma together with the new Diploma and Advanced Diploma programs) represent 15 per cent of total enrolments in TAFE in Victoria in 1997 or 55,209 students. However, middle-level programs represent 30 per cent of the total of student contact hours for the TAFE system. Data on middle-level vocational education and training (VET) programs conducted by private training providers are unavailable. Two-thirds of students in middle-level VET Programs are full-time.

The main reasons for doing a middle-level VET training program given by recent graduates are job-related. However, motives for studying also vary by type of training program. As high as 88 per cent of students in business, administration and economic programs gave a job-related reason compared with two thirds of students in arts, humanities and social programs.

Current status of middle-level occupations

Some 11 percent of all jobs in Australia and Victoria are defined by the ABS as Associate Professional. A quarter of all Associate Professional jobs are located in Victoria. The largest occupational group within the Associate Professional category are managers and supervisors. Persons in Finance and Administrative positions at the Associate Professional level are more numerous than persons in technician positions in building and engineering.

Just over half of the job holders in Associate Professional positions aged 25 to 44 years have post school qualifications. However, the proportion of persons with post-school qualifications in each occupation group within the Associate Professional category varies from a high of 93 per cent for enrolled nurses to a low of 36 per cent for Police.

Future demand: narrow technical versus more broadly-based skills

An analysis of the growth over the last decade in different occupational categories suggests that there

¹Valuable comments were received from Dr Deb Hull, Ms Jan Trehwella and Professor Gerald Burke. Dr Chandra Shah extracted data from various sources and Mr Leon Santos and Ms Anna Fogarty assisted with the presentation of the data in tables.

may be somewhat limited growth prospects for specific technical skills. However, a growth in occupations requiring more broadly-based skills leading to higher level conceptual work is likely. Middle-level VET training programs that focus on narrow technical skills are likely to serve a contracting clientele. On the other hand, the evidence suggests that more broadly based programs offering a sound conceptual base linked to further opportunities for skills upgrading are more likely to be in demand.

The future for middle-level qualifications

Predicting the future demand for middle-level qualifications supplied by the VET system is a complex question due to the changing nature of the occupations considered as beyond trade level but below professional. An analysis of the qualification profiles of the Associate Professional occupations shows that, unlike the trades or the professions, there are few threshold qualifications required or deemed desirable for entry to employment or promotion.

Middle-level qualifications serve two functions in the labour market. One function is to act as a screening device for entry to employment. The second function is to serve as a desirable but not necessary means of assessing capability for promotion to a supervisory or technician level position.

The report has found evidence that middle-level qualifications at the entry point to employment in technical occupations provided by the VET system are in open competition with many generalist university qualifications. Similarly, middle-level qualifications for supervisory occupations are often in competition with non-accredited tailored short courses or specific modules from accredited training programs.

No established pathways for middle-level skills acquisition

In international terms, Australia has a low proportion of the population with non-university post school qualifications. This partly reflects the low retention rates for upper secondary school completed in the older age cohorts. It also reflects the legacy of the absence of well- defined alternative pathways for further skills acquisition beyond post compulsory schooling.

Overseas studies of middle-level skills suggest that Australia may follow the North American approach of using a large pool of university educated graduates to fill supervisory and technician level positions. The challenge is for VET providers to offer a product that better meets the needs of students and employers compared with other qualifications.

STUDENT PERSPECTIVE

Employment focus

The first major defining characteristic of students in middle-level VET programs is their focus on obtaining employment related to their field of study or gaining a promotion or better paid job related to the program. This focus of students in middle-level VET programs on obtaining their preferred employment is in contrast to apprentices and trainees who are already in work. Therefore the expectations of middle-level students about achieving their desired employment outcome are likely to be high.

Sole client

The second conclusion is that individuals are more likely than employers to be the sole client in relation to middle-level VET programs. This is different to the case of apprentices and trainees where the employer has at least a major, if not determining, role in training decisions. An apprentice or trainee is a student who is primarily an employee in an entry-level training arrangement initiated by the employer. In contrast, most middle-level VET students are more likely to be acting on their own initiative, whether or not they are an employee.

Training providers at middle-level, seeking to attract and retain students, will need to be particularly responsive to the employment-focused needs of students.

Graduate feedback

Recent middle-level graduates in Victoria are concerned about the labour market standing of their middle-level qualifications. The TAFE Graduate Destination Survey results for 1997 show that a large group of recent middle-level graduates are disappointed with their qualifications in terms of their job prospects and its value in the eyes of employers. Information on labour market outcomes six months after graduation tend to confirm the perception of many graduates. Data from the TAFE Destination Survey show that of the recent graduates not with the same employer as during their course, only half are in work (50 per cent) with 28 per cent actively looking for work.

Other data suggest that, in the longer term, graduates with middle-level qualifications are just as likely to be employed as tertiary graduates. The problem for middle-level VET graduates, however, lies in finding employment immediately after graduation.

Evidence is also presented about the relative earnings levels of middle-level VET program graduates. The data show that middle-level VET graduates earn more than secondary school completers (18 percent higher for men but only 5 percent higher for women). However, the same data show that university graduates earn considerably more than middle-level VET graduates (61 percent and 39 percent of male and female secondary school completers respectively).

These results together suggest that there is considerable potential for training providers to lift the standing of middle-level qualifications in the eyes of students. One key way to do this is to improve the immediate employment outcomes of graduates of middle-level training programs. This can be done by ensuring that every middle-level program has close links with potential employers.

Middle-level students (based on feedback from recent graduates) are also likely to want from training providers better information on the careers and the jobs available to help them make better choices when selecting programs or modules. Survey evidence also shows that middle-level VET Program students are likely to expect appropriate levels and quality of equipment, high standards of presentation from instructors and course content that reflects industry practice. Convenience of venue and class times are also likely to be seen by students as attractive features of a training program.

EMPLOYER PERSPECTIVE

Information from employers surveyed for this project about the role of middle-level skills and qualifications in their enterprises enable several conclusions to be drawn. The survey results show that employers differ in their view of the value of middle-level qualifications. Their views differ according to whether middle-level qualifications are seen as a basis for entry to employment or associated with mid career promotion.

Middle-level qualifications as a screening device for recruitment

Survey and interview evidence suggests that the following considerations are likely to influence the value of a Diploma and Advanced Diploma in the eyes of an employer when interviewing a potential recruit:

- the initial TER score required to gain entry to the course;
- the standing of the course in terms of reputation of the staff and teaching institution,
- the confidence and capability of the students and
- the ease of approach to the educational institution.

The interviews with enterprises showed that, when recruiting, some employers judged middle-level qualifications to be less desirable than degrees. Middle-level VET program providers may need to overcome the perception that their programs have a narrower technical focus than university training.

They also may need to address the perception by some employers that their graduates have less capacity to learn on-the-job or to undertake further study because the program intakes require a lower TER. Some employer feedback also indicates that in seeking to recruit suitable graduates, TAFE Institutes are not regarded as easy to deal with compared to universities.

Middle-level qualifications and mid career promotion

The enterprise survey responses confirm official survey data that, in many cases, no direct link exists between middle-level job holders and middle-level qualifications. A middle-level qualification may be used by an employer as one indicator of capability for promotion. However, other factors such as relevant experience and ability to do the job are often seen by senior management as important or more important. Short courses, delivered in-house, for persons in supervisory/team leader positions are often used by enterprises as the preferred mode of training rather than relying on formal qualifications.

State-wide survey evidence showed that provision of structured work placements as part of a course was strongly supported by employers. A balance of theory and practice together with relevant content were the two aspects of service from training providers that employers wanted most to see improved.

Other evidence from a survey of enterprises and industry training boards showed that classroom-based training was the least preferred future source of middle-level skills. Important future sources were thought to be formal training on-the-job, informal on-the-job experience and possession of a prior qualification before starting work. A low proportion of the enterprises surveyed (19 per cent) nominated TAFE as the most appropriate provider of middle-level skills training.

TRAINING PROVIDER PERSPECTIVE

Training providers were asked to suggest ways in which middle-level training programs could be delivered to increase their appeal to employers and to potential students. A third of responses related to the need to “customise training” or to “make training more responsive to employers needs”. The need for greater employer or industry involvement was mentioned by 19 per cent of

respondents. More flexible operating conditions, particularly class times, were suggested by 39 per cent of training provider respondents.

Work placements

The survey data showed that the use of work placements in VET programs varies widely between programs and Institutes. Half of the training providers surveyed provided work placements for some, most or all of their middle-level VET programs. Nearly a third (31 per cent) of training providers surveyed did not offer work placements and 19 per cent did not regard work placements as applicable to their courses or did not provide any information. However, some programs, particularly human services, have a strong tradition of structured work placements.

Employment placement assistance

Two-thirds of the training providers offered some form of assistance to students to find employment after graduation. However, in many cases this assistance was not integrated into a training program but offered by a separate department.

Marketing

Training providers surveyed described in some detail how they market their middle-level programs, the benefits that they emphasise and other benefits that could be highlighted. An assessment of these marketing efforts suggests that marketing tends to be passive or “cold calling” with little apparent follow-up of former clients through personalised contact.

STRATEGIES TO LIFT THE STANDING OF MIDDLE-LEVEL QUALIFICATIONS

Four ways to differentiate a VET qualification in the labour market are proposed. These are: a proposed VET degree; the option of work placements for all students in middle-level VET programs, where appropriate; assistance with employment placement after graduation and short courses in the workplace linked to relevant qualifications.

VET degree

One option is to institute a VET degree where there is a clear demand for such a qualification.

Work placements

Another option to improve the acceptability of existing middle-level VET qualifications to employers in the labour market is to foster close links to workplaces through structured work placements. At present only 30 per cent, at most, of enrollees at Diploma or Advanced Diploma level have access to work or practical placements. These placements are concentrated in the human services training programs that serve as threshold qualifications for entry to employment in these areas. Other middle-level VET programs are less likely to offer a work placement.

Data from enterprises and training providers suggest that offering work placements can have four main benefits for middle-level training programs. Second, Work placements are regarded as a valuable way to assist students into employment by giving both employers and students the chance to gain first-hand knowledge of each other over an extended period. Thus work placements can serve as a “no obligation” trial where students can assess whether this is the sort of work and employer they would like to work for. Similarly, employers are able to assess the students on work placement in terms of their potential as employees in key attributes such as enthusiasm and how well they fit into the workplace.

Third, work placements are an important means of showing employers the range of skills available from students in middle-level programs. The fourth benefit that can be identified is the up-to-date

information on different workplace practices that instructors can gain through their students or in direct contact with workplaces. This helps instructors to improve their standing in the eyes of employers.

The conditions needed to maximise the benefits of work placements for students, instructors and employers are outlined in the report. An important element in the capacity of middle-level VET training programs to offer work placements is the role of a coordinator to arrange and support employers and students during their placements. The criteria for the selection of appropriate work placement coordinators are suggested in the report. Options for funding work placements are also discussed.

Integrated employment placement services

The third recommended strategy is to offer better integrated employment placement services for middle level training programs used by students to gain entry to employment. These services would need to be closely tied to individual programs to maximise the linkages with employers established through structured work placements. Funding to provide employment placement services could be at least partly provided through a fee to the training provider from an employer for finding a suitable recruit for a position. Alternatively, employment placement services could be provided to students on a fee-for-service basis by VET providers, acting as subcontractors to the new employment placement agencies.

Short courses

A fourth option is for VET providers to offer short courses in the workplace, focussed on supervisory skills tailored to the needs of individual enterprises and delivered in-house. These courses could be addressed to meeting in particular the needs of employers and employees in the Associate Professional supervisory occupations of Shop Managers, Hospitality and Accommodation Managers and Miscellaneous Managing Supervisors. Credit transfer to middle-level qualifications should be a key element of the service provided.

Introduction

The Office of Training and Further Education (OTFE), Victorian Department of Education, has undertaken a review of middle-level vocational education and training. The purpose of this research project as part of the review is to identify the demand for and type of training required at AQF 5 and 6 levels and to propose realistic strategies to meet the needs of stakeholders.

AQF levels 5 and 6 are defined as vocational education and training leading to the award of the (former) Associate Diploma or Diploma and the (new) Diploma and Advanced Diploma qualifications. Middle-level vocational education and training (VET) involves not merely advanced technical training but also training for management and supervisory roles.

The specific focus of the OTFE project is to:

- define middle-level in regard to skills and training;
- identify current demand for and characteristics of middle-level VET and factors affecting current demand;
- explore the factors affecting future demand and characteristics;
- identify areas requiring changes and the barriers to change;
- develop a series of Principles for Quality VET for individual training providers to drive changes or improvements; and
- develop a strategy for the reform of middle-level VET in accordance with the agreed principles.

As part of this project, the consultants have been commissioned to:

- identify future demand from industry for middle-level skills based on consultations, projected employment growth and current and overseas qualification benchmarks;
- identify the needs and preferences of students/participants in training at the middle-level;
- develop proposals regarding the appropriate balance of training outcomes for industry/employers and individuals and
- offer advice on refinements to the Principles for Quality VET and associated outcomes.

The structure of the report is based on five sections. The first section sets the scene by defining what is meant by middle-level skills and qualifications. The first section also presents data on the number and relative importance of Associate Professional occupations and qualifications in Australia and Victoria together with data on the industry location of Associate Professional job holders. The nature of the current demand for middle-level VET is examined through an analysis of 1997 administrative data from the OTFE Student Collection. Data on the characteristics of students in AQF 5 and 6 level training programs conducted by private training providers in TAFE leading to Associate Diploma, Diploma are not available.

Section II discusses the factors affecting the future demand for middle-level skills and vocational education and training by considering the needs and perceptions of the key stakeholders: students/graduates, employers and industry training boards, and training providers. The data sources are the TAFE Graduate Destination Survey for Victoria and three surveys conducted for this study.

Section III presents data on the projected demand for middle skills and qualifications and the factors likely to shape demand in the future. Section IV proposes a focussed strategy to lift the demand for qualifications produced by middle-level VET training programs. Section V sums up the main findings of the analysis.

I MIDDLE-LEVEL SKILLS AND QUALIFICATIONS: DEFINITIONS AND PROFILE

Defining Middle-level Skills

At a general level, middle-level or intermediate skills are defined as those above routine skills but below professional skills. However, the category "middle or intermediate skills" is diverse in content and imprecise in its boundaries (Ryan 1991:2). In Australia, the core skills usually referred to as middle-level or intermediate skills are the post trade and technician skills in the manufacturing sector and the equivalent skills in the service sector. Also included are the skills required by persons in supervisory positions.

Origins

Middle-level or intermediate skills can develop from lower level jobs. Examples of these are supervisors, nurses and paramedics, technicians, programmers, executive secretaries and multi skilled manual workers employed in a variety of industries but notably engineering. Other middle-level skills may emerge from work previously performed by a profession. This occurs where expertise becomes separable from a wider body of professional knowledge and where changes in technology or work organisation encouraged the formation of new jobs (Lindley 1991:185). Examples may include laboratory technicians, electrical/electronic technicians, library technician, building technician, youth worker, parole/welfare officer, surveying and architectural associates. Still other jobs based on middle-level skills may emerge out of the adoption of new technology or new functions. Examples of these jobs are sound technician, television equipment operator, customs investigator, and building/safety/primary products inspector.

Another, more dynamic definition views middle-level skills as a residual classification for those skills neither claimed by a trade union as a trade nor claimed by a professional association as a profession. This definition allows for changes over time as particular associations representing employees with certain skills can have entry requirements upgraded or recognised to be the equivalent of other professions. Thus, nurses and airline pilots were, until recently, classified in Australian official statistics as para professionals. Their move into the professional occupational category reflects the capacity of their representative bodies to lift the educational requirements at entry to a level common to other professional occupations.

From this sociological perspective, middle-level occupations are a fluid classification. This is due to the absence of a strong defining agency or association acting to promote middle-level skills in the same way as trade unions and professional associations do for the skills within their ambit.

The way in which the Australian Bureau of Statistics defines middle-level skills as Associate Professionals is described in Attachment 2. It is a definition that is strongly reliant on educational qualifications and competencies specified for particular types of work. Also outlined is the level of general competency expected by persons with Diploma and Advanced Diploma qualifications.

Analysis of Associate Professional Occupations

Table 1 shows the proportion of the employed population in each broad occupational grouping for Australia and Victoria. Persons in Associate Professional occupations account for 11 per cent of the total population in employment in both instances.

Table 1: Proportion of the Australian and Victorian employed population in each occupational grouping (per cent), May 1997

<i>Broad occupational group</i>	<i>Australia</i>	<i>Victoria</i>
Managers	7	7
Professional	17	19
Associate Professional	11	11
Trades	14	14
Advanced Clerical & Service	4	4
Intermediate Clerical, Sales & Service	17	17
Intermediate Production & Transport	9	10
Elementary Clerical, Sales & Service	11	10
Labourers	10	9
Total	100	100

Source: Transition from Education to Work Australia, May 1997, ABS Catalogue No 6227.0

There are an estimated 891,350 persons in Associate Professional occupations in Australia (May 1997). A quarter (25 per cent) of persons in Associate Professional occupations are located in Victoria. The proportion with post school qualifications is 52 per cent nationally and 48 per cent in Victoria.

A listing of the occupations classified as Associate Professional according to the Second Edition of ASCO is presented in Attachment 3. These are grouped under the five sub-major occupational groups of:

- Science, Engineering and Related Associate Professionals;
- Business & Administrative Associate Professionals;
- Managing Supervisor (Sales & Service);

- Health & Welfare Associate Professionals and
- Other Associate Professionals.

Table 2 shows the relative size of specific Associate Professional occupations for Australia and Victoria. The table shows that Shop Managers are the largest Associate Professional occupation. This group accounts for just over a fifth (22 per cent) of all Associate Professional positions in Australia and a quarter of all Associate Professional positions in Victoria. The next largest group, at over a fifth of all Associate Professionals, is Miscellaneous Business and Administration Associate Professionals. Building & Engineering Associate Professionals account for 11 per cent of all Associate Professionals in Australia and a slightly lower proportion (9 per cent) in Victoria.

These data show that far more persons at the Associate Professional level are in managerial and supervisory positions than are in technician-type positions. Similarly, the non-traditional finance and administrative functions at the Associate Professional level are more important in terms of their numbers than the traditional technician positions in building and engineering.

Table 2: Distribution of persons in Associate Professional occupations by industry sector in Australia and Victoria, May 1997 (per cent)

Associate professional occupations	Australia	Victoria
Shop Managers	22.0	24.9
Misc Business & Admin Associate Prof	21.9	23.2
Hospitality & Accommodation Managers	11.6	10.1
Building & Engineering Associate Prof	10.6	8.8
Finance Associate Prof	6.6	6.3
Misc Associate Prof	4.9	5.9
Police	4.7	5.6
Misc Managing Supervisors (sales & service)	7.7	5.6
Enrolled Nurses	3.4	4.4
Medical & Science Tech Officers	4.0	3.5
Misc Health & Welfare Associate Prof	1.7	1.5
Welfare Associate Prof	1.0	0.3
Total per cent	100	100
Total population	891,345	218,066

Source: Transition from Education to Work Australia May 1997, ABS Catalogue No 6227.0

The industry sectors in Australia with the highest absolute number of Associate Professionals are shown in Table 3.

Table 3: Distribution of persons in Associate Professional occupations by industry sector, Australia, May 1996 (per cent)

<u>Industry sector</u>	<u>Per cent</u>
Retail	20.7
Business Services/ Property	12.5
Accommodation/Restaurants	10.7
Health/Community Services	8.1
Finance/Insurance	7.6
Personal/Other Services	7.5
Manufacturing	6.4
Government Administration	4.9
Wholesale	4.7
Cultural/Recreation	3.9
Education	3.0
Construction	2.9
Communication	2.2
Transport	2.1
Electricity/Gas/Water	1.2
Mining	0.8
Agriculture	0.7
Total	99.9

Source: Labour Force Survey Australia, May 1996

The industry sectors with the highest concentration of Associate Professionals are shown in Table 4 below.

Table 4: Number of persons and proportion in Associate Professional occupations of total employed population in each industry sector ranked by degree of concentration, Australia, May 1996

<u>Industry sector</u>	Persons, '000	Per cent
Property Services	50.4	46
Services to Finance and Insurance	25.7	38
Other Services	51.4	35
Oil and Gas Extraction	0.7	28
Sport and Recreation	27.4	26
Accommodation, Cafes and Restaurants	93.0	25
Water Supply, Sewerage and Drainage Services	4.0	19
Finance	31.2	17
Personal and Household Good Retailing	87.3	17
Defence	3.4	16
Electricity/Gas/Water	10.5	15
Insurance	8.7	14
Food Retailing	64.5	14
Communication Services	19.0	12
Government Administration	42.5	11

Source: Special tabulations, Labour force Survey Australia, May 1996.

Other industries with significant numbers (10,000 or more persons) and proportions of Associate Professional occupations are: Government Administration, (11 per cent in Associate Professional positions of total employment in the sector); Basic Material Wholesaling, (11 per cent); Motor Vehicle Retailing and Services, (11 per cent); Health Services, (10 per cent); Personal Services (9 per cent); Machinery and Motor Vehicle Wholesaling, (9 per cent); Business Services, (8 per cent); Community Services, (8 per cent); General Construction, (7 per cent); Food, Beverage and Tobacco Manufacturing, (6 per cent); Machinery and Equipment Manufacturing, (6 per cent); and Personal and Household Good Wholesaling,(6 per cent).

The Qualification Profile of Associate Professional Occupations

Table 5 presents summary data on the proportion of the population in Associate Professional occupations without post school qualifications and the proportion in each occupation with and without relevant qualifications. This table provides a valuable insight into the nature of the Associate Professional labour market.

Significance of Associate Professional job holders with no post school qualifications

Many persons in many Associate Professional occupations do not have post school qualifications and often have not completed secondary school (see Table 5). This applies particularly to the Police, Hospitality and Accommodation Managers and Finance Associate Professionals. There are also significant numbers without post school qualifications in the occupations where formal qualifications could be assumed to be important because of the technical nature of the work undertaken. This applies to persons in positions of medical and science technical officer and to persons in building and engineering Associate Professional positions where 37 and 24 per cent of job holders respectively are without post school qualifications.

Table 5: Proportion of Associate Professional job holders in each occupation with and without post school qualifications (per cent), Australia, May 1997

<i>Associate Professional Occupations</i>	<i>Without post school quals</i>	<i>Post school quals</i>	<i>Total</i>
Medical & Science Tech Officers	36.7	63.3	100
Building & Engineering Associate Prof	23.9	76.1	100
Finance Associate Prof	49.2	50.8	100
Misc Business & Admin Associate Prof	47.4	52.6	100
Shop Managers	61.9	38.1	100
Hospitality & Accommodation Managers	53.0	47.0	100
Misc Supervisors (sales & service)	53.4	46.6	100
Enrolled Nurses	6.9	93.1	100
Welfare Associate Prof	24.8	75.2	100
Misc Health & Welfare Associate Prof	42.9	57.1	100
Police	64.4	35.6	100
Misc Associate Prof	55.6	44.4	100
TOTAL	48.4	51.6	100

Source: Special tabulations, Transition from Education to Work Australia May 1997, ABS Catalogue No 6227.0

The age profile for Australia of persons without post school qualifications shows that persons without post school qualifications are mostly found in the older age cohorts (See Table 6). These data show that persons in Associate Professional jobs aged 35 and above have high proportions without a post school qualification as their highest level of educational attainment. It is only in the youngest two age cohorts (15 to 24 year olds) that the effect of the recent policy emphasis on secondary school completion is most evident.

The effect of the youngest age group (aged 17 to 19 years not attending school) with a much higher proportion of their number with secondary school completed (61 per cent) needs to be noted. The higher proportion with secondary school completed in the 15 to 19 age group may generate a larger flow-on effect in terms of a greater propensity for this age cohort to undertake further study as the cohort grows older.

On the other hand, higher initial levels of education may further encourage employers to use internal resources and short external courses to upgrade the skills of their employees in Associate Professional positions. The latter approach may apply particularly to the large proportion of Associate Professional employees in supervisory positions.

Table 6: Proportion of persons in Associate Professional occupations in each age group who, as their highest level of educational attainment, have either not completed secondary school, completed secondary school or have a post school qualification (per cent), Australia, May 1997

Years of age	Incomplete Secondary	Completed Secondary	Post school Qualified	Total
15 to 19*	17	73	10	100
20 to 24	12	44	44	100
25 to 34	23	24	53	100
35 to 44	28	18	54	100
45 to 54	34	15	51	100
55 +	36	13	51	100
Total	27	21	52	100

*excludes those still attending school

Source: Special tabulations from the Transition from Education to Work Australia May 1997, ABS Catalogue No 6227.0

Post school qualifications

Other data, reported in Attachment 4, offer a cross sectional view of the educational profile of each age group for nine broad occupational categories. Those in the 25 to 34 age group have most likely completed their initial education. So this age group provides the opportunity to assess the relative importance of post secondary school qualifications in the future, particularly as a basis for gaining entry to employment. The implications of the qualifications profile of the youngest post graduation age group (25-24 years) are discussed further below.

Data in Attachment 4 show that most Professional positions require formal qualifications as the basis for employment as shown by the 89 per cent in the 25 to 34 year old age group with post school qualifications. Similarly, Trade positions have 75 per cent of 25 to 34 year olds with post school qualifications. However, only just over half (53 per cent) of persons aged 25 to 34 years in Associate Professional positions have post school qualifications. This suggests that qualifications are used for many Associate Professional jobs to gain entry to employment. Nevertheless, the data also show that a third of Associate Professionals do not have a post school qualification.

Only 60 per cent of Managers aged 25 to 34 years have post school qualifications. This proportion holds for managers in the older age groups as well. The relatively lower proportion of the 25 to 34 year old age group in advanced clerical and service positions with post school qualifications (47 per cent) is worth noting. The lower proportion with post school qualifications for this occupational grouping compared with the higher skilled occupations suggests that there is not the same emphasis on post school qualifications as a prerequisite for entry.

However, this may change in the future. The effect of the higher proportion of the youngest age group with secondary school completed is yet to be seen. Nearly half (46 per cent) of the 15 to 19 year olds and 39 per cent of 20 to 24 year olds in this occupational category have completed secondary school compared to 27 per cent for the 25 to 34 year old age group. This suggests that the demand for middle-level qualifications may increase from those job holders in the occupational skill level immediately below Associate Professional.

Significance of relevant qualifications for Associate Professionals

Table 7 presents information for Victoria on the proportion of job holders with relevant qualifications in each occupational grouping within the Associate Professional skill level. Relevant qualifications are defined as a qualification in which the field of study corresponds to the occupation. The data in Table 7 show that some Associate Professional occupations have low proportions of persons with relevant qualifications (eg finance, hospitality and accommodation managers, miscellaneous managing supervisors).

Insert Table 7 about here

Table 7 also shows that some occupations have a close correspondence between relevant qualifications and total with post school qualifications (enrolled nurses and building and engineering associates). This suggests that qualifications play a threshold role in obtaining work in those occupations. However, in other cases, the gap between the proportion with a relevant qualification and the total proportion with a post school qualification is large. This applies to Medical and Science Technical Officers, Finance Associate Professionals, Miscellaneous Business and Administrative Associate Professionals, Hospitality and Accommodation Managers and Miscellaneous Managing Supervisors. These data suggest that for these occupations relevant qualification is not the primary reference point for assessing a person's capability for a position at Associate Professional level.

The differing proportions of associate professional job holders with less than completed secondary school is worth noting. This varies from a high of 48 per cent of welfare associate professional job holders to only 11 per cent of miscellaneous health & welfare associate professionals. The overall proportion of non secondary school completers is 31 per cent of persons in associate professional positions. These data may indicate that there is considerable potential for these people to upgrade their qualifications. It may also indicate a reluctance to return to a formal educational institutional setting.

These different pathways to Associate Professional occupations and the varying relative importance of qualifications need to be borne in mind in assessing Australia's standing in terms of intermediate skill levels compared to other countries. Nevertheless, international comparisons may show future trends after taking into account the different pathways that other countries may have for developing middle or intermediate level skills. These are reported in Attachment 3.

Table 7 also shows that relevant qualifications at the Associate Diploma and Diploma levels are not predominant for any Associate Professional occupation. Just less than a quarter of Enrolled Nurses

and Building and Engineering Associate professionals have an Associate Diploma or Diploma. Between a fifth and a sixth of Miscellaneous Health and Welfare Associate Professionals have a relevant Associate Diploma or Diploma. Non relevant qualifications at this level are only significant for Medical and Science Technical Officers (11 per cent) and Miscellaneous Health and Welfare Associate Professionals (9 per cent).

It is noteworthy that degrees in a relevant field of study are important for Welfare Associate professionals (21 per cent), Finance Associate Professionals (16 per cent) and Medical and Science Technical Officers (14 per cent). However, the same table shows that non relevant degrees are also held by a significant proportion of job holders among Medical and Science Technical Officers (12 per cent) and Finance Associate Professionals (15 per cent) and Miscellaneous Managing Supervisors (Sales and Service) (9 per cent).

Table 8 presents more specific data on the qualification profile of each Associate Professional occupational grouping in Australia and Victoria. This data shows that for most Associate Professional occupations, degrees (both in relevant fields and not) are just as or more important than Associate Diploma/ Diploma qualifications. Degrees are important for Medical and Science Technical Officers, Finance Associate Professionals, Miscellaneous Business and Administrative Associate Professionals, Miscellaneous Managing Supervisors (Sales and Service) and Welfare Associate Professionals. Degree holders also have a significant presence compared to Associate Diploma/Diploma holders among Shop managers and Police. However, Associate Diploma/Diploma holders are more prevalent for Building and Engineering Associate Professionals, enrolled nurses and Miscellaneous Health and Welfare Associate Professionals.

Insert Table 8 About Here

These data suggest that many associate diploma and diploma graduates seeking their first major job are likely to be in competition with degree graduates. In some cases, the competition is directly with graduates from the same field of study (as with Medical and Science technical Officers, Finance Associate Professionals, Miscellaneous Business and Administrative Associate Professionals and Welfare Associate Professionals). In many of the same Associate Professional occupations, persons with non-relevant degrees also have a significant presence. This suggests that other selection criteria, such as skills acquired on-the-job, are used by employers for many Associate professional positions.

The opportunities that may exist for middle-level VET providers to meet the needs of employers and Associate Professional job seekers are discussed below.

Middle-level qualifications and the Labour market

The above analysis of labour force data, together with the interviews and survey results from industry training boards, training providers and enterprises reported below, indicates that there are two distinct perspectives on middle-level skills and qualifications. One view (associated with training providers and ITBs) regards middle-level skills as the product of middle-level qualifications that are positioned between the trades and degrees. The second view (associated with enterprises) sees no necessary link between middle-level skills and qualifications.

The first perspective tends to see qualifications as a status hierarchy with Advanced Diploma and Diploma graduates positioned below degrees. This perspective could be termed the educationalist view of middle-level skills and qualifications. One difficulty with this view is that all Diplomas and Advanced Diplomas, regardless of occupation, tend to be viewed by VET providers as similar in standing to employers and students. The product is not differentiated according to the functions it performs in the labour market for particular occupations and types of enterprises.

Two labour market functions for Associate Professional qualifications highlighted by this report are: to serve a basis for entry to employment for school leavers and to assist mid career employees to gain a promotion. The evidence presented in this report shows that employers in some industries tend to view middle-level qualifications in terms of their role as a screening device for entry to employment. In the case of middle-level qualifications, they tend to be viewed in competition with non-professional degrees. General aptitude, capacity to learn and acquire further skills is the key characteristic employers are seeking from a new employee.

In the case of existing employees, a middle-level qualification is likely to be seen by employers as a useful but not necessary condition for promotion. This may apply regardless of whether the promotion related to supervisor's or technician's position. In other instances, employers operating within a common industrial award or similar regulatory structure, such as in child care or the health sector, will see middle-level qualifications as a necessary condition for employment. In these cases, qualifications at middle-level perform the same threshold entry function as trades and professional qualifications to their respective occupations.

The educationalist perspective is evident in the very term "middle-level qualification". This reflects the holders perception of a status hierarchy of qualifications. As noted above, it also suggests a largely undifferentiated product where Diplomas and Advanced Diplomas are viewed by educationalists as similar in their standing in the market place. On the other hand, many enterprises do not regard middle-level qualifications as a necessary precondition for entry to employment or a mid career promotion. This is shown by the fact that for many occupational groupings, relevant qualifications are held by only a minority of job holders (see Table 9).

Table 9: Proportion of Associate Professional job holders in Victoria with relevant and no post school qualifications (per cent), May 1997.

	<i>Relevant qualification</i>	<i>No post school qualification</i>
Medical and Science Technical Officers	35	37
Finance Associate Professionals	10	64
Miscellaneous and administration	19	51
Hospitality and Accommodation Managers	5	64
Miscellaneous Managing Supervisors sales and service	0	59
Welfare Associate Professional	0	48
Police	9	73
Miscellaneous Associate Professionals	32	43

Source: Transition from Education to Work, May 1997.

The high proportion without a post school qualification in each of the above occupations suggests that in many cases on-the-job experience is judged to be more important than formal qualifications. Similarly, several occupations have job holders with formal qualifications that cannot be classified as directly relevant. This suggests that these qualifications are viewed as a screening device or as evidence of the individual's capacity to acquire higher level knowledge and skills.

However, some occupations are notably different in the higher proportion of job holders with relevant qualifications. These are:

- Building and Engineering Associate Professionals
- Enrolled Nurses and
- Miscellaneous Health and Welfare Associate Professionals

These occupations are notable for the existence of strong professional and union bodies able to assert the importance of a qualification as the basis for entry or promotion within the occupation. Most of the qualifications held by the above job holders are defined as relevant. Nevertheless in the

case of Building and Engineering Associate Professionals and Health and Welfare associate professionals, a significant proportion (24 and 22 per cent respectively) of job holders do not have post school qualifications. However, in one occupation, Enrolled Nurses, all are qualified although only 50 per cent have middle-level qualifications.

It is proposed that each middle training program and resulting qualification be closely scrutinised to determine the particular role that it plays in the labour market. A general topology is proposed below in Table 10. The occupations are allocated to a category on the basis of two factors: the proportion with a relevant qualification in that occupation and the age and full-time/part-time distribution of the students undertaking the training programs relevant to that occupation.

Table 10: The labour market function of qualifications for Middle-level occupations

<i>Student age/participation profile</i>	<i>Mainly young, full-time suggesting entry to employment focus</i>	<i>Mainly post age 25, part-time suggesting mid-career focus</i>	<i>Mixture of young & older students, full and part-time suggesting entry to employment and mid-career</i>
<i>Role of qualification</i>			
<i>Prerequisite for entry or promotion</i>	Enrolled nurses	Misc. Health & Welfare Assoc. Professionals	
<i>Not a prerequisite for entry or promotion but regarded as desirable</i>	Miscellaneous Assoc. Professionals	Misc. and Admin. Assoc. Professionals; Misc. Managing Supervisors	Medical and Science Technical Officers; Building & engineering Assoc. Professionals
<i>Qualification does not have strong standing in the labour market</i>	Hospitality & Accommodation Managers	Police	Finance Assoc. Professionals; Welfare Assoc. Professionals

This analysis suggests that where a middle-level qualification is not a prerequisite for entry to employment or promotion, it has no special standing in the labour market. This means that in the cases where the qualification is used by employers to assess suitability for employment, it is in competition with other similar qualifications such as degrees. Middle-level qualifications where used by employers to recruit as an entry level requirement for recruitment purposes are likely to be competing against non-professional or generalist degrees. This analysis further suggests that where recruitment is based on an assessment of general rather than technical capacity, degrees are likely to be regarded as better means of screening out less capable recruits.

Similarly, where a middle-level qualification is regarded as a desirable but not essential requirement for promotion, the qualification is in competition with other means of selection such as short courses or general relevant work experience. In both instances, middle-level qualifications need to differentiate themselves in the marketplace as the preferable means of identifying persons for designated positions

Current Demand for Middle-level Vocational Educational and Training

The numbers of students in advanced diploma, diploma and advanced certificate programs in the TAFE system, their age profile and part-time/full-time and employment status are presented in Tables A1 to A4 in the separate volume of tables.

Table A1 shows that the number of student enrolments in 1997 at AQF5 level (including the former Associate Diploma and new Diploma programs) is 53,489 and at the AQF 6 level (offering Former Diploma and new Advanced Diplomas) only 1,720 enrolments. The latter reflects the fact that advanced diploma programs are only recent. The number of enrolments in the Certificate IV programs, at 47,252, rivals that of the diploma-based programs.

The AQF 5 and 6 programs (leading to former Associate Diploma or Diploma and the new Diploma and Advanced Diploma qualifications) represent 15 per cent of total enrolments in TAFE in 1997. However, in terms of student contact hours, AQF 5 and 6 programs account for 30 per cent of the total. The latter statistic reflects the fact that AQF 5 and 6 students are more likely to be full-time students compared to apprentices, trainees or advanced certificate students. Also Diploma and Advanced Diploma programs have a longer duration (two to three years) than other training programs. This means that more people from these programs are in the training system at any one time.

Age profile of students in middle-level VET programs

The profile of students in the three types of programs is shown in Table A1. The data show the following:

- half (50 per cent) Advanced Diploma and Diploma students are under age 25 compared with just over a third (36 per cent) of Certificate IV enrollees and 38 per cent of all students enrolled;
- the smaller number of Advanced Diploma students compared with Diploma students are concentrated in the 20 - 24 age group (41 per cent) - with 53 per cent of women in Advanced Diploma programs in this age group;
- the proportion of Diploma students who are aged 20-24 years is high (31 per cent) compared to the student population at large in this age group (21 per cent);
- However, it is important to note that 42 per cent of Diploma students and 45 per cent of Advanced Diploma students are aged 25 to 44 years.

These data suggest that AQF 5 and 6 training programs (leading to former Associate Diploma/Diploma and the new Diploma/Advanced Diploma qualifications) are serving two different clients groups. Half of the AQF 5 and 6 students appear to be using the qualification for gaining entry to employment. The other half of the client group are adults aged 25 years and over.

The expectations and requirement of both student groups are likely to be very different. These differences may relate to whether they are enrolled full-time or part-time, whether working or not and whether they are currently employed in work that is the same as their field of study. Other administrative data from the VET student collection throw some light on the relative numbers of students with the above characteristics.

Other characteristics of students

Table A2 shows the full-time, part-time breakdown of the middle-level programs. Full-time is defined as 540 student contact hours and above. The key points from the table are:

- Two-thirds (67 per cent) of students in Diploma programs are full-time; and 60 per cent of students in Advanced Diploma are full-time.
- This compares with only 55 per cent of students in Certificate IV programs who are full-time.
- Full-time female students are the largest group in the Advanced Diploma (34 per cent); and
- Full-time female and male students are the largest groups in Diploma programs (35 and 31 per cent respectively).

This profile of student participation is confirmed by data from the 1997 TAFE Graduate Destination Survey for Victoria. The survey results relating to Diploma and Advanced Diploma graduates show that 54 per cent attended classes for 16 or more hours a week, 9 per cent attended classes for between 11 and 15 hours a week and 22 per cent attended classes for 10 hours or less. Only 2 per cent did not attend classes, engaging instead in external study (see Table A11).

Employment status of students

Table A3 shows the employment status of students as recorded at the time of enrolment. The data show that:

- over a third (between 37 and 39 per cent) of enrollees in middle-level programs and overall are in full-time work;
- part-time work is significant for students in Diploma programs (22 per cent) compared with the student population overall (9 per cent);
- a small but significant group (5 per cent) in Diploma programs are self employed; and
- a high proportion of students are looking for part-time work.

The 1997 TAFE Graduate Destination Survey based on 1996 middle-level VET graduate responses for Victoria (see Table A13) show that:

- paid work is the main source of income for 52 per cent of students;
- Austudy is the main source of income for 42 per cent of students;
- other sources of income for students are parents, spouse or partner (20 per cent).
- the proportion of students who are in paid work varies greatly by type of program. This ranges from 76 per cent of students in services, hospitality and transportation programs to 44 per cent in arts, humanities and social science programs.

Year left school

Table A4 presents data on year left school. The data show a clear difference between Certificate IV students who are more likely to have left at Year 11 or lower (42 per cent) compared with Diploma and Advanced Diploma students. However, over a quarter (28 per cent) of Diploma students had also left at Year 11 or lower. These students may come from the generation for whom completion of post compulsory schooling was not common (34 per cent of students in Diploma programs are aged 30 and over). This finding is consistent with the data highlighted above about the high proportion of Associate Professional job holders who have not completed secondary school.

Job during final semester of program

The 1997 TAFE Graduate Destination Survey results (Table A14) show that most students are in paid work during the final semester of their course. Some 59 per cent of students in AQF 5 and 6 programs (leading to both former Associate Diploma or Diploma and the new Diploma and Advanced Diploma qualifications) were in paid work during the final semester of their program. However, the results also show that 38 per cent did not have a job during their final semester. Students in health and community services, hospitality and transportation and health and community services were more likely to be in a job during the final semester of their program (81 and 69 per cent respectively).

Further analysis of the labour market outcomes achieved by those AQF 5 and 6 graduates who were not employed during their program is reported below in the discussion of the needs and preferences of students.

Summary

The main conclusions to be drawn from the above analysis of administrative and survey data are that there are several large identifiable groups of the student population of the middle-level VET programs. These groups are likely to have different needs and requirements. The needs of students are likely to differ in terms of whether they are:

- full-time or part-time students,
- employed full-time or not;

- working in the same area as their field of study seeking to upgrade their skills to gain promotion or a better paid position with another employer or
- if not employed, whether a school leaver seeking entry to employment.
-

Characteristics of Middle-level VET Programs

Table A5 presents data on the training programs offered at AQF 5 and 6 levels (referring to both former Associate Diploma or Diploma and the new Diploma and Advanced Diploma qualification outcomes). These data are ranked by their students numbers in 1997. A majority of students are in the following programs: accountancy (14 per cent of students in Diploma and Advanced Diploma programs), sales and marketing managers (10 per cent), mechanical engineering (6 per cent), electrical and electronics (6 per cent), graphic design (6 per cent) and childcare coordinators (5 per cent).

The programs have widely differing gender balances reflecting the gender segmentation in the workforce at large. Table A5 shows that female students dominate in childcare coordinator programs and programs related to office secretaries and stenographers (99 and 90 per cent respectively). Female students are grossly under represented in programs related to electrical/electronics and mechanical engineering (6 and 8 per cent respectively). The gender balance is more even in the sales and marketing related programs and in graphic design (45 and 60 per cent respectively).

An important clue to understanding the labour market function that a particular middle-level training may perform is the age profile of students in the program, differentiated by whether they are full or part-time. Programs with a young age profile of full-time students are more likely to be meeting the needs of students who want to use the qualification as an entry point to employment. A program with an older age profile of part-time students may be more likely to view their qualification as an aid to promotion or seeking another job.

Tables A6 and A7 present detailed age breakdown for all programs. Tables A8 and A9 present summary data in two age groupings: youth aged 15 to 24 years and adults aged 25 and over. Those programs with a high proportion of full-time students aged 15 to 24 years are likely to be used by these students to gain entry to employment. On the other hand, programs with a high proportion of adults who are part-time students are more likely to serve as a mid career stepping stone for promotion or better paid work.

Table A10 shows the distribution by age and full-time/part-time status for the major programs. A closer look at the table shows that some programs are mostly conducted part-time (eg programs related to transport recording and despatch, interpreters, firefighters, library technician, science and technical (non industry specific), insurance assessor and credit and loans analysts. Many of these same programs have an older clientele undertaking the program part-time.

On the other hand, other programs are strongly oriented to a young (aged 15-24 years), full-time

clientele. These programs are:

- layout artist (89 per cent)
- dancers and choreographers (83 per cent)
- illustrator (75 per cent)
- accommodation and tavern manager (72 per cent)
- restaurant and catering managing supervisor (72 per cent)
- public relations officers (71 per cent)
- cabinet makers (69 per cent)
- other engineering and building associates (66 per cent)

The differences between programs in the age and full-time/part-time status of clientele are major. These data suggest that some middle-level programs are mainly used by their clients as a means of gaining entry to employment. Other programs are viewed predominantly by clients as aids to mid career advancement. However, a significant number of middle-level programs with both full-time young students and part-time older students appear to cater for both school leavers and mid career workers. Examples of programs with the mixed age/full-time/part-time status groups of students are: accountancy, sales and marketing, electrical and electronic technicians and mechanical engineering.

One important implication of this analysis of aggregated program data is the need to collect specific information on student characteristics and motives in individual programs. The students could be surveyed at the beginning of every program module to find out their motives for doing the course (entry to employment, internal promotion or to find a better job), their previous and current employment and degree of support from their employer. The value of having information on these characteristics are discussed further below, using data from the TAFE Graduate Destination Survey.

II STAKEHOLDER ANALYSIS

This section of the report analyses available data on the expectations of key stakeholders in relation to middle-level VET programs: students, enterprises, Industry Training Boards and training providers. The analysis starts with the direct client, the student. Data from a large scale ABS survey of recent TAFE graduates in Victoria are used to ascertain their reasons for undertaking the programs, their perceptions about the value of their qualification and their rating of the quality of the service that they received as students. Also discussed are the results of a group discussion with current students about their expectations of their middle-level VET program at a Victorian Institute of TAFE.

The views of the other major stakeholders, employers and training providers, are also canvassed. This is done through analysis of the results of a large-scale survey of employer satisfaction with VET in Victoria, and specific surveys of enterprises, industry training boards and mainly TAFE Institutes undertaken for this project. The results of these surveys are reported separately with the key findings only discussed below.

Student needs and preferences

The 1997 TAFE Graduate Destination Survey, conducted by the ABS Australia-wide, provides valuable additional information on the needs and preferences of students in AQF 5 and 6 level programs. The results reported below combine the programs leading to former Associate Diploma or Diploma and the new Diploma and Advanced Diploma qualifications. Focus of the survey results reported here is on Diploma and Advanced Diploma graduates in Victoria. The results for all TAFE students in Victoria are also reported. It is important to note that as the survey is of graduates, it reflects the attitudes of successful completers and not those who left before completion of their studies for whatever reason.

The key findings of the following analysis are that students in middle-level VET programs are more likely to be the person exercising the choice of training compared with other VET programs. Students in VET programs are also more likely than other VET students to be strongly focussed on obtaining employment in their preferred field of study or in using their qualification to gain a promotion or a better paid job.

In terms of perceived labour market standing, the survey results show that a large group of middle-level graduates in Victoria are disappointed with their qualification in terms of their job prospects and its value in the eyes of employers. Data on labour market outcomes six months after graduation tend to confirm the perception of many graduates. Only half of the TAFE graduates who were not employed with the same employer during their course are in work six months after graduation. Another 28 per cent are actively looking for work.

Main reason for undertaking training program

Table A15 shows the responses of middle-level program graduates to a question about why they undertook the program. Nearly three quarters of AQF 5 & 6 respondents (74 per cent) state that

their reason for doing the course is job-related. These reasons include: “to get a job (or own a business)” (38 per cent), “to get a better job or promotion” (15 per cent), “to try for a different career” (12 per cent), “to get extra skills for my job” (9 per cent). Non-job related reasons include: to get into another program of study (9 per cent), for interest or personal development (12 per cent). The proportion with AQF 5 & 6 graduates who had job related reasons for doing their course is similar to all TAFE graduates (77 per cent).

The strong vocational employment orientation is more evident among graduates of some programs. Thus 88 per cent of graduates of business, administration and economics programs undertake their course for employment-related reasons. However, only 66 per cent of graduates of the arts, humanities or social sciences programs gave an employment-related reason for undertaking their training program.

Self-initiated study to get a better job or promotion or to try for a different career was an important motivation for a quarter (25 per cent) of graduates. Undertaking the course to obtain a better job or promotion was particularly important for graduates of programs in engineering and surveying (23 per cent) and health and community services (17 per cent). To try for a different career was an important motive for graduates of programs related to arts, humanities and social sciences (16 per cent), business services, hospitality and transportation (17 per cent).

Table A16 shows that just over half (55 per cent) of graduates achieved their main reason for doing the program, 17 per cent said partly, 8 per cent said they did not and 18 per cent did not know at the time of interview. This proportion is slightly less than for all graduates (62 per cent). Perceived successful outcomes were more likely for AQF 5 & 6 graduates of some programs. As many as 83 per cent of health and community service graduates said that they achieved their reason for doing the course. On the other hand, engineering and surveying graduates were much less likely than the average response to say that they had achieved their objective (46 per cent).

The higher levels of perceived successful outcomes among health and community service graduates may reflect the fact that these qualifications are, in most instances, prerequisites for entry or promotion to middle-level jobs. Therefore, gaining the qualification is likely to result in an immediate reward. On the other hand, the lack of threshold or required qualifications for entry or promotion to middle-level positions for engineering and surveying graduates may be the explanation for their sense of a lower level of achievement of their objectives in undertaking the qualification.

Employer support

Table A17 shows that half (50 per cent) of AQF 5 & 6 graduates in paid work during their course did not receive any employer support during their course. However, 16 per cent had their fees paid, 14 per cent received paid time off from work, another 14 per cent were able to take unpaid time off from work and 9 per cent received other forms of support (not specified). These results suggest that a significant proportion of students in employment are undertaking a training program unsupported by their employer.

Labour market outcomes

Table A18 presents data on the employment status of AQF 5 and 6 and all graduates by field of study some six months after graduation (30 May 1997). The survey results show that 69 per cent of AQF 5 and 6 graduates are in paid work and 28 per cent do not have a paid or unpaid job. These proportions are the same as for all graduates. Again, there is variation between programs: health and community services graduates are more likely to be in employment (86 per cent) compared to arts, humanities and social science graduates (60 per cent).

AQF 5 & 6 graduates with a high proportion of their number actively looking for full-time work are: engineering and surveying (50 per cent), architecture, building (50 per cent) and science (40 per cent). Virtually all graduates actively looking for work are looking for work in a similar field to their course of study (see Table A20).

It is worth noting that graduates of business, administration and economics programs, most of whom had an employment motive for doing the course, had a below average employment record (64 per cent in employment compared to 69 per cent of all AQF 5 & 6 graduates). Of this group of graduates who were not employed, 36 per cent were actively looking for full-time work (see Table A19). This result is difficult to explain as it might be expected that graduates of these programs would be in demand.

However, the employment outcomes achieved by graduates need to be discounted by the number of graduates who have continued in the same job as they held while doing their course. Some 40 per cent of graduates were in continued employment with the same employer. The proportion is higher for the graduates of some programs: notably engineering and surveying (47 per cent), health and community, hospitality and transportation (41 per cent) and science (45 per cent) (see Table A21).

It is necessary to exclude the graduates who were in continued employment with the same employer to get a more accurate picture of the post-course labour market outcomes for job seekers. When this is done, the proportion of graduates in employment drops from 70 to 51 per cent. The proportion of graduates who are and are not actively looking for work increases to 28 and 21 per cent respectively. These results are presented in Table 11 below.

Table 11: Labour force status of 1996 AQF 5 & 6 graduates not employed by the same employer as during their course, per cent, 30 May 1997

Labour force status	Per cent
Employed	51.1
Unemployed	27.5
Not in labour force	21.2
No answer	<u>0.2</u>
	100.0

Source: TAFE Graduate Destination Survey 1997

The relative significance of these data need to be determined by reference to other graduate destination survey data from universities. These comparisons would also need to take into account

those graduates who were employed during their course and who are still with the same employer. Nevertheless, in absolute terms, these results suggest that the transition from education to work is likely to be a problem for a large proportion of middle-level VET graduates.

Relevant key points from an analysis of comparative OECD data for 1995 are summarised below:

- Australia is below the average in terms of the proportion of the population in OECD countries that have completed at least upper secondary education.
 - Only 53 per cent of the Australian population in 1995 aged 25 to 64 years had completed upper secondary schooling (High School) or higher compared with 60 per cent of 25 OECD countries. Australia ranked eighteenth out of 25 OECD countries.
- Nor is the trend among the younger age groups better. Population aged 25 to 34 years in 1995 who have completed at least upper secondary schooling is 57 per cent. This compares with the US which had 87 per cent of its population aged 25 to 34 years who have at least completed upper secondary schooling.
 - Australia's ranking for those aged 25 to 34 years who have at least completed upper secondary education is even lower at 20 out of 25 OECD countries.
- The most recent data available (for May, 1997) indicates that 76 per cent of 25 to 34 year olds have at least completed upper secondary schooling. However, as this cannot be compared with other OECD countries for the most recent period, it is not known whether Australia has caught up, the gap persists or has increased.
- By the year 2005, Australia is projected to have 58 per cent of its population aged 25 to 64 years with at least completed upper secondary schooling. However, of 20 OECD countries for which data are projected to 2005, Australia will still rank fifteenth.
- The situation in the year 2015 is projected to change little with Australia still with only 62 per cent of the 25 to 64 age group with at least upper secondary schooling. Australia's rank by 2015 is projected to drop to seventeenth out of the 20 OECD countries for which projections are available.
-

Evidence from OECD countries for 1995 also shows that higher levels of educational attainment for individuals are clearly associated with higher earnings and a lower chance of unemployment (OECD 1997a: Table E2.1b). This is the case for Australia where the unemployment rate in 1995 for a male non-university graduate aged 25 to 64 years in 1995 was 4.5 per cent compared to 5.9 per cent for males aged 25 to 64 years who had completed upper secondary schooling and 11.5 per cent for an unemployed male aged 25 to 64 years with less than upper secondary schooling. However, male university graduates aged 25 to 64 years recorded an unemployment rate of only 2.9 per cent (OECD 1997a: Table E2.1b).

The unemployment rates for female non-university tertiary graduates, upper secondary school completers and non-completers for 1995 were similar (5.4, 6.1 and 6.6 per cent, respectively). However, female university graduates had an unemployment rate of 3.6 per cent (OECD 1997: Table E2.1b). Other Australian data also show that a significant minority of non-university tertiary graduates (12 per cent) were unemployed one year after leaving education compared with 8 per cent for university graduates over the same period. However, those who had and had not completed secondary school had unemployment rates of 18 and 25 per cent respectively (OECD 1997b:Table 12).

Data for 1995 suggest that a non-university tertiary graduate aged 20 to 24 years is only marginally less likely to be unemployed (9.8 per cent) than a person who has completed upper secondary school (10.9 per cent). However, at age 25 to 29 years, the difference in unemployment rate between non-university tertiary and upper secondary school graduates is more favourable to the former (4.4 per cent and 7.5 per cent, respectively) (OECD 1997: Table E3.1).

Data for 1994 are also available on the relative earnings of persons aged 25 to 64 over four levels of educational attainment. These data show that male non-university tertiary graduates in Australia are likely to earn 18 per cent more than secondary school completers. However, female graduates at the same level only earn 5 per cent more. The results also show that university graduates earn substantially more than middle-level VET graduates. Male university graduates earn 61 per cent and female university graduates earn 39 per cent more than secondary school completers.

Social rates of return to investment in education are sometimes estimated as a means of assessing if expenditure on education is a good investment. In broad terms, a social rate of return is the discount rate which equates the extra earnings a qualification yields a person over his or her lifetime (estimated from data on persons of different ages at a point of time) with the public and private expenditure made on acquiring the qualification. This procedure assumes that a person's earnings reflect their contribution to production: a rather heroic assumption in Australia where award conditions specify the earnings of many workers. It also assumes that earnings at a point in time are a good indicator of expected earnings over a working life.

The OECD (1997a) has presented estimates for a number of countries, and those for Australia are shown in Table 12. In these estimates, the rates for females are high for upper secondary but lower than males for both university and non- university tertiary. However the tertiary groups are highly aggregated: all types of university degrees are in one group and all other tertiary qualifications are in another.

Table 12: Internal Rates of Return for different levels of education by Gender in Australia (1995) (per cent)

Education Attainment	Males	Females
Upper Secondary	8	13
University	10	8
Non-University Tertiary	10	7

Source: **OECD Education at a Glance 1996** Table E5.1

However, in contrast to this one point-in-time calculation, it should be noted that other estimates of rates of return for university graduates in Australia show female rates at about the same level as for males (Maglen 1995).

Long and McKenzie (1996) use the detailed 1993 ABS Survey of Education and Training to analyse earnings by qualification. They show that, on average, after controlling for age and ethnicity, males with a degree earned more than 40 per cent above the reference group which is those who left school aged 16 or over but had not completed secondary school. Persons with Associate Diploma earned nearly 20 per cent more. For females the effect were somewhat smaller. However, it is difficult to infer higher rates of return to university qualifications from these data because university courses involve greater public and private expenditure than the Associate Diploma courses.

Overall, these data, nevertheless, suggest that the factors that may discourage school leavers from choosing a non-university tertiary education are: greater difficulty in initially finding work compared with university graduates and an earnings potential somewhat lower than a university graduate.

The student as client

The data also show that a significant proportion of students, even among those in employment, make the decision to undertake a middle-level training program independent of an employer. Only 37 per cent of graduates in employment during their course remain with the same employer after graduation. Many of those in employment are undertaking the program to obtain a better job with another employer. A third of those graduates employed during the final semester of their course did not receive any support from their employer.

These findings suggest two major conclusions. The first major defining characteristic of students in middle-level VET programs is their focus on obtaining employment or a better paid job related to the program. This employment focus is also in contrast to apprentices and trainees who are already in work. Therefore, the expectations of students, as the initiators of the decision to undertake the middle level training program, are likely to be high. Their expectations are also likely to be narrowly focused on the program's potential for improving their employment prospects. Training providers seeking to attract and retain students will need to be particularly responsive to the employment focused needs of students at middle-level in a way that may be less necessary for apprentices and trainees.

The second conclusion is that individuals are more likely than employers to be the sole client in relation to middle-level VET programs. This is in contrast to the decisions related to training for apprentices and trainees where the employer has at least a major, if not determining role. An apprentice or trainee is a student who is primarily an employee in an entry-level training arrangement initiated by the employer. Most middle-level VET students are more likely to be acting on their own initiative, whether an employee or not.

Graduate perceptions of their training programs

Tables A22 to A32 provide data on the ratings that Victorian TAFE graduates of middle-level VET programs gave in response to a series of questions about aspects of the course they had recently undertaken and its reputation. The data are from a national TAFE Destination Survey commissioned by NCVER. Table A33 summarises the key findings from these tables. The aspects of the middle-level programs that received the lowest proportion of favourable ratings from graduates were:

- “the information about careers and jobs available to you” and “the information you received when choosing courses, subjects or modules” (only 29 and 43 per cent respectively of graduates rated this 8 or higher out of 10);
- having enough equipment and the quality of equipment provided to practise skills (39 and 42 per cent respectively of graduates rated this 8 or higher out of 10);
- While a high proportion (69 per cent) rated the instructor's knowledge of course content 8 out of 10 or higher, the presentation of course material was not rated as highly (47 per cent rated this 8 or higher out of 10) Course content that reflected industry practice only achieved a strong rating from 53 per cent of graduates.
- Convenience of both venue and class times was only rated highly (8 out of 10 or higher) by 52 per cent of graduates.

A major shortcoming of middle-level qualifications in the perception of a majority of recent TAFE graduates of middle level programs is its low standing with employers. The TAFE Destination Survey results for Victoria showed that 52 per cent of middle-level VET graduates rated their qualifications as 7 or less out of 10 in terms of being well regarded by employers. This compares with 29 per cent of graduates with a trade certificate and 46 per cent of graduates with a Certificate IV who gave their qualification the same rating. Graduates of Associate Diploma courses were the most likely to be concerned about the standing of their qualification in the eyes of employers (57 per cent).

A significant minority of middle-level VET graduates (45 per cent) did not rate their qualification highly in terms of its usefulness for their job prospects, scoring it 7 or less out of 10. This compares with 25 per cent of graduates with a trade certificate and 39 per cent of Certificate IV graduates who gave the same rating. These results suggest that there is considerable potential to lift the standing the middle-level qualifications in the eyes of both employers and students.

However, the results are presented at a highly aggregated level and do not take into account differences between courses or the different employment backgrounds and expectations (entry to employment or mid career) of graduates. It could also be argued that 8 out of 10 is too high a rating to expect. However, if middle-level qualifications are increasingly in competition with degrees, as this report concludes elsewhere, differences in perception at the margin are likely to be important. These ratings are likely to reflect the opinions that graduates may be offering to other potential students about the quality of the training they received and the standing of their qualification.

These results, based on the successful program completers, suggest that much more can be done by TAFE training providers to lift the quality of middle-level VET programs. This applies both in terms of the acceptance of the middle-level VET qualifications in the labour market and in terms of the quality of content, format and delivery. Specific suggestions about how this might be done are discussed in the next section in the analysis of the response of employers, industry training boards and training providers to questions about how to improve middle-level VET programs. Before discussing their perceptions, this section concludes with the presentation of further data on student perceptions.

Perceptions of current students²

Students in AQF5 level programs were interviewed at a Victorian TAFE. In addition, eleven students responded to a written survey of six questions. In response to a question about ways middle-level courses could be run to improve their appeal, the following suggestions were made by students: better prepared, punctual and organised teachers, smaller class sizes, more notice about changes to class times and more recognition of the needs of mature age students .

In response to a question about ways to change courses to increase the chances of students finding work related to their course, the most common response was the need to send students out to work in the field in which they are studying on a regular basis rather than in a block. Students also suggested that employers be targeted so that courses are relevant to them and to help employers appreciate better the value of the course.

The things students were looking to get out of their course were: a qualification that "means something" i.e. helps them to get "an important job in the career field", "better their chances of gaining work", or "a promotion in current employment" or "to run their own businesses better". Students also wanted to be "better educated", "to improve their English skills" and "keep their studies current."

Students were also asked whether they knew "how well recent graduates have gone in the job market". For those respondents that knew recent graduates, the response was either most have got jobs, or most have gone on to further study.

In response to the question - "are you happy with the employment placement services at this TAFE Institute?": two students said yes, eight students could not answer the question because they did not know about the employment services or because they had never used the service. All eleven students said that they would recommend their course to others.

These results confirm the survey results reported above. The students surveyed have a strong vocational focus. They are keen on establishing close links with employers to maximise the value of their qualification. The responses also suggest that scope exists for VET providers to lift the quality and range of services available to students. A greater focus on student as client would provide VET providers with feedback about student perceptions of the services offered.

² My thanks to Mr Jim Hutton for distributing and collecting the questionnaires.

Other Stakeholders: Enterprises, Industry Training Boards and Training Providers

The results from the analysis of a national survey of employer satisfaction with VET are summarised below. In addition, the results of three surveys undertaken for this project of enterprises, State-level Industry Training Boards (ITBs) and Training Providers were also undertaken. The following discussion highlights the key findings.

The questionnaire sent to enterprises and ITBs was based on the same or similar questions. The results of these two surveys are discussed below, followed by the survey of training providers. The survey of 50 enterprises received 17 responses. The sample covered large, medium and small workplaces. Eighty per cent of the Industry Training Boards replied. Questionnaires were sent to nineteen training providers. Nine TAFE institutes responded, some with more than one response. Two private training providers responded. Sixteen questionnaires in total were received from training providers, including several from one large TAFE Institute.

Employer Satisfaction with VET

A special data request was made to the National Centre for Vocational Education Research (NCVER) for information from the 1997 National Employer Survey of Satisfaction with VET. The responses reported below relate to Victoria only and are from employers who had certificate/diploma recent graduates in management/administration/professional or technical/professional courses. This focus was the best available from the categories used by the survey to capture employer satisfaction with AQF 5 & 6 VET graduates. The sample of employers in Victoria is mostly from non manufacturing (96 per cent) and small to medium sized employers (76 per cent have 7 to 19 employees, 18 per cent have 20 to 99 employees).

Practical job skills are important to most employers seeking middle-level graduates. A high proportion (70 per cent) of employers in Victoria of middle-level VET graduates “agree” or “strongly agree” that the vocational education and training system needs to provide more practical job skills. However, the response is the opposite for employers in manufacturing where no employers agreed with the statement. This finding shows a difference between the expectations of employers in different industry sectors. It may also reflect the purpose for which the qualification is used: screening for entry to employment or indicator of suitability for promotion. Employers seeking to use qualifications from the VET system for the latter purpose may place more emphasis on practical job skills.

Employers were overwhelmingly in favour of more work experience or work placements. Some 87 per cent agreed or strongly agreed with the statement that ...“There should be more work experience or work placements as part of vocational training”. A high proportion (42 per cent) of employers strongly agreed with this statement. Over two thirds (69 per cent) of employers in manufacturing agreed with the statement.

Over a third of employers (36 per cent) agree or strongly agree that the "vocational system does not

take into account the needs of employers". Half (50 per cent) of the employers in manufacturing agreed or strongly agreed with the statement.

Employer Priority for Service Improvement

Employers were asked, as part of the same survey, to rate their priority for service improvement. Their responses are presented below in Table 13. Employers were asked to nominate, in order of priority, the four aspects of service offered by training providers that they would most like to see improved. Table 13 shows the services that employers would most like to see improved.

It is interesting to note that employer priorities for service improvement are less to do with internal factors such as teacher ability and experience and more to the way that the VET training program relates to the workplace. The survey results show that employers place greater emphasis on practice to balance the theory of the classroom, content that is more relevant to the workplace and graduates with demonstrated work skills and work ethic.

Table 13: The training provider services that employers of recent certificate/diploma VET graduates in Victoria would most like to see improved (proportion of employers.) (Per cent)

Aspect of service would most like to see improved	Per cent
Balance of theory and practice	25
Relevance of content	22
Graduates work skills	15
Graduates work ethic	12
Teacher ability and experience	5

Source: Employer Satisfaction with Vocational Education and Training 1996: National Report. NCVER 1997

Survey of Enterprises and Industry Training Boards

The enterprises and ITBs surveyed identified a wide variety of occupations as middle-level. These varied from professionally qualified persons, managers and supervisors to operators, administrators and assistants. Similarly, qualifications considered by enterprises and ITBs to be middle-level cover a broad range, including all the qualifications between Post Trade or Equivalent and Degree level.

Enterprise view of middle-level skills and qualifications

The understanding among enterprises of what is meant by middle-level skills is related to the job hierarchy: beyond entry to employment and below senior management. The majority of middle-level occupations are seen as requiring supervisory or middle-level management skills. The occupations with such skills tend to be Supervisors, Managers, Team Leaders and Senior Officers.

ITBs (and training providers), on the other hand, tend to use a qualification-referenced definition. From their perspective, middle-level skills are defined by the qualifications that are beyond trade but below degree. The job-related understanding of what is a middle level skill explains the uncertainty among most employer respondents about what constitutes a middle-level qualification or training program. The confusion among enterprises as to what are middle-level training programs is confirmed by the results of interviews conducted with 26 companies by the MTIA (MTIA 1997:3).

Another related finding is that all the enterprises surveyed did not associate specific qualifications with middle-level positions. Interviews with enterprises identified two paths for filling middle-level positions: on-the-job acquisition of skills or external recruitment. Where an enterprise relied on the former approach, promotion was based on assessment of general capability and relevant basic technical knowledge gained through on-the-job experience and a trade training, if applicable. One aspect of the assessment by an employer of the individual's suitability for promotion may be the possession of a relevant qualification. However, a relevant qualification was not seen by the employers interviewed as a sole or even primary prerequisite for promotion.

In terms of enterprises recruiting externally for middle-level positions, preference is for a qualification that demonstrates the individual's capacity to learn and undertake further study. The Human Resource manager of a leading enterprise in information technology interviewed stated that, in his view, TAFE-qualified graduates were too narrow in their technical expertise and seemed poorly prepared for further study. Another enterprise regarded qualifications as a screening device to select new employees who appeared to have a greater capacity to learn on the job.

However, in some instances, the enterprise responses showed that middle-level qualifications were required by most or all of the job holders. Examples given were: childcare centre managers, accounts managers and tooling technician. Occupations in the Community & Outdoor Recreation and Child Care industries were rated as having 80 per cent or more people with appropriate qualifications. In general, however, there appeared to be little evidence of the use of threshold qualifications for the middle-level occupations.

Enterprise views on future middle-level skills requirements, sources and preferred delivery modes of training

Enterprises were asked to "identify the combination of middle-level skills that may be required in the future in your enterprise". A variety of skills were nominated as being necessary for the future with some skills being industry-specific. However, there were a few common denominators. Management and supervision, customer service and interpersonal skills stand out as the most needed skills. Business awareness, leadership, problem solving and some form of continuing education or development were also mentioned as important skills.

The ITBs listed a range of future middle-level skills requirements. These are shown in the table below:

Arts & Recreation	• upgrading technical knowledge eg. digital media
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	<ul style="list-style-type: none"> • small business/ marketing consultancy skills • competitive tendering • seeking sponsorship
Automotive Training Australia	<ul style="list-style-type: none"> • continuing need for small business management skills • skills upgrading for existing employees in allied industry such as engineering
Business Services, Finance & Property ITB	<ul style="list-style-type: none"> • AQF 5&6 management training including project management, business risk management, business to business relationship management • Specialist small business management.
Community Services & Health	<ul style="list-style-type: none"> • management, financial planning, budgetary skills
Corrective Services	<ul style="list-style-type: none"> • range of skills needed in the future similar to present but need to upgrade skill level to AQF 3
Electro-Technology, Printing , Information & Communications (EPIC) ITB	<ul style="list-style-type: none"> • Help desk functions • new technical skills eg Java programming • project management skills • mix of technical and management skills
Engineering Skills Training Board	<p>Non "technical skills" will be important.</p> <ul style="list-style-type: none"> • Project planning • supervision • quality • business • sales • human resources • marketing
Food ITB	<ul style="list-style-type: none"> • specialisation of skills occurs at middle-level • human resources • quality assurance • marketing sales
Tourism Training Vic.	<ul style="list-style-type: none"> • industrial relations • occupational health & safety • entrepreneurial skills • negotiation skills

	<ul style="list-style-type: none"> • supervisory & training skills • ability to lead & to delegate, • IT skills
Transport Training Vic.	<ul style="list-style-type: none"> • human resource management • information technology • logistics
Primary Industries ITB	no answer
Victorian Light Manufacturing & Forests ITB	<ul style="list-style-type: none"> • design • management • innovation • export knowledge • marketing • supervision • financial management

Source: Surveys of Enterprises & ITBs, 1998

The future sources of middle-level skills believed to be important by both enterprises and ITBs are in order of importance:

- formal training on-the-job;
- informal, on-the-job experience and
- prior qualification before starting work.

The classroom-based options as future sources of middle-level skills are the least favoured.

The roughly equal weighting given to these three paths confirms the conclusion above that enterprises use both internal and external means of acquiring the skills needed for middle-level positions.

Enterprises and ITBs were asked to rate on a five-point scale their ideal mode or modes to deliver middle-level skills training. The results showed that no one mode was pre-eminent. The rank order of the combined enterprise and ITB ratings are presented in Table 14 below. As noted above, the results show that there is not a strong preference for any one mode as none achieve a 4 or 5 rating of importance. However, it is worth noting that workplace experience is regarded as a key aspect of middle-level training programs, either through employment or through structured work placements. The least preferred mode identified by both sources but especially by ITBs is the wholly class-room-based learning in TAFE or private training provider before employment.

Table 14: Rank order of combined preferred delivery modes of enterprises and State ITBs surveyed (1 = not important, 5 = important)

Mode of delivery	ITB	Enterprise	Combined rating
Employment-based with one day in off-the-job training	3.1	3.4	3.25
Class room-based learning with a period in the workplace on a structured work placement for students	3.3	3.1	3.2
Employment-based with two days in off-the-job training	3.2	3	3.1
Employment-based with block release for an extended period for off-the-job training	2.9	3.2	3.05
Employment-based with three days in off-the-job training	2.5	2.6	2.55
Employment-based with four days in off-the-job training	2.3	2.5	2.4
Wholly class-room learning based in TAFE or private training provider before employment	1.9	2.8	2.35

Source: Surveys of Enterprises and ITBs, 1998.

Appropriate Trainers for middle-level skills

Clear differences between enterprises and ITBs were evident in their choice of preferred training provider. Nearly two-fifths (38 per cent) of ITBs nominated TAFE as the most appropriate provider for middle-level skills, followed by independent private training providers (21 per cent), enterprises as sole training providers (10 per cent), enterprises as training providers to themselves and other enterprises (1 per cent). Some 19 per cent of ITBs used the “other, please specify” category and listed “universities, in-house training and “all of the [above] nominated [training] providers in certain circumstances” as the appropriate training provider for some enterprises.

A third (33 per cent) of enterprises, on the other hand, were more likely to nominate themselves as the most appropriate training provider of middle-level skills for themselves and other enterprises. Over a fifth (22 per cent) of enterprises nominated independent training providers as sources of appropriate training with only 7 per cent of enterprises nominated as sole training providers. What is particularly notable from these results is the low proportion of enterprises (19 per cent) that nominate TAFE as the most appropriate provider of middle-level skills training.

Survey of Training Providers

Training providers were asked to suggest in which ways middle-level training programs could be delivered to increase their appeal to employers and to potential students. A third of responses were related to the need to “customise training” or “make training more responsive to employers needs”. The need for greater employer or industry involvement was mentioned by 19 per cent of respondents. More flexible operating conditions, particularly class times, were canvassed by 39 per cent of respondents. A focus on more specialised or leading edge skills was proposed by 19 per cent of respondents. Other suggestions focused on creating a favourable learning environment, adding a work experience component to the course, providing learning material that is relevant to

authentic work tasks and helping students to learn how to learn.

The suggestions for improving program delivery for the benefit of students were said by many respondents to include those already mentioned for employers. However, specific suggestions for students varied from the financial (“scholarships, removal of upfront fees”), better teaching processes (“small groups, personalised mentoring and better access to teaching staff in and out of class”) to access issues (“better RPL, more entry and exit points, simplify course structures, more student friendly delivery times and technologies”). Suggestions from training providers for changes to appeal better to part-time students included a mix of day/evening classes required with class times negotiated to meet student requirements. Another suggestion was for better access to teaching staff in and out of class by, for example, having e-mail access.

Structured work placements

The existence of work placements in training programs varies widely between programs and Institutes. Half of the training providers surveyed provided work placements for some, most or all of their middle-level VET programs. Nearly a third (31 per cent) of training providers did not offer work placements and 19 per cent did not regard work placements as applicable to their courses or did not provide any information.

It is difficult to ascertain why some programs have work placements and some do not. It was noted by one respondent that a work placement is often a requirement specified in the accreditation process. In other instances, it is left to the program coordinator to decide whether to have work placements as part of the training program. Some programs, particularly human services, have a strong tradition of structured work placements. The majority of work placements are compulsory to course requirements and their duration is specified. However some placements are optional or elective in nature and variable in duration. It was also noted that a work placement requirement has been removed in some programs. One respondent also noted that the duration of work placements varies significantly.

Regional factors may be an important factor in the decision of a training provider to offer work placements. One regional TAFE Institute said that none of the 16 diploma programs the Institute offered included a work or vocational placement. The Institute had no plans to introduce them because of the difficulty of finding employers to make the "commitment to assist in poor economic conditions". However, another regional TAFE Institute said that it intended to introduce work placements into all its middle-level programs.

Strategies to find appropriate work placements

Of the 16 responses to a question on whether there have been any difficulties in arranging work placements, 31 per cent of training providers said that they had experienced difficulties, 44 per cent said that they had not and 25 per cent did not reply or did not regard the question as applicable. The difficulties mentioned are:

- the limited number of places available,

- competition with other providers (“competition for placement is now intense and a major problem- competition from schools, private providers , other employment and training services such as Skillshare”); and
- reduction in other services because of time spent seeking out placements.

Strategies used to obtain work placements

- emphasise quality, value, return to employers
- approach employers through students now employed
- establish & maintain contacts with industry
- use "cold calling"
- mail out brochure to industry
- use networking to maintain close relationships with employers
- compile of data bases of employers
- offer good customer service to employers
- use a liaison person
- Maintain continuity of staff
- acknowledge placements made in the past
- organise placements through industry advisory groups
- rely on students to find their own placements
- explain to employers the importance and need for work placements

The competition with other training providers for placements may be alleviated or minimised once the OTFE's Vocational Placement System is fully operational. The system is a software package designed to manage the placement of students in industry as part of a VET training program.

Training providers were asked to describe the strategies they employed to obtain work placements. These are listed above. One training provider noted that funding authorities needed to recognise the considerable time needed to organise, administer and maintain vocational placement.

Partnerships with industry/enterprises

Most but not all training providers rated partnerships with industry or enterprises as important. The respondents were asked, in relation to middle-level skills, to rate the importance of a partnership between themselves and enterprise/ industry. Nearly two-thirds (63 per cent) of training providers rated a partnership arrangement as important or very important with 25 per cent neutral and 13 per cent regarding it as unimportant. In some instances the response was of widespread usage of partnerships

Yes! All faculties have close relationships with their industries and within business in the northern suburbs.

In other cases, the response was more muted:

Limited overall. Very important in specific industry sectors/occupation eg. SEN (nursing) training.

On the other hand, most Industry Training Boards rated partnerships between training providers and enterprises to be important. Enterprises also rated a partnership arrangement as important. Some 88 per cent of enterprises and 92 per cent of industry training boards rated them as important or very important. The difference in the two sets of responses (63 per cent of training providers and 88/92 per cent of enterprises/ ITB's) suggests that there is scope for training providers to increase the use of partnerships.

Several TAFE providers use partnership arrangements to obtain work placements “Hiring our graduates” was cited by a private training provider as an example of a partnership arrangement. It is worth noting that training providers who rated partnerships with industry as important or very important are much less likely to report difficulties in finding work placements. Of those training providers that reported difficulties in finding placements, only 40 per cent rated partnerships with industry as important. However, of those training providers that did not report any difficulties finding placements, 86 per cent rated industry partnerships as important.

Details of partnership arrangements were requested. Examples are given in the reports of survey results for enterprises, ITBs and training providers. One comment from a regional TAFE provider was that some partnerships existed and are growing but their existence is not as strong as for most other VET programs yet. Another regional TAFE provider noted that partnerships have disintegrated with the privatisation of public sector instrumentalities. Private sector employers are said to want the delivery of full service but will not/cannot contribute.

Employment Placement Services

Training providers were asked to say whether school leavers undertaking Diploma or Advanced Diploma courses have access to services to help them find relevant employment. Some 69 per cent of training providers did provide some form of employment assistance. In 13 per cent of cases, it

was said to be not applicable (one case was a regional TAFE and another was a private provider offering a course for industry employees only). Three providers of middle-level training programs (19 per cent) did not provide any services to help their students find relevant employment.

Examples of the services provided to help students find employment are:

- providing an employment placement service
- providing a career advisory service
- use of established employer networks
- availability of a student services department
- responding to industry requests for recruits
- using notice boards to circulate information
- placement consultant finds job opportunities and circulates resumes of candidates (private training provider).
- providing practical placement and other liaison/networking with industry
- provision of an employment service based at Institute
- providing minimal "in-house" services which focus primarily on degree graduates. Most courses include components on job seeking skills
- providing job seeking/ training /interview skills
- use of Institute Student Employment Placement Officers

In some instances, employment assistance is provided through a separate department in an arms length way. In other instances, employment assistance is offered through the training program itself. This is provided through work placements and other forms of networking with employers. The work placements are seen by some providers as a highly effective way of assisting students into employment.

Credit Transfer and RPL

An important aspect of marketing middle-level VET programs is to emphasise their credit transfer value. Training providers were asked to specify the extent which credit transfer exists for middle-level training programs. Their responses are shown below. The scores refer to 1 as not extensive and 5 as extensive.

Table 15 : To what extent does credit transfer exist for middle-level training programs?

	Rating on 1 - 5 scale (1= not extensive, 5 = extensive)
From secondary school	1.3
From other VET programs at Certificate 1 to 3 levels	3.3
From Higher Education	3.6
To other VET programs	3.4
To Higher Education	3.7

Source: Training Providers Survey 1998

The results show some variation between different sets of educational institutions. The much lower level of credit transfer between secondary school and vocational education and training programs may reflect the Year 12 entry requirement for entry to many or most middle-level VET programs. Credit transfer may not be expected for individual courses from secondary school except where accredited as part of a middle-level VET programs in schools program.

The results for the other forms of credit transfer suggest the arrangements are less than extensive. In most instances, the credit transfer arrangements are rated as slightly more than mid way between not extensive and extensive credit transfer arrangements. This suggests that there is scope to improve credit transfer arrangements.

All training providers have student assessment services available for students to gain RPL. Nearly a third (31 per cent) of training providers could claim that RPL is used extensively. At the other end of the rating scale, 43 per cent of providers noted that RPL was not used extensively.

Summary of key points about marketing/promotion

Training providers described in some detail how they marketed their middle-level programs, the benefits that they emphasised and other benefits that could be highlighted. An assessment of these marketing efforts suggests that marketing tends to be passive or “cold calling” with little apparent follow up of former clients through personalised contact.

Some publicity about middle-level VET programs highlights in general terms the benefits from increased employment and earnings prospects. However, other evidence discussed below suggests that these benefits may not exist for all middle-level courses. Publicity to promote middle-level qualifications may need to reflect more closely the employment and earnings outcomes actually achieved by graduates. Inaccurate and misleading information will cause a substantial student/graduate backlash that may seriously undermine the reputation of particular qualifications.

Unlike private training providers, the offer of assistance to find work does not appear to be part of marketing of most TAFE providers. Several training providers stated that there was a link between work placements and finding for students jobs related to their training program. There does appear to be more scope on the part of training providers to emphasise, where offered, the valuable role of work placements in finding employment.

III FUTURE DEMAND FOR MIDDLE-LEVEL SKILLS AND QUALIFICATIONS

Factors affecting future demand: past employment growth trends

The following analysis is extracted from in-progress work by Chandra Shah and Leo Maglen entitled *Occupational shifts in the Australian economy: 1986-1996*. It is based on the original work of Robert Reich's (1992) *The Work of Nations* who classified work into three broad categories, namely symbolic analytic services, in-person services and routine production services.

According to Reich, symbolic analytic services include problem-identifying, problem-solving and strategic-brokering activities. In-person service providers are in direct contact with the ultimate beneficiaries of their work. In general, their work is not traded worldwide. The routine production services generally entail work which is repetitive and done one step at a time. Often these workers are employed in high volume enterprises whose finished products are traded on the global market. Their position in the global market was the most precarious of the three groups.

Maglen (1994) and Maglen and Shah (1995) adapted Reich's three-way jobs classification to analyse Australian occupational data. They further subdivide the three Reichian groups by three levels of skill:

- symbolic analytic services (at the conceptual level);
- symbolic analytic services (at the technical level);
- in-person services (professional level);
- in-person services (intermediate level);
- in-person services (elementary level);
- routine production services (advanced skill level);
- routine production services (intermediate skill level - clerical);
- routine production services (intermediate skill level - operative); and
- routine production services (low skill level).

The highest average growth rate in employment between August 1986 and May 1996 of 3.8 percent is for in-person service (elementary) jobs. The next highest employment growth is 2.5 percent for symbolic analysis (conceptual) jobs. The two categories of jobs which had negative average growth rate are routine production (advanced skill) and routine production (intermediate skill-clerical).

The ranking of the nine job classifications for males are quite different to that for females. Routine production (advanced skill) jobs have the highest, though declining, share of male employment (22.9 per cent in 1995/96). The next highest (and increasing) share of male jobs is held by those in the

symbolic analyst (conceptual) category (19.6 per cent).

Routine production (intermediate skill - clerical) jobs account for the largest but declining share of female jobs (21 per cent in 1995/96). In contrast to males, female employment is concentrated in in-person service (elementary) jobs (28 per cent) and routine production (intermediate skill - clerical) work (21 per cent). Symbolic analysts (conceptual) only account for 8.7 per cent of all female employment but this share is increasing.

The two jobs whose share of employment for both males and females are the same is symbolic analysts (technical) and in-person service workers (intermediate). There is virtually no change in the ranking of the jobs over time for both groups. While the average female employment growth rate of all nine types of jobs is positive, average male employment growth rate in symbolic analysis (technical), routine production (advanced skill) and routine production (intermediate skill - clerical) jobs is negative.

The growth rates for all jobs except routine production (intermediate skill - operative) are higher for female than for male employment, with the difference considerable in some cases. For example, male employment in symbolic analysis (conceptual) jobs grew at an average annual rate of 1.7 percent while that of females for the same job category grew at a rate of 5.0 per cent. Female employment in symbolic analyst (technical) and in-person service (professional) jobs also have a relatively higher average growth rate than male employment in these jobs.

Middle-level occupations defined as symbolic analyst (technical) jobs overall have fluctuated in their growth in the last decade. These jobs have recorded a growth rate of only 0.1 per cent. However, the growth in jobs for female symbolic analysts (technical) have fared better than for males (5.1 per cent compared to -0.7 per cent). The prospects for growth in symbolic analysts (conceptual) is stronger at 2.5 per cent, more so for women (5.0 per cent growth rate) than men (1.7 per cent growth rate). Advanced skill-level jobs based on routine production recorded an overall negative growth rate (-0.2 per cent), with men faring worse than women (-0.2 per cent compared to 0.4 per cent).

These results suggest that there may be somewhat limited prospects in the foreseeable future for specific technical skills at the routine production and symbolic analyst levels. However, more broadly-based skills leading to higher level conceptual work offers greater potential for growth. Middle-level VET training programs that focus on narrow technical skills are likely to serve a contracting clientele. On the other hand, more broadly based programs offering a sound conceptual base linked to further opportunities for skills upgrading are likely to be more in demand.

Forecasts of future demand

Forecasts of occupational growth are available from the Monash Centre of Policy Studies (COPS). These are presented in the Table 16a and 16b. The occupations are ranked in order of their relative employment size. The occupations are classified in ASCO First Edition categories because of the lack of a concordance between ASCO First and Second Editions. This, however, is convenient for analysis purposes because the student administrative data allocates courses to ASCO First Edition

categories. The occupations now classified as professional have been excluded from Tables 16a and 16b. These are: Aircraft Pilots, Other Air Transport Workers, Ship's Pilots/officers, Marine Engineers and Registered Nurses.

Insert Tables 16a & b about here

The total number of persons in the remaining para professional occupations for Australia is forecast to increase from 297,000 in 1995-96 to 319,000 in 2003-4. In Victoria, the increase is only 69,000 to 71,000.

The forecasted employment growth for the 1995-96 to 2003-4 period of the selected occupations at the national level shows an increase in the relative share of persons in sports related work, welfare para-professionals, science technical staff, procurement officers and medical technical staff. However, the other occupations listed are static in their growth or in decline. The latter applies particularly to other para professionals and to a lesser extent to police, building associates and civil engineering associates.

Table 17 presents data on the aggregate increase in demand for qualifications for the 1994-2005 period. The data refer to the total projected increase in employment during this period and the demand for new qualifications arising from the new employees. The data are presented for total 16 industry sectors as well as the total forecasted demand. The table shows that the forecasted demand over this period for certificates or diplomas will be 1,500,305. A breakdown of this total into field of studies is provided. Certificates or Diplomas in Secretarial Studies, Business, Administration, Science, Computing, or Agriculture are the most prominent. The table also shows the industry sectors where the demand for these qualifications are associated .

Insert Table 17 about here

Table 17 also forecasts that all Certificates or Diplomas will be taken up by 30 per cent of those starting work over this period. This compares with 19 per cent of new employees acquiring trade qualifications, and 24 per cent acquiring degrees. This leaves a projected gap over this period of 26 per cent without post school qualifications. The qualification profile for each industry is also shown. These aggregated data suggest that Vocational Education and Training providers will continue to serve a large share of the market for post school qualifications. However, the forecasts are based on current trends. They are unable to predict future changes in the level of qualification required or deemed desirable for entry to particular occupations.

More specific indications of future demand for middle-level qualifications can be gained from Table 18 below. The data for Australia show that Undergraduate Diplomas and Associate Diplomas (now called Advanced Diploma and Diploma) are more likely to be held by the younger age groups. Some 18 and 17 per cent of Associate professional job holders aged 20 to 24 years and 25 to 34 years respectively have a Diploma or Associate Diploma compared to about half this proportion for the 30 to 34 age groups. However, the older age groups (35 to 54 years) also have a comparable share, especially at the Diploma level.

Nationally, job holders with Diplomas and Associate Diplomas in the post graduation age group of

25 to 29 years have a comparable share to degree holders (17 compared with 16 per cent). In Victoria, degrees appear to be becoming more important as a qualification for Associate Professional positions. Some 20 per cent of 25 to 29 year olds have a degree compared with 16 per cent for this age group nationally and 15 per cent of the 30 to 34 age group. Victorians in this age group are also more likely to have a Diploma (9 per cent) than for the same age group nationally (6 per cent). The proportion of Victorians in the 25 to 29 age group with an Associate Diploma is only slightly lower than the national figure for the same age group (10 compared to 11 per cent).

The data in Table 18 suggest that degrees will increase in importance as the basis for entry to Associate Professional positions. Diplomas and Associate Diplomas appear to maintain in the youngest post graduation age group their role as the basis for entry to employment. In the older age 30 to 34 years age group, both nationally and in Victoria, degrees account for a greater share of the post school qualifications held by Associate Professional job holders. This may indicate a preference by job holders in this age group to upgrade a sub-degree qualification to a degree qualification.

The low proportion of 20 to 24 year olds in Victoria with an Associate Diploma (4 per cent) compared with the national figure for the same age group (12 per cent) deserves comment. It may simply reflect a later, post Year 12 start with graduation still to come. Alternatively, it may reflect a turning away from Associate Diplomas among the youngest age group.

Table 18: Proportion of Associate Professional job holders in each age with a degree or post graduate degree, an undergraduate Diploma or Associate Diploma qualification (per cent and total number in each age group), Victoria and Australia, May 1997

AGE	Victoria				Australia			
	Degree & PostGrad	UG Diploma	Assoc Diploma	N	Degree & PostGrad	UG Diploma	Assoc Diploma	N
15-19 yrs				5070			2	10984
20-24	12	7	4	16752	8	6	12	71035
25-29	20	9	10	29250	16	6	11	111484
30-34	15	2	5	28244	17	4	5	108154
35-44	13	7	4	65643	15	9	6	280702
45-54	15	8	8	54727	13	8	7	224222
55-64	15	4	6	18380	11	6	6	82219
TOTAL	14	6	6	218066	14	7	7	891345

Source: Special tabulations from the Transition from Education to Work Australia May 1997, ABS Catalogue No 6227.0

Implications from Overseas comparisons

The overseas comparisons strongly suggest that the trend for the younger age cohorts to increase their proportion completing post compulsory secondary school will continue. This trend, on the basis of overseas data, is also likely to increase the demand for post school qualifications. This pressure may result from employers using higher level qualifications as a screening device when faced with an increasing number of young job seekers with the secondary school completed. Alternatively, the possession of a better initial education and the demands of new work processes may encourage employers to lift their skills requirements at entry-level.

Overseas studies of middle-level skills show that there are several different pathways for recruiting people into intermediate skill positions. The approach common in Germany and Britain is to rely on promotion from within the enterprise with the opportunity for existing employees to obtain external qualifications. In France, the approach is to promote a high status vocational qualification at senior secondary and tertiary levels and for enterprises to recruit from recent graduates of this pathway.

The UK has a tripartite system of post-compulsory education qualifications based around: 'A' levels and other essentially academic qualifications, GNVQs which are essentially taught vocational qualifications; and, the work based, competence - oriented framework of NVQs. The UK has set a target of 60 per cent of young people by age 21 to achieve with either two GCE A levels, an Advanced GNVQ or an NVQ level 3. In the United States, the approach is to recruit for middle-level positions from four year college graduates because of the surplus of tertiary graduates produced by the US education system.

Mason and Finegold found in their 1997 study entitled *Productivity, Machinery and Skills in the United States and Western Europe* that US plants benefit significantly from the long-established American system of mass higher education. In particular, they found that graduate engineers are frequently used as substitutes for scarce technician and supervisory skills. They also found that relatively large proportions of adult employees are motivated to invest their own time and money in part-time higher education.

In the light of these new US-European comparisons, perhaps the most striking feature of the American education and training system is the willingness of a relatively large proportion of adult workers to invest their own time and money in retraining and in further and higher education (and also the willingness of many employers to provide assistance with tuition fees and other expenses while they are doing so) (Mason and Finegold 1997:1).

The Mason and Finegold study concluded from their matched plant studies that employers on both sides of the Atlantic believe that their skill needs are best met by employing a mix of graduates from full-time educational courses and other people who have gained their skills through structured employment-based training (combined with part-time attendance on college courses).

Summary of Main Findings of Sections 1 to 3

Some 11 percent of all jobs in Australia and Victoria are defined by the ABS as Associate Professional. A quarter of all Associate Professional jobs are located in Victoria. The largest occupational group within the Associate Professional category are managers and supervisors. Persons in Finance and Administrative positions at the Associate Professional level are more numerous than persons in technician positions in building and engineering.

Just over half of the job holders in Associate Professional positions aged 25 to 44 years have post school qualifications. However, the proportion of persons with post-school qualifications in each occupation group within the Associate Professional category varies widely from a high of 93 per cent for enrolled nurses to a low of 36 per cent for Police.

The number of students enrolled in Victoria in middle-level VET programs in TAFE in 1997 (Associate to Advanced Diploma) was 55,209. This represents 15 percent of all enrollees and 30 percent of all contact hours. Half of the students in middle-level programs are under age 25 compared to 38 percent of all students. Two-thirds of students in Diploma Programs are full-time. Paid work is the main source of income for 52 percent of students in middle-level training programs. Another 42 per cent of middle-level students rely on Austudy as the main source of income.

The proportion of students in paid work varies greatly by type of program. The range is from three quarters of students in Health and Community Services in paid work to 44 percent of students in arts, humanities and social science programs. The main reasons for doing a middle-level VET training program given by recent graduates are mostly job-related. However, motives for studying also varies by type of training program. Some with 88 per cent of students in business, administration and economic programs gave a job-related reason compared with 66 percent of students in arts, humanities and social programs.

Only 51 percent of 1996 graduates not in employment with the same employers are employed six months after graduation. A further quarter (28 percent) are actively looking for work. Other data also suggest that recent graduates of middle-level VET programs have particular difficulty in finding work soon after graduation. However, other data show that in the longer term the level of unemployment of middle-level graduates is similar to tertiary graduates.

Evidence was also presented about the relative earnings levels of middle-level VET program graduates. The data showed that middle-level VET graduates earn more than secondary school completers (18 percent higher for men but only 5 percent higher for women). However, the same data show that university graduates earn considerably more than middle-level VET graduates (61 percent and 39 percent of male and female secondary school completers respectively).

Survey data also suggests that students in middle-level VET programs are different in a number of ways to other students in vocational education and training. Full-time students in middle-level VET programs are more likely to be acting on their own initiative and have a strong employment focus compared to other VET students.

Middle-level students (based on data on the attitudes of recent graduates) are also likely to want from training providers better information on the careers and the jobs available to help them make better choices when selecting programs or modules. Students in Middle-level VET Programs are also likely to expect appropriate levels and quality of equipment, high standards of presentation from instructors and course content that reflects industry practice. Convenience of venue and class times are also likely to be seen by students as features likely to influence their choice of training program.

The general standing of a middle-level VET qualification in the eyes of employers is also likely to be a key factor in influencing potential students' choice of program and indeed whether to study for a VET qualification or not. State-wide survey evidence showed that provision of structured work placements as part of a course was strongly supported by employers. A balance of theory and practice together with relevant content were the two aspects of service from training providers that employers wanted most to see improved.

Other evidence from a survey of enterprises and industry training boards showed that classroom-based training was the least preferred future source of middle-level skills. Important future sources were thought to be formal training on-the-job, informal on-the-job experience and possession of a prior qualification before starting work. Only a fifth of the enterprises surveyed regarded TAFE as a preferred provider.

Work placements are offered by most of the training providers surveyed. However, they are not to be offered for all training programs at middle-level. Training providers experienced various levels of difficulty in finding work placements. It is worth noting that training providers who formed partnerships with industry reported fewer difficulties in finding work placements.

Two-thirds of the training providers offered some form of assistance to students to find employment after graduation. However, in many cases this assistance was not integrated into a training program but offered by a separate department.

Good information was supplied by the training providers surveyed on their marketing activities for Middle-level VET programs. However, it was noted that the marketing activities tended to be passive. Unlike private providers, offers of assistance to help students find appropriate employment do not appear to be part of the marketing approach of most TAFE providers.

Section IV responds to these findings by recommending four strategies to lift the standing and hence take-up of middle-level training programs.

IV RECOMMENDED STRATEGIES TO LIFT THE STANDING OF MIDDLE-LEVEL QUALIFICATIONS

The interviews with enterprises showed that the relative standing of the middle-level qualification in the labour market will depend on its special features compared to degree-level education. TAFE middle-level program graduates need to overcome the perception that

- their programs are of a narrower technical orientation than university courses,
- students are not as capable as university graduates because program intakes require a lower TER and that
- TAFE Institutes are not as easy to deal with as universities when approached for recruitment purposes.

A major shortcoming of middle-level qualifications in the perception of recent graduates is its low standing with employers. The TAFE Destination Survey results showed that 52 per cent of recent graduates rated their qualifications as 7 or less out of 10 in terms of being well regarded by employers. A significant minority (44 per cent) rated their qualification 7 or less out of 10 in terms of its usefulness for their job prospects. These results suggest that there is considerable potential to lift the standing of middle-level qualifications in the eyes of both employers and students.

The enterprise interviews also suggest that another training option is available for existing employees. Some enterprises have a growing preference for short training sessions of one or two days duration. These sessions may be motivational, aimed at improving quality control practices or focus on human resource management issues such as promoting team work. These short training sessions are seen as minimising the loss of productive time. Another particular advantage to employers of these short training courses is their potential for greater focus on enterprise-specific issues.

Need for closer links to the workplace

The 1997 NCVER survey of *National Employer Satisfaction with Vocational Education and Training* reported the following employer attitudes based on their experience with employing a recent VET graduate:

- 77 per cent feel that it is difficult to tell from a person's qualifications what they actually do
- 62 per cent feel that on-the-job skills are more useful than skills obtained through formal vocational education
- 84 per cent hold the view that there should be more work experience or work placements as part of vocational training (NCVER 1997:x).

Other results from the same survey show that employers regard the following aspects of services

provided by a middle-level VET programs provider as important:

- 78 per cent of employers rate *graduates' work ethic* as very or extremely important
- About two-thirds of employers rate *the balance between theory and practice* and *the relevance of course content* as very or extremely important.

The above analysis of employer (and student perceptions earlier) strongly suggests that there is a need for middle-level VET training providers to establish closer links to workplaces. Closer links to the workplace has been a strong theme emerging from a variety of sources of feedback on ways to improve middle-level training programs. Closer ties to workplaces are also a valuable way to lift the standing of middle-level qualifications in the eyes of employers.

How to differentiate VET qualifications in the market place

Two ways are proposed of differentiating middle-level qualifications in the markets they are serving. The first is to focus specifically on the needs of students who are school leavers and new employees who use middle-level VET qualifications to gain access to employment. The second is to address the needs of employers and students who are established employees.

The first approach involves enhancing the standing of middle-level qualifications to enable them to compete with degrees as indicators of prospective employee capability. One option is to institute a VET degree where there is a clear demand for such a qualification. The VET degree would need to respond to a particular market niche not served by university programs. The VET degree programs should be seen by training providers, employers and potential students as “flag ship” programs, commanding the resources to achieve a high level of acceptance in the labour market.

Another, more comprehensive strategy is for training providers to foster closer links to workplaces for individual programs. Two related ways are proposed. One way is to provide students with the opportunity to undertake extended structured work placements. The second way is to offer a service to employers to find the graduate best suited to their needs.

A structured work placement offers employers who use qualifications as a screening device the opportunity to assess the capability of students over time and without obligation. Structured work placements provide all students with the opportunity to apply in context the skills they are seeking to acquire through their training program. Instructors are also able to receive through their students feedback on current practice in workplaces. Liaison with employers may also offer the opportunity to raise the standing of the training provider in the eyes of the employer. This might be done through offering instructor expertise to solve problems set for the students in their work placements or providing other services to employers such as mentor training. A best practice model of how work placements should operate is proposed below.

The second way to improve the standing of middle-level qualifications in the eyes of potential students and employers is to improve the capacity of training providers to place graduates in employment. The links established by liaison officers in finding suitable work placements could be

built on to provide an employment placement service to graduates. Several aspects of a best practice employment placement service are proposed below.

Benefits of structured work placements

The benefits likely to derive from structured work placements are:

- first-hand experience for students in current workplace practice
- an opportunity for employers to select students for future employment and
- a means for establishing closer ties between instructor and employers, resulting in more relevant class room instruction.

Many universities of technology (for example, Swinburne, RMIT, UTS) in several disciplines provide for work placements for students as part of their course through what are called cooperative education programs. Several enterprises interviewed expressed an interest in providing structured work placements for students during their courses, provided the arrangements were beneficial to both parties.

The Cooperative Education in Engineering program at the Swinburne University of Technology provides a model for how such a program works. A DEETYA assessment showed that Swinburne was the top university for graduate job prospects and this was attributed by an official university newsletter to Swinburne's "industrial training" or cooperative education program (Swinburne University of Technology 1994:4). The industry placement program in engineering covers two periods of six months. The two periods are in the first semester of the third year and the second semester of the fourth year with a return to university course work for the final semester in the fifth year. The length of the completed degree is 4.5 years.

The two work placements are regarded as part of the course structure. The student has an academic supervisor as well as a designated mentor in the workplace. The academic supervisor is expected to make one or two visits to the student's workplace and to maintain more frequent contact with the student by phone. At the conclusion of the work placement, the student writes a report that is assessed by both the workplace mentor and the academic supervisor, with a pass or fail mark awarded.

Another feature of the Swinburne Program is the option of either entering the work placement as a paid employee, or remain as a student. As a paid employee the student is subject to the same employment conditions as other full time employees. Alternatively, the student can retain his/her student status by being funded through a scholarship. The former option can involve payment as an employee at the rate of 60 per cent of the graduate engineer wage rate for students who have completed their second year and 80 per cent of the graduate engineer wage rate for students who are in the fourth year. However the guide to employers notes that ..."placement and experience are the primary objectives, with pay and conditions being negotiable factors between employers and students" (Swinburne University of Technology 1994 a:5).

An alternative to paid employment is a scholarship. Employers wishing to exercise this option are asked to commit to an annual donation to a scholarship fund for four years and to provide forty-eight weeks of an "industry-based learning placement" for scholarship holders. The total contribution expected is \$32,000 per scholarship. Students receive a fortnightly stipend of \$300 for the duration of their course commencing in the second year. The advantage to the employer of this arrangement is not having to make WorkCover, Superannuation or pay roll tax payments. Swinburne has appropriate accident insurance to cover the student in the case of accidental injury while on a work placement. Nevertheless, scholarship students on placement are to be considered, for administrative purposes, as employees of the company and subject to all conditions applying to employees of that company. Where students are required to undertake work beyond their normal hours of work, they may be paid accordingly. Then, the sponsoring organisation is liable for the additional payments although the university's insurance policies will continue to apply.

Although many middle-level training programs have structured work placements, the following data suggest that there is considerable scope to introduce them to other programs. The estimated number of work placements for all TAFE programs in 1998 is just short of 17,000 (see Table 19). However, the student administrative data for 1997 show that there were 56,195 enrolments in Diploma and Advanced Diploma programs.

Table 19: Estimated numbers of students placed in Vocational Placements in 22 TAFE Institutes in Victoria

1996	1997	1998
12777	16159	16938

Source: preliminary results for the Vocational Placement System, OTFE, January 1998

If all of the work placements provided are applied to AQF 5 and 6 training programs, only 30 per cent of these programs would have placements. However, this is likely to be an over estimate of the number of programs offering work placements. The TAFE Graduate Destination survey results for Victoria showed that only 10 per cent of graduates reported that their classes were delivered at both the college and the workplace.

Best practice model for work placements

The following elements of a best practice approach to the structured work placements are proposed. A methodology needs to be adopted by the OTFE to enable employers to perform a cost benefit analysis of their involvement through various options:

- full-time student in a vocational placement for a block period,
- full-time student in a vocational placement for one day per week
- part-time employee/part-time student,

- full-time employee/part-time student

VET program coordinators or dedicated work placement co-ordinators need to ensure that the basis of a work placement is an agreement with an employer that includes the following:

- clearly stated learning and employment-related outcomes;
- outcomes that are measurable so that all parties can assess the costs and benefits;
- demonstrated linkages to recognised competency standards/qualifications, where appropriate;
- opportunities for employer involvement in decision making at all stages of the work placement
- the provision of suitable support mechanisms for employer participation (such as assistance on a fee-for-service basis with training existing employees as mentors); and the
- availability of a regular evaluation of outcomes achieved.

Work placement coordinators need to meet the following criteria:

- have high credibility with employers based on recent industry experience or equivalent means of demonstrating understanding of employer needs
- have a strong knowledge of fee-for-service programs that may be of assistance to the employer such as train-the-trainer
- be capable of maintaining a student/ employer tracking system to provide feedback to students and employers about the benefits gained and lessons learned from the work placement.

One way to ensure adequate resources are available to provide high quality placements is to fund work placements as a separate module. This would help to fund a full-time coordinator for a large program to maintain close ties with employers and students while on placement. It would also help to maximise the use of work placements to help students gain ongoing employment.

Student employment placement services

Provision of student employment placement services should be the other prong of a strategy to lift the standing of middle-level qualifications in the eyes of students and employers . The proposed best practice elements of this strategy are to:

- use work placements to encourage employers to recruit suitable students
- encourage employers to provide scholarships for students that they select as suitable for employment
- use program-based resources such as the work placement coordinator to provide information to and assist students to approach employers.

A program funded by the federal Government for secondary schools entitled Jobs Pathway Program (JPP) has been successful in placing students in employment. A description of the program is provided in the box below. A similar program could be set up with federal or state funding for VET providers, especially for those VET training programs that have a lower employment take-up rate for the same age groups than other programs. The Jobs Pathway Program funds brokers to work with local employers to ensure that the skills and competencies of students are matched to employer needs. The broker is also required to offer support after job placement to help the new employee and the employer to overcome any problems that may arise.

The **Jobs Pathway Program (JPP)** is a partnership involving schools, industry and the local community. The Program builds on the strengths of vocational education and training in schools. It is designed, through the services of contracted brokers, to assist students to make a smooth transition from school to work. It is also designed to support potential early school leavers by encouraging them to remain in school to complete Year 12 through, for example, participation in vocational education and training courses.

The Program, which operates at a regional level, funds brokers to: provide information and guidance to Years 10, 11 and 12 students; place students completing school into jobs; and provide up to twelve months support from their leaving school and entering job placement.

Brokers are required to work with local employers, schools and the community. Their role is to build the necessary linkages to ensure that the skills and competencies of school leavers are matched to employer needs. This linkage also provides current information on the local labour market and available employment and training options. The continued support of the broker after job placement is intended to ensure a higher quality and longer lasting outcome. The Program has funding of \$2.9m in 1997-98.

A total of 3 052 placements were made in the Jobs Pathway Program 1996-97, of which 1,327 were apprenticeship and traineeship placements. Most placements were in the retail trade (28 per cent); accommodation, cafes and restaurants (18 per cent); and the manufacturing sector (18 per cent) (DEETYA 1997).

The new competitive employment services market also offers opportunities for VET training providers to provide access to employment placement services for their students. A range of public, private and community-based organisations have won tenders to deliver employment services to job seekers. Several TAFE Institutes in Victoria (including Holmesglen Institute, Western Institute,

Bendigo Regional Institute and the East Gippsland Institute) have been successful in winning tenders to provide one or more of the following services:

- Job Matching - gathering information on employers' vacancies and matching unemployed people to these jobs;
- Job Search Training - providing training in job search techniques (resumes, interview techniques; presentation) to prepare unemployed people to apply for jobs and give them the skills and confidence to perform well when speaking to employers;
- Intensive Assistance - individually tailored help for long-term unemployed and other disadvantaged job seekers to address any employment barriers and place them in jobs;
- New Enterprise Incentive Scheme (NEIS) - assistance for unemployed people with ideas for a viable business to help them establish their own businesses and
- Entry-level Training Support Services - a 'one-stop-shop' providing integrated and streamlined apprenticeship and traineeship services to employers and job seekers.

Other VET training providers, however, also have the opportunity to link with the large number of employment services providers now available to provide various kinds of employment placement assistance to their students. There are, for example, now 59 agencies in 200 locations Australia-wide offering entry-level training support services to first time job seekers and others seeking to enter employment through a traineeship. It may be possible for VET providers to provide some services to their students on behalf of the employment placement services agency on a fee-for-service basis.

Need for more flexible training options for supervisors

A recent article by Geoff Mason (1997) on the role of *Supervisors in the United States, Britain and Germany* concludes that employers in all three countries are now devoting more resources to continuing training for supervisors. The aim of the training is to equip them for what is seen as an increasingly demanding set of responsibilities. In Britain, this upgrading of supervisory skills has been reinforced by sharply increased recruitment of engineering graduates as shopfloor supervisors in recent years. This is a similar trend to a longstanding recruitment practice in American engineering plants. Mason also found that new work practices such as team-working is helping to restore the influence of supervisors in strategic decision-making—by 'freeing' them from their traditional immersion in the day-to-day details of shopfloor management

This research and the results of the enterprise interviews suggest that short courses, focused on supervisory skills tailored to the needs of individual enterprises and delivered in-house, should be part of the services offered to employers by VET providers. This applies particularly to meeting the needs of employers and employees in the Associate Professional supervisory occupations of shop managers, hospitality and accommodation managers and miscellaneous supervisors. Credit transfer to a middle-level qualification should be a key element of the package offered.

Short training sessions are seen by some employers as especially suitable for employees in line for promotion to supervisory positions. In larger enterprises, these sessions are often delivered in-house by training personnel or first line managers with a basic training background. In smaller enterprises, they are more likely to be delivered by specialist private training providers.

V CONCLUSION

The analysis presented above of future skill needs suggests a preference by employers for an educational grounding that is not narrowly focussed on technical competency. Supervisors need broadly based competencies in managing human relations and maximising the potential of human resource policies. Specialist skills increasingly require updating, based on broader conceptual understanding of the knowledge underlying the specialist set of skills.

The very term “vocational” may to some employers suggest a focus on preparing students solely for direct entry to the labour market rather than a more broadly based preparation that includes the basis for progression to the next level of education. With the emphasis on lifelong learning and continuous skills upgrading, more employers now expect a strong foundation from the post secondary education system to enable ongoing further education.

Several ways are proposed to differentiate a VET qualification in the labour market. One option is to institute a VET degree where there is a clear demand for such a qualification. Another option to improve the perception of employers of existing qualifications in the labour market is for training providers to foster close links to workplaces through structured work placements for all middle-level training programs. At present only 30 per cent, at most, of enrollees at Diploma or Advanced Diploma level have access to work or practical placements. The programs that currently have work placements are concentrated in the human services and serve as a threshold for entry to employment in these areas. Other middle-level VET programs are less likely to offer the opportunity to students to gain the benefits from a work placement.

An important element in the ability of middle-level VET training programs to offer work placements is the role of a coordinator to arrange and support employers and students during their placements. Funding for the position of work placement coordinator could be provided on a student basis through the establishment of a separate work placement module within the training program. This module would be funded on the same basis as other modules. Competency outcomes for the module would need to be specified. These outcomes should be based on the training program but adapted to the requirements of the work place in which the work placement is taking place.

The third recommended strategy is for training providers to offer better integrated employment

placement services for programs used by students to gain entry to employment. The provision of employment placement services that are integrated into each middle-level training program is also recommended as an important way to lift the status of middle-level qualifications in the eyes of students and employers. These services need to be closely tied to individual training programs to maximise the linkages with employers established through structured work placements. Considerable scope exists to link the role of the work placement coordinator with the provision of employment placement services. Funding for providing employment placement services could be at least partly provided through a success fee from the student and/or employer for finding a suitable placement.

Short courses, focused on supervisory skills tailored to the needs of individual enterprises and delivered in-house, also need to be part of the offerings of VET providers to employers.

Attachment 1

Data Sources

The following report summarises the main findings of the analysis of a number of sources of data related to middle-level skills and VET. The data sources used in the analysis are:

- survey of enterprises
- survey of state-based industry training boards
- survey of training providers
- data from the OTFE Student Collection on the characteristics of students in AQF 5 & 6 training programs
- *1997 Transition from Education to Work*, May Labour Force Supplementary Survey, Australian Bureau of Statistics.
- Forecasts of Employment by occupation (Monash model, Centre of Policy Studies, Monash University)
- *ABS Survey of Graduate Outcomes, Technical and Further Education, 1997*
- OECD data from *Education at a Glance 1997*
- UK International Skills/Qualifications comparison from UK Skills Audit Study by the UK Cabinet Office and UK Department for Education and Employment
- R Cullen study, *Workskills and National Competitiveness: External Benchmarks: Report No 2: Benchmarking Australian Qualification Profiles*.
For the Australian National Training Authority
- Shah and Maglen, "A new paradigm to analyse occupational shifts in the Australian workforce, 1986/87-1995/96" (work in progress).
- NCVET Employer Satisfaction with Vocational Education and Training 1997: National Report. National Centre for Vocational Education Research Ltd.
December 1997

Attachment 2

Middle-level skills as defined by Australian Standard Classification of Occupations (ASCO)

Skill level is defined by Australian Standard Classification of Occupations (ASCO) Second Edition in terms of the range and complexity of tasks involved: the greater the range and complexity of the set of tasks, the greater the skill level of the occupation. In operational terms, skill levels are defined by reference to the entry requirements for the occupation. The criteria used for entry requirements are formal education and/or training and previous experience if specified. In instances where these entry requirements are not available, relevant minimum endorsed competency standards are used to measure to what skill level the occupation should be allocated. Where these criteria are not sufficient or appropriate, the following criteria are used: breadth/depth of knowledge required; range of skills required; variability of operating environment; variability of operating environment and level of autonomy as determined by the degree of discretion and choice which may be required to perform the tasks (ABS 1996:6-7).

ASCO Second Edition, therefore, defines most Skill Level 2 occupations by reference to qualifications and/or minimum competency standards. However, there are some occupations at Skill Level 2 or 3 that have developed without any formal qualification or competency standards requirements. The positions of team leaders and group leaders (leading hand and supervisors) are examples. Therefore, while qualifications may be an indicator of skill level in the middle range (Levels 2 and 3), they may not be sufficient to provide a comprehensive list.

It is interesting to note the changes in the way some occupations have been redefined from the first to the Second edition of ASCO. These changes show the variability with which occupations can be defined as middle-level or higher. For example, in the second edition of ASCO, managers of small organisations and businesses that do not have a hierarchy of managers are now classified as Associate Professionals (Skill Level 2) compared to the first edition where they were classified as Skill Level 1 in the same group as general and specialist managers. The second edition moves air and sea transport technical workers and registered nurses from Skill Level 2 to 1. Enrolled nurses have been moved to Skill Level 2 and defined as Associate Professionals (ABS 1996: 8-9).

The position of supervisor has also been affected by the changes in the second edition. Many supervisory positions have been classified with the occupations that they supervise. However, if a marked difference in the tasks performed can be identified, a separate supervisory occupation is identified (ABS 1996:9).

Skill Level	Major Occupation Group
Skill Level 1	1. Managers & Administrators 2. Professionals
Skill Level 2	3. Associate Professionals
Skill Level 3	1. Tradespersons & Related Workers

	5. Advanced Clerical & Service Workers
Skill Level 4	6. Intermediate Clerical, Sales & Services Workers 1. Intermediate Production & Transport Workers
Skill Level 5	2. Elementary Clerical, Sales and Service Workers 9. Labourers and related workers

In summary, therefore, a commonly understood definition of middle-level skills are those skills defined by qualifications that fall between the long established qualifications of a trade and a degree. This definition is fluid and recognises the changing nature of work. However, for purposes of analysis, it is necessary to use a more precise definition. The best available is the ASCO Second Edition new education/qualification-based definition of Skill Level 2 : Associate Professional.

This report uses the occupational category of Associate Professional at Skill Level 2 as the basis for analysing the current position of middle-level skills. However, the forecasted growth rates for middle-level occupations use the ASCO 1 classification as the forecasting methodology is based on this version of the occupation classification system. Nevertheless, there is a benefit from using ASCO 1 for the forecasted growth in middle-level occupations as the student administrative data on training programs also uses ASCO 1. So it is possible to compare at a more detailed level the current demand for middle-level programs with the project growth in occupations serviced by these programs.

Middle-level qualifications defined

The Australian Qualification Framework at Levels 5 and 6 encompasses qualifications at Diploma and Advanced Diploma levels. These are described in the documentation on the Australian Qualifications Framework as follows:

Diplomas and Advanced Diplomas prepare candidates for self-directed application of skills and knowledge based on fundamental principles and/or complex techniques. These qualifications recognise capacity for initiative and judgement across a broad range of technical and /or management functions. The Advanced Diploma signifies skills and knowledge of greater complexity and a higher level of personal accountability than is required at Diploma level.

On the other hand, Certificates I- IV recognise achievement of specified national industry competencies at the first four AQF levels in a wide range of trades, industries and enterprises. Training Packages now also permit employment-based training to include AQF Levels 5 and 6 in addition to AQF levels 1 to 4.

The Australian Qualifications Framework Implementation Handbook notes the following characteristics of learning outcomes at AQF Level 5:

- the self-directed application of knowledge and skills, with substantial depth in some areas where judgement is required in planning and selecting appropriate equipment and techniques for self and others;

- breadth, depth and complexity covering planning and initiation of alternative approaches to skills or knowledge applications across a broad range of technical and/or management requirements, evaluation and co-ordination, and
- applications involve participation in development of strategic initiatives, as well as personal responsibility and autonomy in performing complex technical operations or organising others. It may include participation in teams including teams concerned with planning and evaluation functions. Group or team co-ordination may be involved.

The formal definition also states that the degree of emphasis on breadth as against depth of knowledge and skills may vary between qualifications at this level.

The guidelines for AQF 6 level qualifications are described in the following terms:

- the application of a significant range of fundamental principles and complex techniques across a wide and often unpredictable variety of contexts in relation to either varied or highly specific functions. Contribution to the development of a broad plan, budget or strategy is involved and accountability and responsibility for self and others in achieving the outcomes is involved;
- breadth, depth and complexity involving analysis, diagnosis, design, planning, execution and evaluation across a broad range of technical and/or management functions including development of new criteria or applications or knowledge or procedures, and
- applications involve significant judgement in planning, design, technical or leadership/guidance functions related to products, services, operations or procedures.

The formal definition also states that the degree of emphasis on breadth as against depth of knowledge and skills may vary between qualifications at this level.

Attachment 3

Australia's International Standing in Relation to Middle-level Skills

The best available data for international comparison purposes relate to educational attainment and qualifications. Cullen (1997) has carried out a thorough analysis comparing Australian qualification levels with a range of overseas countries. He uses three broad groupings of qualifications for his comparative analysis:

Level 3: post compulsory (upper secondary school - Year 12, skilled vocational and (some) basic vocational qualifications

Level 4: post secondary or non university tertiary - (some) associate diplomas and diplomas (non graduate)

Level 5: Degree, post graduate diploma, post graduate degrees, other professional nursing and education non or undergraduate diploma

Australia's position in relation to the proportion of the population with each of the above three qualification levels and its relative rank in relation to 22 other OECD countries are presented in the table below (see Table A3.1).

Table A3.1 Proportion of Australia's population with three levels of educational attainment/qualification (per cent) and relative ranking out of 22 OECD countries for each level, 1996.

<u>Post compulsory</u>	<u>Post secondary</u>	<u>Degree</u>
53.2 (15)	20.1 (11)	14.2 (5)

Source: Cullen 1997:17 (using adjusted figures for Australia)

These data strongly indicate that the overall standing of the population in Australia in terms of upper secondary school completion and post school but below degree qualifications is low compared to other OECD countries. This is shown more clearly in Table A3.2 below.

Table A3.2: Comparison of qualification levels of Australia (1996) with UK, France, Germany, Singapore, USA and New Zealand (per cent of total population in each country)³

Country	Population qualified to Level 2	Population qualified to Level 3	Population qualified to Level 4
Australia	42	19	18
UK	45	30	19
France	65	30	16
Germany	70	62	15
Singapore	51	23	12
USA	50	29	22
New Zealand	44	20	12

Table A3.2 shows the proportion of the population qualified to the educational level indicated. It shows that Australia performs on a par with leading countries in terms of the highest level of educational attainment. However for Levels 2 and 3, Australia is notably behind most other countries. It is important to note that the effects of recent increases in post compulsory school retention rates may not yet be reflected in the aggregate data.

³

Level 2 refers to post compulsory schooling below the level required to matriculate to University in the UK, completion of less than Year 12, basic vocational (NVQ2, GNVQ2 in the UK) and skilled vocational (City and Guilds 2 in UK, Apprenticeship Certificate in Germany). Level 3: refers to Matriculation pass to university in the UK (2 A levels), the equivalent in Germany (Arbitur), skilled vocational qualifications (NVQ3, GNVQ3, BTEC National Diploma, UK; Apprenticeships or Berufsfachschulabschluss, with real - or Haupt- schulabschluss, Germany; Baccalaureats: General, Vocational, Technological, France; Associate Degree, USA; completion of Year 12 & skill vocational and (some) basic vocational, Australia. Level 4: refers to degree or higher, NVQ4, DTEC HNC/HND (sub degree Diploma), UK; Mister, Techniker, or University Degree and above, Germany; Polytechnic diploma, degree and above, Singapore; degree, masters USA; degree plus diplomas, Australia and NZ.

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