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VET in schools : participation and pathways

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ACER

Longitudinal Surveys of Australian Youth

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VET IN SCHOOLS: PARTICIPATION AND PATHWAYS

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Background

The introduction of vocational education and training (VET) programs into secondary schools is a significant development in Australian education. VET programs are intended to broaden the range of curriculum offerings and provide young people with another pathway to work and tertiary education. A key feature of the secondary VET programs in Australia is that they comply with the National Training Framework and also form part of students' senior secondary certificate.

This report uses a substantial national data set to analyse the levels of participation in VET in Schools, the characteristics of the young people who take VET programs, and their work and study activities after leaving Year 12.

The Data: Strengths and Limitations

The results are based on data from the *Longitudinal Surveys of Australian Youth* (LSAY), a longitudinal survey of young Australians interviewed annually on their school experiences, and post-school education, training and work activities. The sample comprised those students who were in Year 9 in 1995. This report focuses on those sample members who completed Year 11 in 1997 and Year 12 in 1998, and for whom data are available for the two years after completing Year 12. These data, covering the period from 1995 to 2000, are available for around 6100 young people.

The report provides several features that have not been available before from the research literature on VET in Schools.

- The data provide a national picture of participation and post-school activities, whereas most previous studies have concentrated on particular States.
- The sample provides a full representation of the national cohort of young people who were enrolled in Year 9 in 1995, and their activities since that time. Because the sample covers all of the cohort, it enables those who have done VET in Schools to be compared with those who have not.
- The longitudinal nature of the LSAY data enable allowance to be made for the social and educational backgrounds of the students who take up different options in Years 11 and 12, including VET in Schools.

Despite the considerable advantages offered by the LSAY data, they do have some limitations. Firstly, the data about participation in VET in Schools are based on students' self-reports. Secondly, although LSAY is a large sample, the estimates are subject to sampling error.

In addition to these limitations of the LSAY data set, there are two further challenges posed for any study of VET in Schools.

- There is great variety around Australia in the nature of the VET programs that are provided by secondary schools. The heterogeneity in the VET in Schools programs experienced by students requires caution in generalising about their impact.

- At the present time most students taking VET programs spend relatively little time in that part of their curriculum. The limited amount of time involved suggests caution in attributing too much to the effect of VET participation on post-school activities

Levels of Participation in VET in Schools

The report examines the participation rates in VET in Schools according to three aspects of student characteristics:

- social and educational background;
- education and work aspirations; and
- satisfaction with school.

Participation was measured from students' self-report data on whether they took any VET subjects in Year 11 or Year 12. VET participation was very limited for most students, however the characteristics outlined above were examined for four separate groups of students:

- those students who undertake no VET in Schools studies at all;
- those students who do some VET subjects in either Year 11 or 12;
- those students who take VET in Schools subjects in both Years 11 and 12; and
- those students who were undertaking a school-based new apprenticeship or traineeship.

Nationally, almost one-quarter of this group of students participated in some form of vocational education and training while at school.

- Fifteen per cent of students had undertaken some VET in Schools subjects at either Year 11 or Year 12;
- Seven per cent had completed subjects in both Year 11 and Year 12; and
- Slightly more than one per cent had participated in a school-based new apprenticeship or traineeship.

Characteristics of VET in Schools participants

Participation in VET in Schools varies considerably according to early school achievement, socioeconomic status, type of school attended and ethnic background. It is more likely for students from particular backgrounds to enrol in VET in Schools subjects. For example:

- Participation rates were highest amongst those students in the lowest achievement quartile, with 37 per cent of students participating in vocational education and training while at school compared to 14 per cent of those students in the highest achievement quartile;
- Participation rates were lower among those students whose family background is from a non-English speaking country (18 per cent as compared to 24 per cent from Australian-born parents).

- Parental background is an important factor in participation. Of the students whose parents had only completed secondary school, 25 per cent participated in vocational programs, compared to 14 per cent of those with tertiary educated parents. Similarly, of those students whose parents were in professional occupations, 15 per cent participated in vocational education, compared to 27 per cent of those whose parents were employed in manual occupations.
- Participation rates were slightly higher in rural areas than in metropolitan areas (26 per cent compared to 21 per cent in urban areas).
- The highest level of participation in vocational programs was found in Queensland (41 per cent) and the lowest level in Victoria (12 per cent).
- Participation rates were higher among those with lower levels of engagement and satisfaction with school.
- Participation in VET in Schools was more likely amongst those students who saw school as providing them with an opportunity to learn things that would be useful in adult life, however it was less likely amongst those students who saw themselves as successful at school.
- There were no gender differences found in the level of participation, however there were gender differences in the types of vocational subjects studied by males and females.

Activities after Year 12

It is important to monitor outcomes of post-compulsory education and training. For continuing government, student and community support of VET in Schools programs there must be some evidence that such programs are a means of improving student outcomes, rather than simply a way of managing a diverse student population.

Earlier longitudinal data suggest that young people who spend an extended period of time in part-time work, unemployment or out of the labour force immediately after leaving school are likely to experience greater difficulties in finding full-time employment in their mid-20s. These findings suggest that one important criterion for judging the impact of VET in Schools is the extent to which that experience is associated with being in full-time work and/or formal education or training in the years immediately after completing Year 12. The current analysis identifies seven main post-school activities for the group:

- full-time work;
- further study at university;
- further study at TAFE;
- apprenticeship or traineeship;
- part-time work;
- unemployment;
- not in the labour force.

The report also examined outcomes in the first two years after completing secondary school and pathways between the main post-school activities for separate groups of students. While it is not possible from these data to attribute causality to participation in VET in Schools programs, some of the key findings were that:

- Unemployment rates were similar for the VET in Schools group and for the non-VET in Schools group.
- Participation in VET in Schools appears more likely to be a pathway to the labour force than to further education or training, more so for males than for females. For young females, participation in further education is at a much higher rate than for young males.
- For those in the lowest achievement quartile at Year 9, VET in Schools appears to act to improve the pathway to employment, but not to tertiary education. Participation in two years of VET in Schools appears to facilitate the achievement of positive labour and educational outcomes, particularly for young males.
- There is some evidence that VET in Schools is associated with a pathway either into a recognised form of post-secondary vocational education or training or work.

The results of this study underline the importance of monitoring participation and outcomes of participation in VET in Schools. In order to do so, it is important that the outcomes of those who do not participate in VET in Schools also be monitored, in order that some comparisons can be made. VET in Schools is still in its infancy. It is also perhaps the most substantial change that has occurred in post-compulsory study over the last decade. Offering students a range of options and pathways in their post-compulsory schooling suited to differing interests and needs of young people encourages a higher proportion to remain in education and training.

1

Introduction

One of the most important developments in recent years in Australian schooling has been the introduction and growth of programs of vocational education and training (VET) in senior secondary school. This report focuses on VET in Schools programs, which has become the dominant field of activity and classification of school vocational programs. VET in Schools refers to vocational programs that comply with the National Training Framework and which form part of senior secondary certificates.

This report provides an up-to-date, national analysis of the backgrounds of young people participating in VET in Schools, and their post-school destinations. While information is available from some States on the types of students participating, longitudinal data is required to identify and measure the outcomes from VET in Schools programs for students from a range of academic, social and economic backgrounds. The studies that have examined initial outcomes for students who have participated in VET in Schools programs have generally not provided comparisons with students who did not, nor with outcomes for similar students who did not participate in VET in Schools.

This report draws on data for the LSAY cohort that was first sampled in Year 9 in 1995 (the Y95 cohort) to examine the extent of participation in VET in Schools programs, and the outcomes and pathways students take after they complete their secondary schooling. The data for 1995 includes their social background and performance in literacy and numeracy. This is supplemented by data from 1997 (when most were in Year 11) and 1998 (Year 12) to examine participation in VET in Schools programs, and data from 1999 and 2000 that examine these students' educational and labour force destinations and pathways in the transition from school. Around 25 per cent of the Years 11 and 12 students in this sample did some form of VET in Schools in either 1997 or 1998 or both, and the longitudinal data enable their characteristics and destinations to be analysed in detail.

Background

Most Year 12 curriculum structures in Australia have evolved from frameworks that were traditionally oriented towards university study. The 1980s saw profound changes to the face of secondary schools in Australia. Due to a combination of a declining youth labour market and changes in student financial support, the apparent retention rate to Year 12 increased dramatically from 35 per cent in 1980 to a peak of 77 per cent nationally in 1992. This marked rise in school retention led to reconsideration of the emphasis of senior secondary schooling.

In all States and Territories major changes were made to the provision of programs in the senior secondary school to accommodate the requirements of a broader range of students. A variety of alternative studies were introduced into the curriculum, however these were not usually linked to forms of continuing study. During the 1990s these alternatives were largely brought into the 'fold' of the senior secondary certificate. The 1990s also saw to the emergence of another form of alternate program, VET in Schools, which was linked

to the Vocational Education and Training system and provided pathways to employment or further education for students.

Many of these changes were a recognition that traditional academic studies often formed a barrier to increased participation in post-compulsory schooling, and that in order to cater for this more heterogeneous group, a more broadly based curriculum was necessary. The introduction of VET subjects into the senior secondary school was seen as a means of providing real choice for those students not inclined towards academic studies, and to provide alternatives for those students at-risk of early school leaving.

There are a number of reasons why students should be encouraged to remain and complete their secondary schooling. Some of these reasons are idealistic: completing secondary education forms a basis for lifelong learning and active citizenship. Another reason is purely pragmatic. Evidence from a variety of research studies suggests that those who leave school early are at-risk. Students who leave school early earn less money, face a greater chance of unemployment, a higher probability of obtaining low skilled work, and a higher probability of not being in the labour force at all, compared to their peers that remain and complete Year 12 (Miller & Volker, 1989; Finn, 1991; McKenzie, 1991; Lamb & Rumberger, 1999; Kirby, 2000).

There is evidence that a curriculum that fosters closer links between school and work results in higher levels of student satisfaction (Warner, 1992; Batten & Russell, 1995), and a key aim of recent policy in post-compulsory education and training has been to strengthen these links. This focus has seen the development of structured workplace learning programs involving collaboration between schools and local industries, and collaborative arrangements between schools and Technical and Further Education (TAFE) colleges and some private VET providers.

The inclusion of VET subjects in secondary schools also adds a further dimension to education. VET in Schools ideally promotes the concept of lifelong learning by presenting students with a picture of a world in which education and work are intertwined, providing them with opportunities to enter either work or tertiary education, or some combination of the two. Young Australians will have careers which are complex and changing. It is likely that they will undergo a larger number of career and job changes than have been experienced by previous generations, and that these jobs will require an increasing level of knowledge and skills. For most young people, there will be a need for participation in some form of education and training throughout their lives, thereby "'learning-to-learn' for new job opportunities in an advanced knowledge, communications and technological society" (Kirby, 2000, p. 37). Students who remain in school and complete a recognised course of education are more likely to be able to respond to such requirements. Recognising this, MCEETYA stated explicitly in the Adelaide Declaration on *National Goals for Schooling in the Twenty-first Century* that all students should have:

- participated in programs of vocational learning during the compulsory years and have had access to vocational education and training programs as part of their senior secondary studies; and
- access to the high quality education necessary to enable the completion of school education to Year 12 or its vocational equivalent and that provides clear and

recognised pathways to employment and further education and training. (MCEETYA, 1999).

Nomenclature

The term 'VET in Schools' in Australia refers to vocational programs that comply with the National Training Framework and which also form part of a senior secondary certificate. This definition includes programs incorporating structured workplace learning as well as a large number of school-based vocational programs that do not necessarily involve work-based learning or school/industry partnerships. The term refers to programs where the curriculum and assessment are based on designated competencies, and outcome standards are industry-based. The largest portion of VET in Schools programs do not involve students being engaged in a work or wage-based training contract as part of their studies. Recent years have also seen the introduction of *School-based New Apprenticeships* (SBNA*)*. In this type of program a young person attends school for off-the-job skills training and subjects associated with the end of school certificate, but also works as an employee engaged under a New Apprenticeship contract. The configuration of school and work in this type of program differs from State to State and between industry areas, but generally takes the form of a young person studying for their end of school certificate while simultaneously being indentured to an employer.

In some instances SBNA students will attend school on a part-time basis, completing Years 11 and 12 over three years. The contract of training may extend beyond the period of school attendance and cover the equivalent of a full trade Certificate III or it may parallel the school attendance period and result in the award of a Certificate I or II. Frequently the school-delivered content studied by a School-based New Apprentice will be the same as that studied by a non-indentured VET in School student in the same vocational area. Under SBNA arrangements the time spent on the job with the employer is generally not counted as school time, as the supervision of on-the-job learning is a contractual employer responsibility.

Perceptions of vocational learning programs

If VET in Schools programs are seen as a way of managing a more diverse student body, rather than as a means of improving student outcomes then there is the potential for such programs to be viewed and treated as second-class, in which case it is unlikely that levels of participation or commitment from students could be sustained. Some evidence suggests that the majority of Australian schools do offer vocational programs for the former reasons, as a way of providing a relevant and viable pathway for students who might otherwise leave school early or may not continue into tertiary education (Malley et al., 1999). However it has been argued that "applied and contextual vocational learning" is not just for the academically less able, nor is "abstract and conceptual learning" only for the academically able (Cumming, 1997, p. 2). There is the potential for VET in Schools programs to provide students with experience of learning in applied contexts, and allow the accommodation of a broad range of teaching and learning styles within the school system.

Resnick (1987) argued that "educating people to be good learners in school settings alone may not be sufficient to help them become strong out-of school learners" and that "modifying schooling to better enable it to promote skills for learning out of school may simultaneously renew its academic value" (p. 18). A recent study examined the role of

interest in the choice of vocational subjects by secondary school students (Ainley, Elsworth & Fullarton, 2001), using the same cohort used in the current report. That study examined the six major interest fields based on Holland's (1985) theory of vocational choice: realistic; investigative; artistic; social; enterprising; and conventional interests. It argued that students who exhibit congruence between their generic interests and their domain-specific subject choices will, in turn, exhibit greater interest in learning and thus show greater commitment to learning at school and a greater commitment to lifelong learning.

Ainley et al. (2001) concluded that participation in VET in Schools is associated quite strongly with realistic and social interests. Realistic interests are generally associated with a liking for practicality and people high on this scale like working with tools and with their hands, while those with social interests have an orientation to doing things to help people. In particular, social interests are associated with participation in the health and home sciences and realistic interests are associated with participation in technology areas. There was an interaction effect found involving the relevant interest and VET in Schools participation. In each case the relationship between vocational interest (either social or realistic) and participation in the relevant curriculum area (health and home science and technology) was stronger for those studying VET in Schools subjects than for those not studying VET in Schools subjects. This pattern supports the hypothesis that students are able to make more interest-congruent choices if they are also able to choose one or more vocational education subjects. The findings of this study suggest that the growth in VET in Schools programs has made the curriculum more 'interest-relevant' for those students with relatively stronger realistic and social interests by supporting the inclusion of a much broader range of subjects that are congruent for these students.

Summary

Significant changes have occurred from the inclusion of a nationally agreed vocational framework into the school systems of all States and Territories. The growth in enrolments in VET in Schools has been remarkable, yet evidence points to unevenness in student and school participation.

One view is that this growth has been sustained mainly by students who would have stayed on at school anyway, rather than by the increased retention of early school leavers (Malley et al., 2001). There are many reasons for the current high retention rates, not the least of which is limited employment opportunities and lack of financial support for those who leave without completing their secondary schooling.

VET in Schools can be seen as providing an opportunity for those who might otherwise have left school early and faced the consequences of such action, by providing them with a broader curriculum that is congruent with their interests, engages them in learning and provides a pathway to employment or further education. Alternatively, VET in Schools can be seen as an opportunity for all students to participate in a broader curriculum that includes applied contextual learning.

A stated policy goal of vocational learning programs as reflected in the Adelaide Declaration of the National Goals for Schooling (MCEETYA, 1999) is that they improve pathways into jobs and further education, particularly for those students for whom access to both is difficult. However if vocational learning programs do not lead to improved

educational or labour force outcomes for the students who are most likely to participate in them, then their benefit must be questioned. Therefore it is important that we examine the destinations of VET in Schools graduates compared with those who have not participated in such programs.

Data and methods

The data used in this study were from the 1995 cohort of the Longitudinal Surveys of Australian Youth (LSAY) program. This cohort was first surveyed in their Year 9 class in 1995, which was followed up by a mail survey in 1996 and then by telephone surveys annually from that time. These surveys have mapped school experiences and beliefs about learning, educational attainment and post-school participation in education, training and work. The original sample was selected using a stratified cluster sample design, and sample weights have been calculated to adjust for sampling design and for attrition. Details on the sample and measures are included in Appendix 1.

When the Year 9 students are first contacted they are asked to complete two short achievement tests in Reading Comprehension (which correlates highly with other aspects of literacy) and Numeracy. Each test comprises 20 items and takes 30 minutes to complete. Most of the items for each test have been developed at ACER, and are included only after field trial or successful use in another study. To assist in making comparisons over time, a number of the items have been used in earlier ACER studies commencing in 1975. The literacy and numeracy achievement data are collected to examine the effects of early school achievement on educational and labour force outcomes, and are used as a key explanatory variable in most LSAY reports.

At the time of the 2000 data collection, most students had completed secondary school and had moved on to either further education or into the labour force in some manner. For this report, the sample was restricted to those who completed Year 12 in 1998 and who participated in the 2000 survey. The sample was restricted in this way so as to be able to compare students with similar levels of schooling. To have included students who left school before Year 12 would have made comparisons difficult.

Participation in VET in Schools was defined from positive responses to questions on the 1997 and 1998 surveys asking Years 11 and 12 students respectively to indicate whether they were completing subjects at a TAFE college or VET subjects or courses as part of apprenticeship or traineeship courses. These are self-report data, and may not include some students who may not recognise that they are participating in subjects that are VET in Schools subjects.

Aim and scope of this report

This report examines participation in VET in Schools studies and disaggregates the data to examine participation in traineeships and apprenticeships separately from other VET in Schools studies. It then examines pathways from senior secondary school into further education, training and employment. The broad research questions examined are:

- What are the characteristics of those students who participate in VET in Schools?
- What post-school pathways are evident and are there differences between those who do VET and those who do not?

- Is VET in Schools working to provide a pathway to employment and/or further education?

This report provides several features that have not been available before from the research literature on VET in Schools.

- The data provide a national picture of participation and post-school activities, whereas most previous studies have concentrated on particular States. Nevertheless, the national sample used here is large enough to also provide some estimates at State level.
- The sample provides a full representation of the national cohort of young people who were enrolled in Year 9 in 1995, and their activities since that time. Because the sample covers all of the cohort, it enables those who have done VET in Schools to be compared with those who have not. By contrast, other studies have tended to focus on just those students who have done VET in Schools. It is difficult to assess the significance of the patterns of participation or post-school activities reported by those studies without knowing how they compare with those who have not done VET in Schools.
- The longitudinal nature of the LSAY data enable allowance to be made for the social and educational backgrounds of the students who take up different options in Years 11 and 12, including VET in Schools. Such background data enables a more extensive analysis of the factors associated with participation in VET in Schools, and the relationship between that participation and post-school activities.

Despite the considerable advantages offered by the LSAY data, they do have some limitations for studying VET in Schools.

- The data about participation in VET in Schools are based on students' self-reports. To the extent that students may not always be aware that some of their senior secondary subjects are officially classified as VET in Schools, these data may underestimate actual participation levels.
- LSAY is a sample study, and although it is a large sample by Australian standards (comprising around 6 per cent of all Year 9 students), the estimates are subject to sampling error. This is particularly the case where the numbers enrolled in some forms of VET, such as school-based apprenticeships and traineeships, are small.

In addition to these limitations of the LSAY data set, there are two further challenges posed for any study of VET in Schools.

- There is great variety around Australia in the nature of the VET programs that are provided by secondary schools. There is a diverse range of industry areas involved in VET programs, including office administration, tourism and hospitality, motor mechanics, and horticulture. Some programs involve periods of time away from school in structured workplace learning, while others do not. Some programs are provided entirely using school premises and teachers, while others involve shared resources with other schools, TAFE colleges or private providers. The heterogeneity in the VET programs experienced by students requires caution in generalising about their impact.

- At the present time most students taking VET programs spend relatively little time in that part of their curriculum. In 1998 it was estimated that on average students spend around 120 hours per year, or about 3 hours per week, on VET in Schools programs. The limited amount of time involved suggests caution in attributing too much to the effect of VET participation on post-school activities.

2

Participation in VET in Schools: Student numbers and characteristics

Care is needed in measuring changes in participation in VET in Schools since the definitional basis has changed over time. Nevertheless it is clear that since 1995 there has been a marked increase in student enrolments and with school participation in VET in Schools programs. Ainley & Fleming (1995) estimated that there were 26,300 Year 11 and 12 students enrolled in school/industry programs in 1995. While this predates the current VET in Schools definition it provides an indicator of provision of VET programs in the early stages of their implementation. Figure 1 presents the estimated VET in Schools enrolments for the period 1996 – 1999. The data for the first two years is drawn from Ainley & Fleming (1997), and for the latter two years from Spring (1999), reporting MCEETYA estimates.

Malley et al. (2001) observed that the rate of growth in VET in Schools is declining and argued that "growth will continue to fall unless there are significant changes to the current structural and program arrangements surrounding youth access to school based skills training" (p. 47). However it can be seen from Table 1 that while the growth rate has slowed a little, there is still a significant proportion of senior secondary students participating at some level in VET in Schools. This includes both students who "taste" vocational education and training, by choosing VET in Schools subjects in either Year 11 or Year 12, and those students for whom VET in Schools is a more substantial choice, and who undertake VET subjects at both Year 11 and Year 12. It also encompasses those students enrolled in school-based apprenticeships and traineeships at both these year levels. A part of this growth is the increase in the proportion of schools offering VET programs. National data indicate that the proportion of all secondary schools providing VET in Schools programs has increased from 70 per cent in 1997 to 87 per cent in 1999 (Malley et al., 2001).

This chapter examines three aspects of student characteristics:

- Social and educational background;
- Education and work aspirations; and
- Satisfaction with school.

These characteristics are examined for each of four separate groups of students. These groups are:

- those students who undertake no VET in Schools studies at all;
- those students who do **some** VET subjects in **either** Year 11 or 12;
- those students who take VET in Schools subjects in **both** Years 11 and 12; and
- those students who were undertaking a school-based apprenticeship or traineeship.

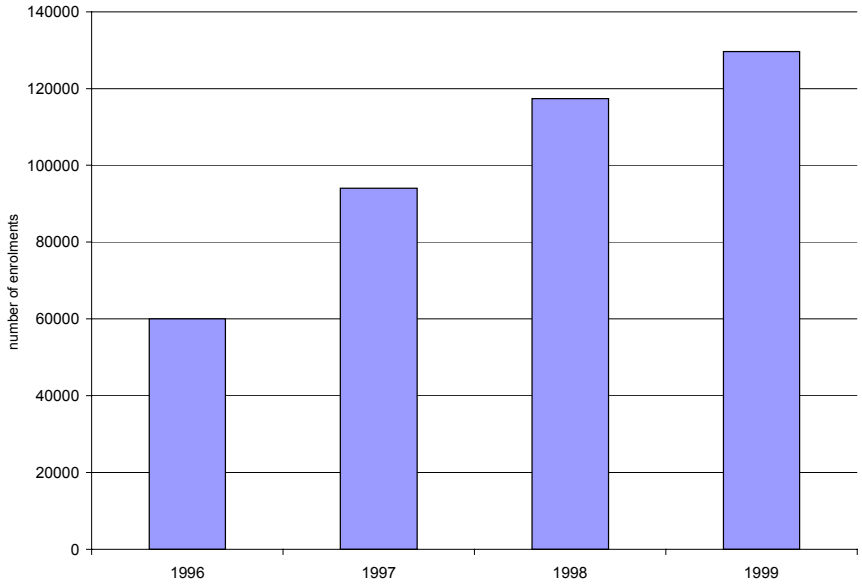

Figure 1 Enrolments in VET in Schools by Years 11 and 12 students, 1996 - 1999

(sources: Ainley & Fleming 1997; Spring, 1999)

The aim of separating the second and third groups is to examine where possible whether there are differences in either participation rates or outcomes. The second group may study one or more VET in Schools subjects in either of the post-compulsory years, however they have not made as firm a commitment to vocational learning as those in the third group, who completed one or more VET units in both of these years.

Around three-quarters of the original Y95 sample of students participated in Year 12 in 1998 (Marks et al., 2000). Of those students, almost one-quarter participated in some sort of vocational education and training whilst at school. Fifteen per cent of the students indicated that they had "tasted" VET in Schools, taking VET subjects in Year 11 or in Year 12, around 7 per cent indicated that they had completed VET in Schools subjects at both Year 11 and 12, and slightly more than 1 per cent reported that they participated in a school-based apprenticeship or traineeship. Table 1 provides a summary of background characteristics for the four groups of students.

Prior LSAY reports have identified recurring socioeconomic profiles for those students who are most likely to enrol in VET in Schools courses. Lamb et al (1998) provide an indication of participation in VET in Schools in 1991 to 1993, just prior to the beginning of a large growth in the uptake of these subjects in 1995 and 1996. The study predates the definition of VET in Schools, and so the authors used subjects such as work studies, secretarial or office studies, industrial technology, tourism studies, manual arts and business studies to define participation in vocational subjects. Lamb et al. (1998) reported that Year 11 and Year 12 students who were participating in vocational programs were more likely to be enrolled in government schools and come from family backgrounds where parents worked in skilled or unskilled manual occupations.

Another LSAY report examined early labour market experiences and training for the cohort of Year 9 students from 1995 (Fullarton, 1999). That study used student participation in workplace learning programs in Year 11 (1999) as an approximation to

VET in Schools. The author concluded that students who participate in vocational programs were more likely to have come from rural areas than metropolitan, and that they are more likely to come from home backgrounds in which parents did not complete secondary school or who were employed in "blue collar" occupations. They were also more likely to be from English-speaking backgrounds. Participation rates in vocational programs were found to be highest for students who scored in the lowest achievement quartiles for literacy and numeracy in Year 9. A study of subject choice in Year 12 in an ealier LSAY report endorses these findings (Fullarton & Ainley, 2000).

Lamb & Ball (1999) used data from the 1990 and 1994 Australian Youth Survey data sets to investigate the links between socioeconomic status, school achievement and subject choice in senior secondary school. Again, the authors reported that participation in vocational subjects was generally highest for students from lower socioeconomic levels and for students from the lower achievement levels. The authors also reported a difference in levels of participation between government and non-government schools. In their study, 14 per cent of government school Year 12 students were enrolled in vocational subjects compared to 8 per cent of students in the Catholic sector and 4 per cent in the independent sector.

It needs to be recognised that there are some difficulties in attributing causality. Outcomes may be more about the aspirations and preferences of students than about participation in VET in Schools, and choices may well reflect students' interests or abilities.

Participation rates: The Y95 cohort who completed Year 12 in 1998

This section provides a presentation and brief discussion of the rates of participation in VET in Schools for the Y95 group who completed Year 12 in 1998; some 75 per cent of the original sample. Table 1 provides the proportion of these students participating in VET in Schools at each of the levels previously described by social and background characteristics.

Gender

As Table 1 shows, there is little apparent difference in the participation rates in VET programs of males and females. A slightly lower proportion of females (23 per cent) than males (24 per cent) participate in VET in Schools overall, although a higher proportion of females (8 per cent) than males (7 per cent) participate at both Year 11 and 12.

Early school achievement

As has previously been found, participation in VET in Schools varies considerably by achievement level at school, as measured by literacy and numeracy in Year 9. Table 1 shows that 24 per cent of students in the lowest achievement quartile participate in VET in Schools in either Year 11 or Year 12, compared to 9 per cent of those in the highest achievement quartile.

Table 1 Participation in VET in Schools, apprenticeships and traineeships at Year 11 and 12, by background, for the Year 9 class of 1995 who completed Year 12 in 1998[1]

	No VET in Schools	VET in Schools at Year 11 or 12	VET in Schools both Year 11 and 12	School-based apprentice/ traineeship
Gender				
Male	76	16	7	2
Female	77	14	8	1
Early school achievement				
Lowest	63	24	11	2
Lower middle	71	19	10	1
Upper middle	81	12	6	1
Highest	87	9	4	1
School type				
Government	74	17	8	1
Catholic	79	12	8	1
Independent non-Catholic	86	10	3	1
Parents' country of birth				
Australia	76	15	8	1
Other English-speaking country	75	17	8	-
Non-English-speaking country	82	13	5	1
Parents' education				
Higher education qualification	86	10	3	1
Trade/technical qualification	79	15	6	1
Secondary school only	75	16	8	1
Parents' occupation				
Professional	86	9	4	1
Managerial	83	11	5	1
Clerical	74	17	8	1
Manual	73	16	10	1
Geographic location				
Urban	79	14	6	1
Regional/Rural	74	16	9	1
State or Territory				
ACT	86	11	1	2
NSW	79	13	7	1
VIC	88	8	3	1
QLD	59	22	17	2
SA	82	12	4	2
WA	71	24	5	0
TAS	74	23	2	1
NT	86	12	2	-

[1] Note: All figures in tables have been rounded and so the sum of the component parts may not necessarily add to 100

Figure 2 shows the proportion of VET and non-VET students in each achievement quartile, grouping all three categories of student participation in VET in Schools together. VET students are concentrated in the lowest two quartiles of achievement. More than 6 in every 10 students participating in VET in Schools studies are located in these lowest two achievement quartiles, while fewer than two in 10 are found in the highest quartile.

School sector

Table 1 also shows that participation in VET in Schools is substantially higher in the government school sector. The disparity is greatest between government schools and independent non-Catholic schools, with government schools enrolling twice the percentage of students in VET in Schools subjects. Participation rates in independent schools have grown substantially from a low base, and the gap between government and independent non-Catholic schools has narrowed, however there are issues of social class and values associated with who participates in VET in Schools, identified by Lamb et al. (1998), that will most likely continue to affect participation in the non-government sector.

Parents' country of birth

Young people with a home background from other than English-speaking countries were less likely to be undertaking VET in Schools subjects, reflecting previous findings that parents with an LBOTE background were more likely to encourage their children to undertake academic studies and aim for university rather than what is sometimes perceived as study that has a lower social value. Table 1 shows that 24 per cent of those students with Australian- born parents participated in VET in Schools, compared to 18 per cent of those from families from non-English speaking countries.

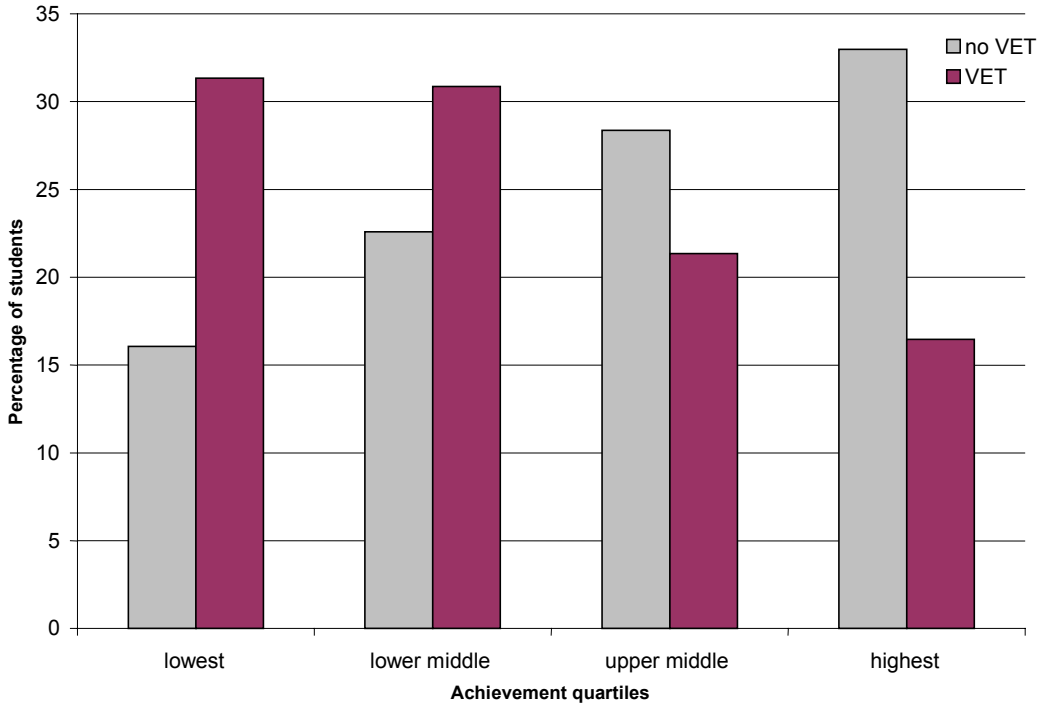

Figure 2 Proportions of VET and non-VET students in Year 11 and Year 12 in each quartile of early school achievement

Family background

Parents' educational background is an important influence on participation in VET in Schools programs. Of those students whose parents had the lowest levels of education, 25 per cent participated in some form of VET in Schools, compared to 21 per cent of those with parents with a trade or technical education background and 14 per cent for those with tertiary educated parents.

The participation rates for students taking into account their parents' occupational status provide an indicator of how skewed participation in VET in Schools is with regard to social background. A much greater proportion of students from manual or clerical backgrounds (27 per cent) compared to those from professional backgrounds (14 per cent) participated in VET in Schools programs.

Provision of VET in Schools programs has been found to be much higher in schools in low socioeconomic areas, partly in response to the lower levels of retention to Year 12 in these areas and partly due to greater student demand. In analysing their national survey of school-industry programs by postcode, Ainley & Fleming (1997) found that the two lowest ranked geographic areas on socioeconomic status had the highest level of provision of these programs.

It should be noted that there are problems with collinearity between the two measures of social background, and so for multivariate analyses, only one should be used. There are arguments for the inclusion of each. On one hand, parents' own education could be said to have a bearing on their children's educational directions, on the other hand for a choice of work-oriented studies, parents' occupational influence could be stronger. In the analysis later in this report parents' occupation is used as a proxy for socioeconomic status.

Geographic locality

Students in regional and rural areas were more likely to participate in VET in Schools, with one in four students participating compared to around one in five for students in urban areas. This supports the findings of Malley et al (2001), who reported that a larger proportion of country town and provincial secondary schools provide VET programs than schools in capital cities. In part, this is likely to reflect stronger social networks and closer school-industry linkages in smaller communities.

State or Territory

The highest rates of participation can be seen in Queensland, where 41 per cent of students participate in some form of vocational education at school, and similar proportions take VET subjects in one year as in both senior years. High participation rates are also evident in Western Australia (29 per cent) and Tasmania (26 per cent). The lowest participation rates were in Victoria (12 per cent), the Australian Capital Territory (14 per cent), and the Northern Territory (14 per cent).

Educational and work aspirations

When the students were in Year 10 they were asked a number of questions about their intentions with regard to further study or plans for work after they had completed school. Table 2 presents a summary of these responses with regard to plans for further education, training and work.

Table 2 Other educational and work aspirations in Year 10 of the students who completed Year 12

	Student plans for leaving school		
	Before completing Year 12	After completing Year 12	Undecided
	%	%	%
VET studies Year 11 and 12			
None	56	78	70
Apprenticeship/Traineeship	4	1	2
One year of VET studies	27	15	20
Two years of VET studies	13	7	8
Study plans after leaving school			
University	4	59	27
Traineeship/Apprenticeship	40	6	15
TAFE/Business College	24	10	14
No study	1	1	1
Other	13	3	4
Undecided	18	21	39
Plans in the year after completing school			
Work only	14	7	13
Study only	1	4	3
Mixture of work and study	85	89	84
N	*69*	*4830*	*388*

Participation in VET studies

Of the students who in Year 10 wanted to leave before completing Year 12, but who remained in school, almost half subsequently participated in VET studies. It could be speculated that participation in VET helped to keep some of these students in school. In comparison, for those who were definite about remaining until the end of Year 12, just under one-quarter participated in VET studies. Of those who were undecided about when they might leave school, around one-third "hedged their bets", by including some VET studies in their senior secondary course selection.

Study plans

For those who were sure in Year 10 about remaining to complete Year 12, 60 per cent planned on continuing on to university, with just 16 per cent planning on entering an apprenticeship or traineeship or attending a TAFE college. For those who planned on leaving before completing Year 12, around two-thirds had planned on entering an apprenticeship or traineeship or attending a TAFE college after finishing school. However these plans were not fulfilled as these students remained at school, perhaps because of economic circumstances or because the program they wanted to participate in was not available to them or perhaps because the school was offering something more attractive. Of those students who were undecided about their future, around one-quarter

planned on progressing to University and around one-quarter planned on entering into an apprenticeship or traineeship or attending a TAFE course after completing school.

Plans for work and education

Students were also asked whether in the year after leaving school they planned on working full or part-time, studying full or part-time, or a mixture of any of these. Most of the students, even in Year 10, planned on participating in a mixture of work and study to some extent after finishing school. Work only after school was a much more attractive option for those students either undecided about when they would leave or those who wanted to leave school before completing Year 12, while study only was a more attractive alternative for those who planned on remaining to complete Year 12. The evidence presented in Table 2 suggests that VET in Schools has proven particularly attractive for the first two groups of students.

Quality of school life

It is likely that as well as background characteristics of the students influencing participation in VET in Schools, factors such as beliefs about the quality of school life also play a part. The dimensions that describe the students' beliefs about the quality of their school life were developed from their responses to questions asked in Year 9 about their views on their life at school. The constructs that were derived from these questions focus on:

- General Satisfaction with school, reflecting responses to items such as *"I like to go to school*", and "*I enjoy what I do at school*";
- Opportunity or relevance of school, reflecting responses to items such as "*School is a place where I learn things that will help me in adult life*", and *"At school I get a chance to do interesting work*";
- Achievement, reflecting responses to items such as "*I can be successful*" and "*I can achieve a satisfactory standard in my work*"; and
- Attitude to teachers, reflecting responses to items such as "*Teachers give me the marks I deserve*" and "*Teachers are fair and just*".

There were differences between VET and non-VET students on all four dimensions, and for all four the means were lower for the VET students. This is shown in Figure 3, which also provides the results of independent groups t-tests for each of the dimensions of satisfaction with school. While these differences are all small, it can be seen that they are statistically significant.

Compared to those who did no VET studies, VET in Schools students are less satisfied with school in general, have a lesser belief in their ability to do well in their school work, are less satisfied with their interactions with teachers, and do not feel as strongly that school is relevant to them.

To some extent, these students are showing early signs of disengagement from school and from learning, and VET in Schools may play a significant role in providing these students with a way in which they can feel as though school is a place where they are able to be engaged with some form of learning.

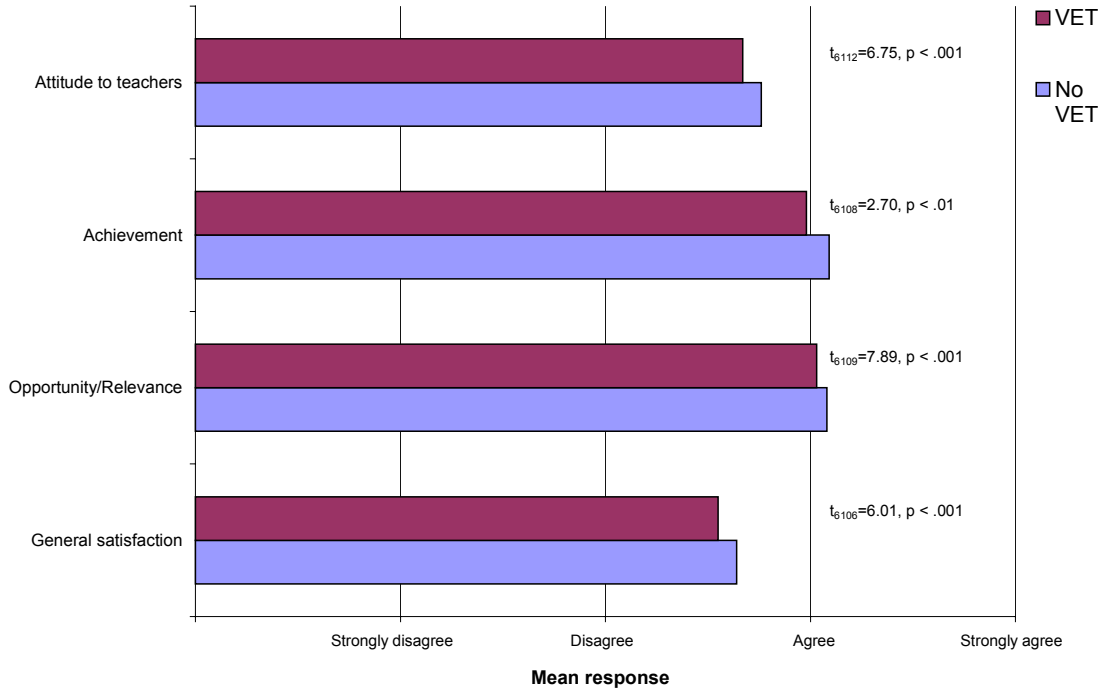

Figure 3 Satisfaction with school in Year 9 by participation in VET in Years 11 and 12

Perceptions of school climate and beliefs about teachers are also important in investigating engagement with school. Students were asked in Year 10 to rate their school overall on:

- teacher interest in students;
- effective discipline;
- student learning; and
- school spirit.

Students' responses were provided on a five-point scale that could range from *excellent* through to *very poor*. The responses to these questions are shown in Table 3, for those who participated in VET (aggregating the four groups described previously) and those who did not. The five-point scale has been collapsed into three categories: excellent or good, fair, and poor or very poor.

It can be seen from Table 3 that in general, students who subsequently went on to VET studies were those who were slightly more disaffected with schooling in Year 10. One-third of VET students compared to one-quarter of those not doing VET saw their teachers as not being particularly interested in students. More of the VET students than the non-VET students perceived effective discipline and students learning as fair, poor or very poor, and more believe that school spirit was not good. The fact that students participating in VET subjects were more likely to have previously expressed dissatisfaction with school suggests that VET in Schools may be meeting a real need. Given that these questions were asked of the students before they had moved into VET studies, an issue for further investigation in the area of VET in Schools more broadly is whether levels of engagement with learning improves for these students in subsequent years.

Table 3 Beliefs about "Your life at school" in Year 10 for those participating and those not participating in VET studies in Year 11 and Year 12 (% of responses)

	No VET	VET
Teacher interest in students		
Excellent or good	75	67
Fair	20	27
Poor or very poor	5	6
Effective discipline		
Excellent or good	61	55
Fair	31	35
Poor or very poor	8	10
Student learning		
Excellent or good	74	64
Fair	23	32
Poor or very poor	3	4
School spirit		
Excellent or good	64	60
Fair	25	28
Poor or very poor	11	12
N	*4768*	*1455*

Multivariate analysis

It is important to use multivariate analyses for several reasons. First, it is unlikely that only one factor determines participation in VET in Schools programs. Rather a range of factors such as students' socioeconomic background, performance at school, language background, availability of VET in Schools programs and attitudes about school influence participation in VET at Year 11 and Year 12. It is important to include those factors that have substantial effects on participation in the analysis rather than examining only one factor in isolation. Given that there are a large number of factors that affect the likelihood of participating in VET in Schools, we need to examine the effects of each one by one holding constant the effects of the other variables in the model in order that the influences of several variables are not confounded. In short, we need to have 'other things equal' when talking about, for example, the effect of attending a non-government school on participation in VET in Schools. These effects are referred to as 'net effects' because they are 'net of' the confounding influence of the other variables in question.

Multivariate logistic regression is used in this report because of the dichotomous nature of the dependent (outcome) variable, participation in VET in Schools. Logistic regression allows one to estimate the probability of an event occurring or not, after controlling for all other factors in the model. For example, using logistic regression it is possible to calculate the probability of a female student participating in a VET program compared to a male student, all other things equal.

The analyses are based on a core model that includes the most theoretically and educationally important influences on VET participation. The core model comprises gender, parents' occupation, language background, school location, school sector, Year 9 achievement, and the state or territory in which the student was attending school. Logistic regression coefficients are presented in Appendix 2. The sign of the logistic coefficient indicates if the factor has a positive or negative influence, that is, whether it increases or decreases the likelihood of participation. The interpretation of the results differs according to whether the independent variable (the factor) is dichotomous, categorical or continuous. For the examination of background differences predicted probabilities will be used to illustrate the effects as found in the logistic regression.

For each of the categorical variables, one level must be chosen in order that comparisons can be made. For example, males are chosen as the comparison or reference group; female participation can then be compared to male participation, all other things equal. From Table 1 we draw the remaining characteristics of this reference group. The highest proportion have parents working in manual jobs, are from an Australian background, and are in the lowest Year 9 achievement level. In terms of school characteristics, the reference categories were chosen because they enrolled the largest numbers of students: government schools, NSW schools and urban schools.

Of course comparisons can be derived for any combination of the background and educational variables. The following discussion relates to comparisons with this particular reference group only.

Predicted probabilities

These probabilities are derived from the unstandardised logistic regression coefficients (see details of the calculations in Appendix 2), and can be graphed so as visual comparison with the probability of a "reference" student's participation in VET in Schools can be made easily. The dotted line in Figure 4 represents the probability of this particular type of student participating in VET in Schools. For the purposes of comparison, this student is male, from an unskilled manual, Australian background, lives in a metropolitan area, attends a government school, is in the lowest quartile of achievement and attends school in NSW. The probability that this individual will participate in VET in Schools was calculated to be 0.17. Statistically significant differences are marked by an asterisk to indicate their level of significance. For these analyses, no distinction is made between the levels of participation in VET in Schools.

As Figure 4 shows, There were no significant gender differences; all other things equal, the probability of participation in VET in Schools was the same for males and females. That is to say that among respondents living in the same state, with the same achievement level, attending a school within the same school system, in a similar locality and from the same family background and ethnic group, there were no gender differences.

The probability of participation by those students from families with professional or managerial backgrounds was significantly lower than for those from the comparison group of manual workers, net of other factors. Students with a language background other than English have markedly lower probability of participation in VET in Schools, other factors equal. There was no difference in the likelihood of participation between students from schools in rural areas and those in metropolitan areas.

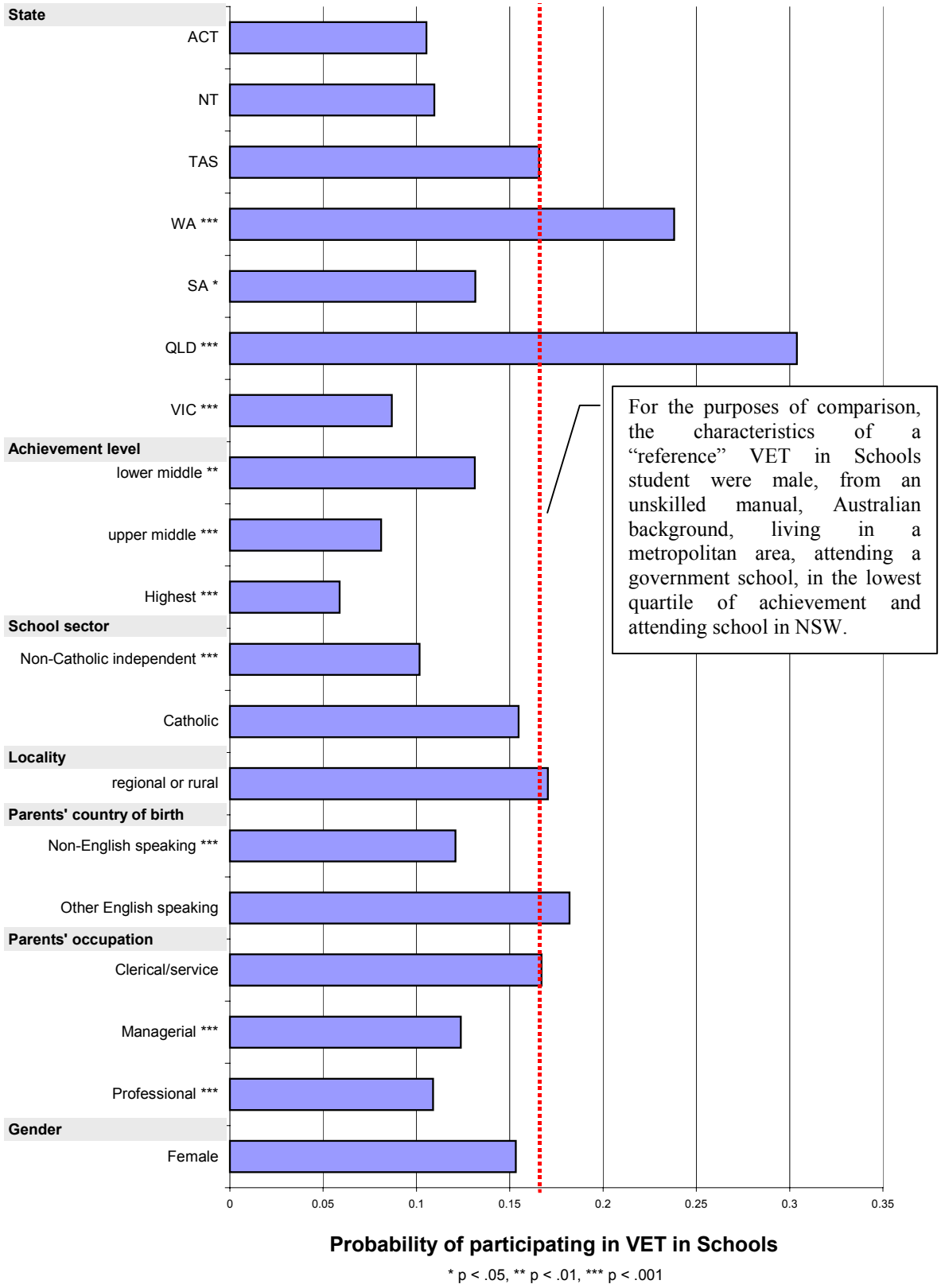

Figure 4 Background influences on probability of participation in VET in Schools

Figure 4 also shows that students from non-Catholic independent schools had a much lower likelihood of participation in VET in Schools than did government school students. However, participation by students in Catholic schools did not differ significantly from that in government schools. These differences are net of the influence of social background, state or territory and early school achievement and presumably reflect what is emphasised in the curriculum of those schools.

Early school achievement has an effect on participation net of the effects of student background and other influences, as seen in Figure 4. As has been found in previous studies, higher levels of achievement are strongly linked to lower levels of participation in VET in Schools.

State differences are evident in these results. Compared to students in New South Wales, students in Queensland and Western Australia were significantly more likely to participate in VET in Schools, net of the effect of the other factors in the model. In contrast, students in Victoria and South Australia were found to be significantly *less* likely to participate in VET in Schools, all other things equal.

Other influences on participation

Other factors linked to participation in education are those that reflect students' perceptions of the quality of their schooling. In this section the effects of several factors which were described earlier in this chapter (see Figure 3) are examined for their added effect on participation in VET in Schools. It should be noted that each of the *Quality of school life* scales is continuous, therefore there can be no reference "group".

Table 4 presents the unstandardised logistic regression estimates for the core model (as previously described) and for the model with the addition of the four satisfaction scales. It can be seen from this table that, other things equal, different levels of general satisfaction with school and of attitudes to teachers do not affect the likelihood of a student participating in VET in Schools. A student's perception of themselves as successful learners, however, has a strong negative effect on participation. Students who feel that they are successful are much less likely to participate in VET in Schools, other things equal. A less obvious finding is that a student's belief in the relevance of school, reflected by responses to items such as "*School is a place where I learn things that will help me in adult life*" has a moderate positive effect on participation in VET in Schools (Opportunity).

There is little change in the sizes of the coefficients for any of the other variables, suggesting that the effects of these four dimensions are independent of student background, state and school sector.

Table 4 The effect of satsifaction with school on participation in VET in Schools

	Core model	Core + Quality of School Life
Gender (relative to males)		
Female	-.11	-.08
Parents' occupational group (relative to unskilled manual)		
Professional	-.50***	-.50 ***
Managerial	-.36***	-.36 ***
Clerical	.01	-.01
Parents' country of birth (relative to Australian-born)		
English-speaking	.10	.08
Non-English speaking	-.38	-.35 ***
Locality (relative to metropolitan)		
Rural and remote	.02	.01
School sector (relative to Government)		
Catholic	-.10	-.11
Non-Catholic independent	-.58***	-.60 ***
Early school achievement (relative to Lowest)		
Highest	-1.17***	-1.10 ***
Upper middle	-.83***	-.79 ***
Lower middle	-.29**	-.27 *
State or Territory (relative to New South Wales)		
Victoria	-.75 ***	-.72 ***
Queensland	.77 ***	.81 ***
South Australia	-.29 *	-.24
Western Australia	.44 ***	.46 ***
Tasmania	-.02	.08
Northern Territory	-.50	-.47
Australian Capital Territory	-.54	-.57
Quality of school life measures		
General satisfaction with school		-.19
Opportunity		.21 *
Achievement		-.39 ***
Attitude to teachers		-.15

* p < .05, ** p < .01, *** p < .001

Summary

This section of the report examined the levels of participation in VET in Schools and factors that affect participation. Firstly, this chapter reiterated what the literature tells us about participation in vocational education. Participants are more likely to come from the lower quartiles of achievement, to be enrolled in government schools, be Australian-born, and have a family background of unskilled manual labour. Provision of VET in Schools programs was found in other studies to be much higher in schools in low socioeconomic areas, and so it should not be surprising that there is a greater use made of it by the students who attend schools in these areas.

Engagement with learning is vital if we are to encourage lifeling learning habits in our students. Several questions tapped into educational and work aspirations, an aspect of engagement. If students are engaged with the learning process then it is more likely that they would wish to continue with their studies into further education. Those who showed uncertainty about future plans tended to participate in VET to a greater extent than those who were definite about staying to complete Year 12. It may be that the former group of students is keeping their options open for further study or employment by combining academic and VET subjects while in senior secondary school.

Students who went on to participate in VET in Schools tended to be less satisfied with their school life in Year 9. They were more likely to rate teacher interest in students, effective discipline, student learning and school spirit more negatively than their counterparts who did not participate in VET. Further, multivariate analysis indicated that belief that one is achieving at a satisfactory standard had a strong negative influence on participation in VET in Schools, other factors equal. A belief that school is a place that provides opportunity to learn things that are useful in adult life had a positive influence on the likelihood of participation. It may be that the students who are looking for something in particular in the curriculum that will assist them in the transition to their adult or working life see the advantages of undertaking VET in Schools programs.

This chapter has provided us with a fuller picture of the characteristics of those who participate in VET in Schools at a variety of levels compared to those who do not. The next section examines post-school pathways in order to see whether there are differences in the outcomes of those students who undertake VET in Schools subjects and those who do not.

3

Mapping Pathways from School to Employment, Education and Training

Background

There is a need to continually monitor the outcomes of post compulsory education and training. Kirby (2000) argued that as the Government invests funds in education and training for young people, the community as a whole is entitled to expect the best possible outcomes, requiring these outcomes to be monitored and adjustments made when they are less than satisfactory.

Lamb et al. (1998) provide us with baseline data from the early 1990s for examining outcomes for students participating in vocational programs. Their study followed up at age 19 the destinations of former Year 11 and 12 students who participated in vocational programs and compared their destinations to those who did not. Both males and females who studied vocational subjects at school were more likely to proceed into the post-school VET sector (apprenticeships, traineeships and TAFE) than those who did not study any vocational subjects (53 per cent of males and 51 per cent of females compared to 43 per cent of males and 35 per cent of females, respectively).

However, of the students who participated in vocational subjects at school, a greater proportion were found to be more likely by age 19 not to have engaged in any further education (38 per cent of males and 36 per cent of females) compared to students who did not participate in any vocational studies (28 per cent for both males and females). The study also found that a much higher proportion of female than male students who participated in vocational studies proceeded to higher education (21 per cent compared to 9 per cent of males), and that males were more likely to enter apprenticeships than females (22 per cent compared to 2 per cent for females).

Lamb and Ball (1999) investigated the association between labour market outcomes for youths aged 19 and their participation in particular curriculum streams at Year 12. They found that students who studied "vocational education and training" courses at Year 12 were more likely to seek entry into the labour force immediately after completing Year 12 than to proceed into further education. Some findings from this study were that for students who participated in vocational educational and training subjects:

- the dominant occupational category for those who studied the "technical drawing, technology, general maths and computing" stream was skilled trades (40 per cent);
- one in four students who studied the "technical drawing, technology, general maths and computing" stream experienced three or more spells of unemployment by age 19, compared to one in 20 students from more traditional academic streams;
- the dominant occupational category for those who studied the "maths, industrial arts, industrial technology and technical drawing" stream was labourer and related worker (30 per cent); and

- that since leaving school those who studied combinations of vocational education and technology courses (excluding those doing agriculture and crafts) spent more than 50 per cent of their time unemployed.

Data from several destinations surveys in Victoria (Polesel, Teese, O'Brien & Unger, 1998; Polesel, Teese & O'Brien, 1999a, 1999b) provide some more positive findings about post-school pathways of VET students in that state. The authors of these reports found that around half of the VET in Schools graduates in 1996 and 1997 were enrolled in post-secondary education and training, including about 20 per cent attending university and 30 per cent attending TAFE. Including those doing apprenticeships and traineeships, about 35 per cent of the cohorts were in work, while only 6 per cent were unemployed and seeking work. However these reports make no comparisons of the pathways for VET and non-VET students, a comparison that can be made on a national basis using the LSAY data.

More recently, the destinations of 1999 school leavers nationally were examined by Misko (2001). The respondents to this survey had participated in structured workplace learning (SWL) programs supported by the Enterprise and Career Education Foundation (ECEF), and the report concluded that a substantial group of SWL participants had gained full-time employment after completing school and that a similar proportion (over 40 per cent) were continuing on to further and full-time studies. However, while comparisons could be made with similar age group school leavers in general, the current study adds to our knowledge of VET in Schools as it makes a direct comparison between a group of students who participated in VET in Schools and a group who did not. The present study also looks at levels of participation in VET in Schools, which has not been presented for analysis in any other study.

Main activities in the transition from school to work

What happens to young people when they leave school? Are there differences between the outcomes of those students who participate in VET in Schools during Years 11 and 12 and those who do not? This chapter examines the immediate post-school destinations of the 1995 cohort of Year 9 students who completed secondary school in 1998. To undertake this analysis it was necessary to identify a set of separate post-school pathways. Earlier LSAY work was examined to help identify these pathways.

Lamb & McKenzie (2001) used earlier data from the Australian Youth Survey to analyse the variety of post-school pathways followed by young people from different social and educational backgrounds. Examining the first seven years after leaving school for those young people who did not complete a university or advanced TAFE qualification, they identified almost 500 different patterns of activity in this time, in terms of participation in various forms of education, training, work, and being out of the labour force. This provides evidence that the construction of students' pathways after school is highly individualistic. However the data for this particular cohort of young people is rather more limited, and covers only the first two years after Year 12, and so this report will examine pathways more broadly. To examine the patterns of post-school activity, young people were classified into a number of groups based on the primary activity they were engaged in. (The primary activity or main activity, which was based on an annual self-report of activities during the year, was defined as the activity which respondents were doing for the main part of the year concerned, ie more than six months).

The activities were:

- full-time work;
- further study at university;
- further study at TAFE;
- apprenticeship or traineeship;
- part-time work;
- unemployment; and
- not in the labour force.

Further study at university and TAFE are identified separately in the analyses to allow investigation of whether VET in Schools provides a pathway into different forms of tertiary study.

School leavers who are in part-time work, unemployed or who are not actively seeking work, and who are not undertaking any study or training, are defined by Teese (2000, p. 52) as "economically precarious". Teese argued that this definition reflects "job insecurity, low income, and lack of personal investment in training to improve employment prospects" (p. 53). Earlier longitudinal data suggest that young people who spend an extended period in these activities immediately after leaving school are likely to experience greater difficulties in finding full-time employment by their mid-20s (Lamb & McKenzie, 2001). Correspondingly, those who leave school and enter full-time work, or an apprenticeship, or tertiary education, generally have a less problematic transition to work by their mid-20s. These earlier findings suggest that one important criterion for judging the impact of doing VET in Schools is the extent to which that experience is associated with being engaged in full-time work and/or formal education or training in the years immediately after completing Year 12. These outcomes could be thought of as 'positive outcomes' for the group, while being engaged in part-time work only, unemployed or not in the labour force are 'at-risk outcomes'.

The first part of this chapter examines outcomes in the first two years after completing secondary school; the second part will look at pathways between the main outcomes.

Education, training and labour force experiences for Year 12 school leavers

Table 5 provides an overview of the main activities of those who completed Year 12 in 1998 in terms of participation in the labour force, in education or combinations of both labour force and further education by gender for 1999 and 2000.

In the first year after Year 12 (1999), some 70 per cent of males and 72 per cent of females had entered the labour force in some capacity, including those in apprenticeships and traineeships. For 18 per cent of males and 15 per cent of females, this was in a full-time capacity, with no further study involved. A few former Year 12 students combined full-time work as well as study. Few were only working part-time; most of those in part-time work were combining this with further study (27 per cent of males and 37 per cent of females). A greater proportion of females than males moved on to tertiary study, with a greater proportion of females than males attending university (44 per cent compared to 36 per cent of males), and the same proportion of each gender enrolled in TAFE (21 per cent of both males and females).

Table 5 Education, training and labour force activities in 1999 and 2000, by gender, for those students who completed Year 12 in 1998

	1999		2000	
	Males (%)	**Females (%)**	**Males (%)**	**Females (%)**
Working	**70**	**72**	**77**	**78**
Full-time	*24*	*20*	*30*	*32*
No study	18	15	24	24
University	2	2	3	4
TAFE	4	3	3	4
Part-time	*34*	*45*	*32*	*41*
No study	7	8	5	6
University	18	27	21	28
TAFE	9	10	6	7
Apprenticeship	*8*	*1*	*12*	*1*
Traineeship	*4*	*6*	*3*	*4*
Not working	**30**	**28**	**22**	**21**
Studying	*24*	*23*	*11*	*10*
University	16	15	8	8
TAFE	8	8	3	2
Not studying	*6*	*5*	*11*	*11*
Unemployed	5	4	10	9
Not in the labour force	1	1	1	2
Total	**100**	**100**	**100**	**100**
N	*2791*	*3315*	*2847*	*3357*

The gender disparity in the take-up of apprenticeships is very evident in these data, with around 8 per cent of males but only 1 per cent of females taking up an apprenticeship immediately after leaving Year 12. The data also provide some evidence that traineeships are more often the province of young females, with a slightly greater proportion of females than males participating.

Around 7 per cent of males and 8 per cent of females were employed in part-time positions only. Overall, non-participation in either work or study was low, with the unemployment rates at around 5 per cent for males and 4 per cent for females, and around 1 per cent of each gender not in the labour force in the first two years after Year 12.

In 2000 over three-quarters of both male and female former Year 12 students were employed in some capacity, with almost one-third in full-time employment. Table 5 shows that females continued to participate in tertiary education to a greater extent than males, particularly at university, with 40 per cent of females and 32 per cent of males attending university in the second year after Year 12 (2000) and 13 per cent of females and 12 per cent of males enrolled in TAFE.

In the second year after Year 12, males appear to be still moving into apprenticeships (the proportion increasing from 8 per cent to 12 per cent), while the proportion for females remained stable. Participation in traineeships declined slightly (from 4 per cent to 3 per cent for males and from 6 per cent to 4 per cent for females), probably as a result of members of that group completing their traineeship and moving on. However the question of whether they moved on to employment or unemployment remains to be answered, as perhaps the most salient statistic in this table is the marked rise in unemployment for both males and females in 2000 in the second year after completing Year 12.

In what fields are they working and studying?

There are a very wide variety of fields of study and types of industries in which these young people are studying and working. To attempt to detail them is difficult, and so in order to get a broad idea of participation, this section identifies those areas for which the participation rate is greater than 2 per cent, including full-time and part-time work. Table 6 provides details of the areas of study and Table 7 the main industries in which they were employed.

A number of differences in participation can be seen in Table 6. Clearly, for males, computer studies is the most predominant field of study, both for those who have participated in VET in Schools and those who have not. For males who have no VET in Schools background, the other main fields of study are in traditional academic areas, reflecting a greater participation in university studies. For those who included VET in Schools subjects, most of the other fields are in apprenticeship or trade areas, and most in traditional "male" areas such as electrical trades, mechanical trades, carpentry, plumbing and boilermaking.

For females who did not participate in VET in Schools, no clear field of study predominates, however it is clear that many of the areas of study are in traditional "female" areas such as nursing, humanities, primary teaching, childcare and travel and tourism. For those young women who did include VET in Schools in either Year 11 or 12, travel and tourism is the largest single area of study after leaving school, and many of the other areas are similarly traditional "female" areas such as childcare, secretarial studies, hairdressing and beautician.

For those who were employed in the first year after Year 12, both full-time and part-time, the main three areas of employment are in supermarkets, cafes and restaurants and in take-away food stores. All of the main jobs for those who completed Year 12 who did not include any VET in Schools could be classified as in service industries, and would put all of these young people into the lower end of the socioeconomic range. However for most of the group who did no VET in Schools this is a part-time job, carried out whilst attending university or TAFE.

Table 6 Fields of study with participation rate greater than two per cent, first year after Year 12, for the former Year 12 students

	Males		Females	
		%		%
No VET in schools	Computer sciences	15	Nursing	6
	Business studies	5	Humanities	6
	Engineering	4	Science	5
	Accountancy	4	Psychology	4
	Commerce	4	Business studies	4
	Science	3	Primary teaching	4
	Economics	3	Computer sciences	3
	Humanities	2	Travel & tourism	3
	Mechanical engineering	2	Childcare	3
	Sport & recreation	2	Accountancy	3
			Media/mass communication	3
			Biological sciences	3
			Commerce	2
			Sport & recreation	2
			Education	2
	(n= 1477)		(n=1787)	
		%		%
VET in schools	Computer science	10	Travel & tourism	13
	Electrical trades	6	Child care	8
	Accountancy	5	Humanities	5
	Mechanics	4	Secretarial studies	5
	Business studies	4	Primary teaching	3
	Carpentry	4	Business studies	3
	Catering	3	Marketing	3
	Boilermaking	3	Computer sciences	3
	Cabinet making	3	Hotel management	3
	Management training	3	Nursing	3
	Sport & recreation	3	Hairdressing	2
	Motor vehicle mechanics	3	Beauty therapy	2
	Plumbing	2	Catering	2
	Electronic engineering	2		
	(n=345)		(n=393)	

For those who did do some VET in Schools, many more of whom were working full-time immediately after school, there are some interesting findings. The participation rate for females in the three main areas of supermarkets, cafes and restaurants and takeaway food was more than twice that for males. Just over one-quarter of young women who had participated in VET in Schools were employed in these three areas. In contrast 12 per cent of young men were working in these industries. The emphasis for young women appears to be in the retail and service sectors, while for males there is more emphasis on trades.

Table 7 Industry area with participation rate greater than two per cent, first year after Year 12, for the former Year 12 students

	Males		Females	
		%		%
No VET in Schools	Supermarket & grocery retailing	8	Cafes & restaurants	11
	Cafes & restaurants	7	Takeaway food	9
	Takeaway food	5	Supermarkets & grocery stores	7
	Accommodation	4	Department stores	4
	Department stores	3	Accommodation	3
	Hotels	2	Clothing retail	3
	Installation trade services	2	Other specialist food	2
			Personal & household goods retail	2
	(n=1032)		(n=1222)	
		%		%
VET in Schools	Cafes & restaurants	5	Supermarket & grocery stores	10
	Takeaway food	4	Cafes & restaurants	9
	Supermarket & grocery stores	3	Takeaway food	8
	Installation trades	3	Accommodation	4
	Motor vehicle services	3	Childcare services	3
	Meat & meat manufacturing	3	Hotels	3
	Accommodation	2	Clothing retail	3
	Other education services	2	Legal & accounting services	2
	Furniture manufacturing	2	Government administration	2
			Furniture & appliance retail	2
	(n=399)		(n=388)	

Transitions for the different groups of Year 12 students

Tables 8 and 9 present a simple comparison of the destinations of students who completed particular levels of VET in Schools and those who did not, without any allowance made for other aspects of students' educational background. The outcomes for students who were undertaking apprenticeships and traineeships in Year 11 and 12 will be dealt with separately as this was a small group and conclusions drawn from the data are somewhat tentative.

Table 8 shows that young people who did not participate in any VET in Schools subjects during their senior secondary years were more likely to go on to study full-time at university immediately after completing secondary school than those who did some VET in Schools. Those who studied VET subjects at school were more likely to progress to TAFE courses. In all, around 44 per cent of the students who participated in VET in Schools in either Year 11 or Year 12, or both, moved on to further study, compared to 67 per cent of those students who did no VET in Schools subjects.

VET in Schools students were more likely than their non-VET peers to be in the work force, with around 25 per cent of students who participated to some extent in VET in Schools working full time with no study and around 9 per cent working part-time with no study compared to the non-VET cohort in which 14 per cent were working full-time and 7 per cent working part-time (with no study). As the group of students undertaking VET in Schools subjects have made some commitment to vocational education and training while at school, this higher rate of employment is perhaps not surprising. Overall, some 88 per cent of students with no VET, 83 per cent of those with some VET and 86 per cent

of those who took VET in Schools in both Year 11 and 12 were employed full-time or in further education in the first year after school.

VET students were more likely to move into apprenticeships or traineeships after completing school. This is slightly more evident for those who did two years of VET in Schools.

The percentage of the non-VET in Schools group who were in part-time work only was lower than for the groups who participated in VET in Schools; however, this difference is only slight. Unemployment rates for the groups were very similar, as was the proportion of former Year 12 students not in the labour force. The rate of 'at-risk outcomes' for the group who "tasted" VET in Schools was slightly higher (17 per cent) than for the other two groups (12 per cent and 14 per cent), indicating perhaps that these students may not have shown the same commitment either to work or further study as either of the other two groups.

Table 8 Education, training and labour force activities in 1999 for the former Year 12 students, by level of VET in Schools participation

	No VET in Schools (%)	VET in Schools in either Year 11 or 12 (%)	VET in Schools in both Years 11 & 12 (%)
Working	**69**	**77**	**77**
Full-time	*19*	*29*	*32*
No study	14	24	25
University	2	1	1
TAFE	3	4	6
Part-time	*43*	*33*	*28*
No study	7	9	8
University	27	12	9
TAFE	9	12	11
Apprenticeship	*3*	*8*	*7*
Traineeship	*4*	*7*	*10*
Not working	**31**	**23**	**23**
Studying	*26*	*15*	*17*
University	18	6	6
TAFE	8	9	11
Not studying	*5*	*8*	*6*
Unemployed	4	6	4
Not in the labour force	1	2	2
Total	**100**	**100**	**100**
N	*4684*	*915*	*438*

Table 9 shows that in the second year after Year 12 (2000), the proportion of students in full-time work had increased substantially. Twenty per cent of the non-VET in Schools cohort and around 35 per cent of the VET in Schools cohort was working full-time with no further study. The proportion of the group working part-time without study had declined slightly from 1999, and was smallest for those students who had not participated in VET in Schools.

Table 9 Education, training and labour force activities in 2000 for the former Year 12 students, by level of VET in Schools participation

	No VET in Schools (%)	VET in Schools in either Year 11 or 12 (%)	VET in Schools in both Years 11 & 12 (%)
Working	**77**	**82**	**81**
Full-time	*27*	*42*	*42*
No study	20	35	34
University	4	4	2
TAFE	3	3	6
Part-time	*41*	*26*	*22*
No study	5	7	8
University	30	12	7
TAFE	6	7	7
Apprenticeship	*5*	*10*	*11*
Traineeship	*3*	*5*	*6*
Not working	**23**	**18**	**19**
Studying	*13*	*5*	*7*
University	10	3	3
TAFE	3	2	4
Not studying	*10*	*13*	*12*
Unemployed	9	10	10
Not in the labour force	1	3	2
Total	**100**	**100**	**100**
N	*4749*	*935*	*449*

There appears to be some decline between 1999 and 2000 in the proportion of young people who were combining part-time work and study for those who participated in VET in Schools. However, with the present analysis it is difficult to determine whether this is because students have moved onto different combinations of study and work. While there also appears to be a decrease from 1999 to 2000 in the proportion studying full-time at either university or TAFE, a large part of this decrease could be that these young men and women have completed one-year certificate courses and moved on into employment.

Overall, these data describe positive outcomes for 84 per cent of those with no VET in Schools, 81 per cent for those with some and 80 per cent for those with two years VET in Schools.

Gender influences

Table 10 examines the education, training and labour force activities of the secondary school graduates in 1999, disaggregated by gender. Most noticeable is that there are marked gender differences in the rates of participation in apprenticeships: for those who completed VET in Schools in either Year 11 or Year 12 the rate for males is 15 per cent, that for females 1 per cent. For those young people who completed two years of VET in Schools the rate for males is 14 per cent and for females 2 per cent, while for those with no VET in Schools the participation rate for males is 6 per cent and for females 1 per cent.

Table 10 Education, training and labour force activities in 1999 for the former Year 12 students, by level of VET in Schools participation and gender

	No VET in Schools		VET in Schools in either Year 11 or 12		VET in Schools in both Years 11 & 12	
	Males (%)	Females (%)	Males (%)	Females (%)	Males (%)	Females (%)
Working	**67**	**72**	**77**	**76**	**82**	**74**
Full-time	*21*	*18*	*31*	*27*	*38*	*28*
No study	15	14	26	21	32	21
University	3	2	1	2	2	0
TAFE	3	2	4	4	4	7
Part-time	*36*	*48*	*25*	*40*	*20*	*33*
No study	6	8	8	10	7	8
University	22	31	8	15	4	13
TAFE	8	9	9	15	9	12
Apprenticeship	*6*	*1*	*15*	*1*	*14*	*2*
Traineeship	*3*	*5*	*6*	*7*	*10*	*10*
Not working	**33**	**28**	**23**	**24**	**18**	**26**
Studying	*27*	*24*	*16*	*14*	*12*	*19*
University	19	17	7	6	3	7
TAFE	8	7	9	8	9	12
Not studying	*6*	*4*	*7*	*9*	*6*	*7*
Unemployed	5	3	5	7	5	4
Not in the labour force	1	1	2	2	1	3
Total	**100**	**100**	**100**	**100**	**100**	**100**
N	*2120*	*2651*	*444*	*471*	*183*	*255*

There are also gender differences apparent in the proportions employed full-time. There is a 3 percentage point difference in full-time employment rates for those who have not participated in VET in Schools, however there is a 4 percentage point gap for those who completed some VET in Schools, and a 10 percentage point gap for those students who participated in VET in Schools at Year 11 and 12, all in the direction of higher levels of participation by males.

There is a slightly greater proportion of females who move into part-time work only (ie who are not also studying) from Year 12, however this is not sufficient to account for the differences in the full-time employment rate, nor is the difference in unemployment rates. If rates of transfer to tertiary study are examined however, part of the story begins to unfold. Young females participate to a much greater extent in further education than do young males, and they combine study with work to a much greater extent than do young males.

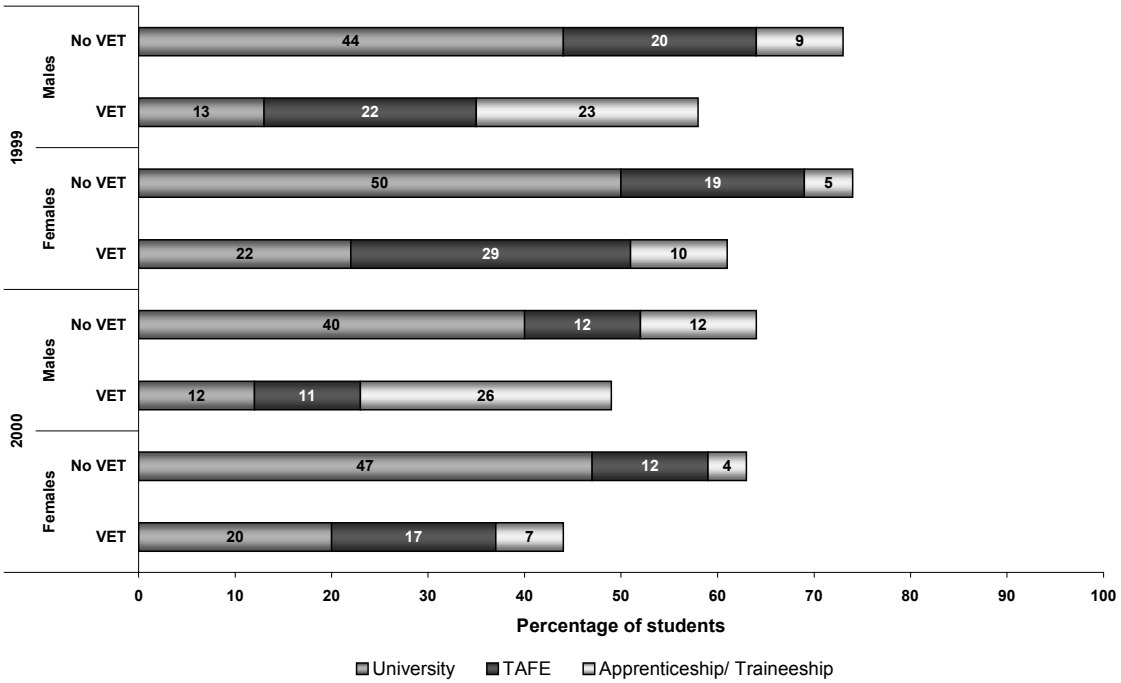

Figure 5 Participation in education and training by gender and VET in Schools participation, 1999 and 2000

In Figure 5 the different categories of VET participation are collapsed to provide a broad picture of participation in employment and training for the group who participated in VET in Schools and the group that did not, by gender, for the first years after school. As can be seen in Figure 5, females have a much greater propensity to go on to university in particular after completing secondary school.

While there is a relatively low rate of transfer to university in 1999 among both males and female VET students, there is a strong rate of transfer to TAFE, and this is particularly so for females. However the rate of transfer to tertiary education in 1999 is still much higher for those without any participation in VET, with gaps of 25 percentage points between males with no VET and males with one year of VET, and 32 percentage points between males with no VET and those with two years of VET studies. For females the gaps are smaller, but still large, with an 18 percentage point difference between females with no VET and those with one year of VET, and a 17 percentage point difference between those females with no VET and those with two years of VET. To an extent these differences are offset by increased participation in apprenticeships and traineeships by those who have participated in VET, however it is apparent from these data that studying VET is acting somewhat differently for young males and females. Figure 6 shows this graphically for the 1999 data. For young males the effect of increased participation in VET in Schools as a pathway to tertiary education is less marked than for young females.

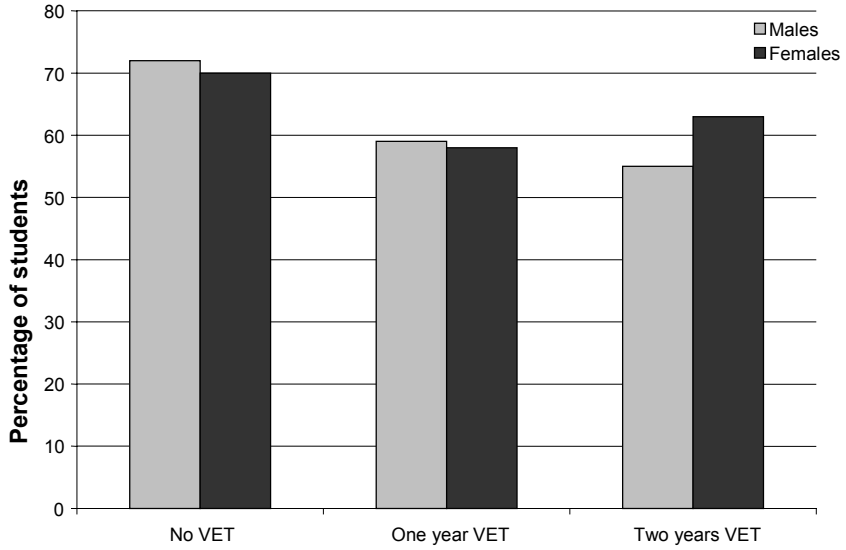

Figure 6 Percentage of former Year 12 students participating in tertiary education, 1999, by participation in VET in Schools and gender

In terms of 'at-risk outcomes', these were found to be highest for both males and females in the group who had one year only of VET in Schools. Proportions of young people working part-time or unemployed were higher than for either of the other two groups, more particularly for young women.

Table 11 shows a summary of the data for 2000, the second year after Year 12. In this second year, females have exceeded males in terms of rate of full-time employment, however they still participated to a greater extent in part-time employment without any study. While overall the percentage of students in full-time employment among the groups that participated in VET in Schools is much higher than that for the group who did no VET in Schools; a much higher percentage of those in the latter group combined part-time employment with their university studies. Including those undertaking apprenticeships and traineeships, the proportions of males and females in each group who were employed in some way varied between 76 per cent and 84 per cent.

Examining the total proportion of males and females enrolled in further education, it can be seen that there are some marked gender differences. For the group that did not participate in VET, this amounts to some 7 percentage points, with around 52 per cent of males and 59 per cent of females enrolled in tertiary education in the second year after Year 12. This is a decline of 11 percentage points from 1999 for males and 8 percentage points for females. For the group that completed one year of VET, the gender difference in 2000 was 13 percentage points, with 25 per cent of males and 38 per cent of females studying, while for the group that participated in VET for both of the senior secondary years there was a gender gap of 18 percentage points, with 18 per cent of males and 36 per cent of females participating in tertiary education in 2000. This represents a decline in participation rates from 1999 of 13 percentage points for both male groups and of 12 percentage points for the females who did one year of VET and 5 percentage points for those females who completed two years of VET in Schools. Perhaps this illustrates a stronger commitment both to work and education for those young women who showed a similar commitment to VET in Schools.

Table 11 Education, training and labour force activities in 2000 for the former Year 12 students, by level of VET in Schools participation and gender

	No VET in Schools		VET in Schools in either Year 11 or 12		VET in Schools in both Years 11 & 12	
	Males (%)	Females (%)	Males (%)	Females (%)	Males (%)	Females (%)
Working	**76**	**77**	**82**	**84**	**84**	**79**
Full-time	*27*	*27*	*39*	*46*	*39*	*44*
No study	20	20	34	36	34	35
University	4	4	3	3	1	2
TAFE	3	3	2	7	4	7
Part-time	*38*	*47*	*20*	*33*	*16*	*27*
No study	5	6	5	9	6	9
University	26	33	9	15	3	10
TAFE	7	8	6	9	7	8
Apprenticeship	*9*	*1*	*19*	*1*	*23*	*2*
Traineeship	*3*	*3*	*4*	*5*	*6*	*6*
Not working	**24**	**23**	**18**	**16**	**16**	**21**
Studying	*13*	*12*	*5*	*4*	*5*	*9*
University	10	10	3	3	1	5
TAFE	3	2	2	1	4	4
Not studying	*11*	*11*	*13*	*12*	*11*	*12*
Unemployed	10	9	11	9	9	10
Not in the labour force	1	2	2	3	2	2
Total	**100**	**100**	**100**	**100**	**100**	**100**
N	*2158*	*2593*	*456*	*478*	*189*	*260*

Overall, a similar proportion of "positive" outcomes was found for males within each of the VET in Schools groups in 2000. However for young females there was a slightly higher proportion of "at-risk" outcomes amongst those who had participated in VET in Schools compared to those who had not participated.

Comparing "like" students

Given the differences in participation patterns discussed in Chapter 2, any analysis of post-school destinations should be sensitive to the educational profile and to the socioeconomic profile of the students involved. We cannot expect, for example, that the group of students who participated in VET in Schools to have the same rate of transition to university as those who did not. It is more useful to compare groups of students in a way that controls for achievement and also for socioeconomic background.

For these analyses, the groups of students who participated in VET in Schools are aggregated into a simple category. Without this aggregation, cell sizes for many of the categories became so small as to be meaningless. Table 12 presents the initial post-school outcomes (in 1999), and Table 13 the outcomes for the second year after completing Year 12.

Table 12 Education, training and labour force activities in 1999 for the former Year 12 students, by participation in VET in Schools and Year 9 achievement quartile

	Achievement quartile							
	Lowest		Lower middle		Upper middle		Highest	
	No VET	VET	No VET	VET	No VET	VET	No VET	VET
Working	**65**	**73**	**69**	**80**	**71**	**77**	**70**	**78**
Full-time	*22*	*34*	*20*	*28*	*20*	*28*	*18*	*28*
No study	17	30	16	22	14	22	13	21
University	2	-	1	1	3	3	3	2
TAFE	3	4	3	5	3	3	2	5
Part-time	*33*	*25*	*40*	*31*	*44*	*34*	*49*	*37*
No study	9	8	7	9	7	10	6	5
University	10	2	21	10	29	13	38	25
TAFE	14	15	12	12	8	11	5	7
Apprenticeship	*5*	*6*	*3*	*10*	*3*	*7*	*2*	*8*
Traineeship	*5*	*7*	*5*	*10*	*4*	*8*	*2*	*5*
Not working	**35**	**27**	**31**	**20**	**29**	**23**	**30**	**22**
Studying	*27*	*17*	*24*	*12*	*25*	*16*	*27*	*19*
University	11	3	14	3	18	10	24	13
TAFE	16	14	10	9	7	6	3	6
Not studying	*8*	*10*	*7*	*8*	*4*	*7*	*3*	*3*
Unemployed	6	7	6	6	3	5	2	3
Not in the labour force	2	3	1	2	1	2	1	-
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
N	*750*	*413*	*1054*	*426*	*1331*	*288*	*1540*	*223*

Lowest achievement quartiles

In the first year after Year 12, participation in VET in Schools appears to be acting to facilitate pathways to employment for lower achieving students, in particular to full-time employment, rather than to further education. As Table 12 shows, 73 per cent of VET in Schools participants from this lowest achievement quartile were employed in their first year out of school, including 30 per cent who were working full-time and not participating in education. Equal percentages of both VET and non-VET groups were enrolled in TAFE courses. However, more than four times the proportion of non-VET in Schools students were enrolled in university courses. Similar proportions of both groups were unemployed, working part-time only, or not in the labour force, suggesting that the effect of participation in VET in Schools is not to decrease the risk of these negative outcomes, but to alter the type of outcome.

In the second year after Year 12, the proportions in employment rose to 81 per cent for those who participated in VET in Schools and 71 per cent for those who did not (see Table 13). The percentages in education declined to 23 per cent of those who participated in VET in Schools and 37 per cent of those who did not. Figure 7 summarises the participation rates for the broad categories of education and training for the lowest Year 9 achievement quartile, for 1999 and 2000.

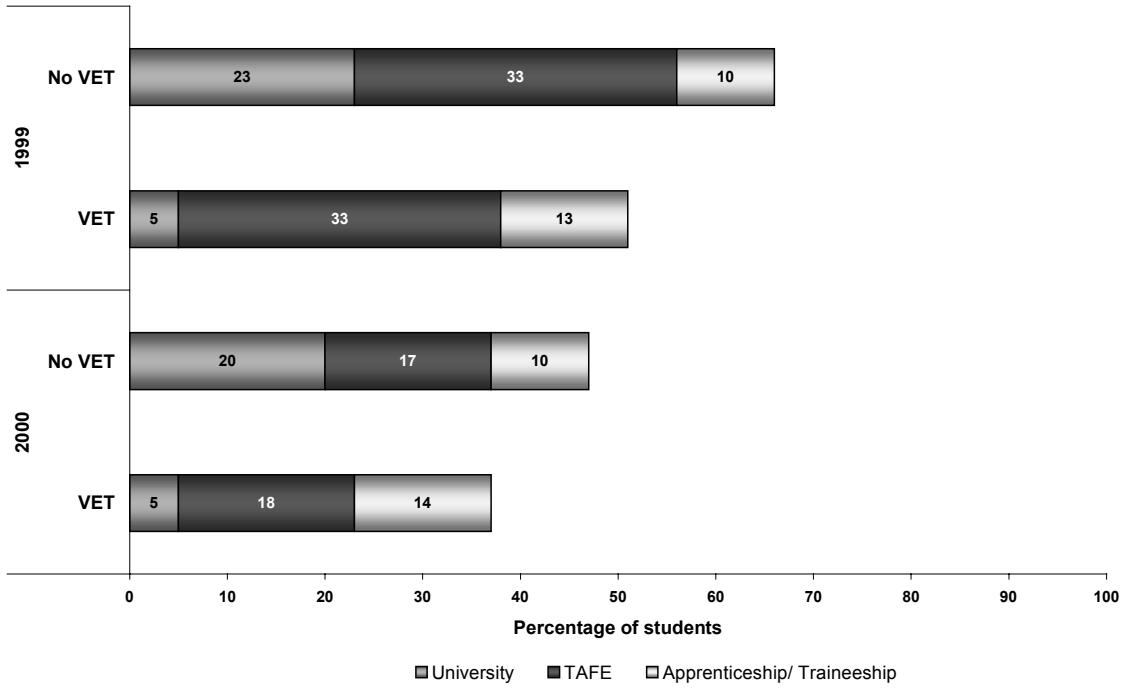

Figure 7 Participation in education and training by students in the lowest Year 9 achievement quartile, 1999 and 2000

Highest achievement quartile

As Table 12 shows. a greater proportion of students in the highest achievement quartile than in the lowest quartile were employed in the first year after Year 12. However, a high proportion of students were working part-time while studying. Rates of progression to university were strong for the non-VET in Schools group (65 per cent). However, for those high-achieving students who did VET in Schools, the transition rate to university was also comparatively high at 40 per cent. Almost twice the proportion of young people in the VET group than in the non-VET in Schools group had progressed to TAFE. Overall though, the gap between the VET and non-VET students in participation in tertiary education amongst the highest achievement quartile was still 17 percentage points.

The difference in tertiary education participation rates increased slightly in the second year, to 20 percentage points (see Table 13). While more of the former VET in Schools group were working, there was only a slight change in the percentage of those enrolled in universities and TAFE colleges. "Positive" outcomes in these terms, therefore, for those in the highest achievement quartile declined from 1999 to 2000, however they declined slightly more for those who did no VET.

A conclusion that could be drawn from these data is that there is a significant proportion of those students in the highest achievement quartile who do not enrol in university. For those students, participation in VET in Schools may provide opportunities to move directly from school into the workforce.

Table 13 Education, training and labour force activities in 2000 for the former Year 12 students, by participation in VET in Schools and achievement quartile

	Achievement quartile							
	Lowest		Lower middle		Upper middle		Highest	
	No VET	VET	No VET	VET	No VET	VET	No VET	VET
Working	**71**	**81**	**77**	**85**	**79**	**82**	**78**	**82**
Full-time	*32*	*45*	*31*	*43*	*27*	*42*	*23*	*35*
No study	26	39	24	36	20	35	16	24
University	1	-	3	2	4	4	5	7
TAFE	5	6	4	5	3	3	2	4
Part-time	*27*	*22*	*36*	*23*	*44*	*26*	*49*	*32*
No study	8	10	6	8	6	6	3	3
University	12	4	22	8	31	13	42	24
TAFE	7	8	8	7	7	7	4	5
Apprenticeship	*7*	*10*	*6*	*13*	*5*	*8*	*2*	*9*
Traineeship	*3*	*4*	*4*	*6*	*3*	*6*	*3*	*5*
Not working	**29**	**19**	**23**	**15**	**21**	**18**	**22**	**18**
Studying	*12*	*5*	*12*	*4*	*11*	*7*	*14*	*7*
University	7	1	9	2	9	5	13	6
TAFE	5	4	3	2	2	2	1	1
Not studying	*17*	*14*	*11*	*11*	*10*	*11*	*8*	*11*
Unemployed	14	12	10	9	9	8	7	9
Not in the labour force	3	2	1	2	1	3	1	2
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
N	*762*	*428*	*1069*	*432*	*1345*	*292*	*1566*	*226*

Comparing "like" students by achievement and socioeconomic level

Participation in VET in Schools is generally highest amongst those in the lowest two achievement quartiles and amongst those from the lowest two occupational background groups. In the analyses in this section several groups are aggregated. Achievement was aggregated into a dichotomous variable with one value representing the two lowest achievement quartiles and the other representing the highest two achievement quartiles. In a similar manner, socioeconomic status was recoded to a dichotomous variable with one value representing low socioeconomic status parental occupations (unskilled, manual and clerical occupations) and the other representing high socioeconomic status parental occupations (managerial and professional occupations). The results of these analyses are presented in Tables 14, 15 and 16. These analyses allow a more detailed comparison of "like" students who have done VET in Schools or not.

Table 14 Activities in 1999 and 2000 for the two lowest achievement quartiles and two lowest socioeconomic groups of the former Year 12 students, by participation in VET in Schools

	1999		2000	
	No VET (%)	VET (%)	No VET (%)	VET (%)
Working	**69**	**75**	**76**	**84**
Full-time	*22*	*29*	*32*	*45*
No study	18	24	25	39
University	2	-	2	1
TAFE	2	5	5	5
Part-time	*37*	*26*	*31*	*20*
No study	10	8	7	8
University	14	6	16	6
TAFE	13	12	8	6
Apprenticeship	*5*	*11*	*8*	*14*
Traineeship	*5*	*9*	*4*	*5*
Not working	**31**	**25**	**24**	**16**
Studying	*24*	*15*	*11*	*4*
University	12	2	7	1
TAFE	12	13	4	3
Not studying	*7*	*10*	*13*	*12*
Unemployed	6	7	12	10
Not in the labour force	1	3	1	2
Total	**100**	**100**	**100**	**100**
N	*1053*	*571*	*1075*	*582*

Table 14 indicates that the outcomes for the two groups of students, those who did VET in Schools and those who did not, are markedly different. That is not to say that one has more positive outcomes than the other, as for both 1999 and 2000 the proportion of each group in the "at-risk" categories of part-time work (without study), unemployment, or not being in the labour force is similar. Unfortunately, around one in five former Year 12 students in this group fall into this category in each of the two years, whether or not they did VET in Schools.

For those students who participated in VET in Schools, 29 per cent were employed full-time immediately after Year 12, while for those who did not, the proportion was 22 per cent. There are large differences in the proportion of students who moved on into university: 8 per cent of those who did VET in Schools compared to 28 per cent of those who did not. Similar proportions from each group entered TAFE studies. However, twice the percentage of students who did VET in Schools than those who did not moved into apprenticeships or traineeships in 1999.

In the second year after competing secondary school, 32 per cent of those who did not do VET in Schools and 45 per cent of those who did had moved into full-time employment. Again, VET in Schools appears to act more as a pathway into employment or apprenticeship for these young people than into tertiary education. Over 40 per cent of those who did no VET in Schools were enrolled in university or TAFE compared with just over 20 per cent of those who did VET in Schools.

Table 15 Activities in 1999 and 2000 for the two lowest achievement quartiles and two lowest socioeconomic background groups of the former Year 12 students, by participation in VET in Schools and gender

	1999				2000			
	No VET		VET		No VET		VET	
	M (%)	F (%)	M (%)	F (%)	M (%)	F (%)	M (%)	F (%)
Working	**67**	**70**	**76**	**75**	**73**	**77**	**82**	**83**
Full-time	*27*	*20*	*31*	*28*	*32*	*30*	*37*	*50*
No study	20	17	26	22	25	24	35	41
University	3	1	-	-	2	1	-	2
TAFE	4	2	5	6	5	5	2	7
Part-time	*28*	*43*	*16*	*35*	*23*	*38*	*15*	*25*
No study	9	10	6	10	7	8	6	9
University	7	19	1	10	9	21	4	8
TAFE	12	14	9	15	7	9	5	8
Apprenticeship	*10*	*1*	*20*	*3*	*16*	*2*	*25*	*3*
Traineeship	*3*	*7*	*8*	*9*	*2*	*6*	*4*	*6*
Not working	**33**	**30**	**24**	**25**	**27**	**23**	**18**	**17**
Studying	*25*	*23*	*14*	*15*	*13*	*10*	*4*	*5*
University	13	11	1	3	9	6	-	2
TAFE	12	12	13	12	4	4	4	3
Not studying	*8*	*7*	*10*	*10*	*14*	*13*	*13*	*12*
Unemployed	6	6	7	7	13	12	10	10
Not in the labour force	2	1	3	3	1	1	3	2
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
N	*438*	*615*	*268*	*303*	*446*	*629*	*275*	*307*

Gender differences

Table 15 disaggregates these data a little further by examining the differences by gender, and Figure 8 summarises the 1999 education activity data. In both 1999 and 2000, the proportion of "at-risk" outcomes for those who did not participate in VET in Schools is high, but the same for males and females in each year. For those who did VET in Schools, a slightly higher proportion of females than males were in employed on a part-time basis without undergoing any form of additional education or training.

In 1999, the first year after Year 12, more males than females were employed full-time, with or without additional study. For the group who did not do VET in Schools, this gender difference was 7 percentage points; for those who did do VET in Schools it was 3 percentage points. In the second year after completing school, as would be expected, the proportion of males and females in full-time employment increased. For females this increase was quite remarkable, with an increase in participation of some 10 percentage points between 1999 and 2000 for those females who did no VET in Schools and around 22 percentage points for those females who participated in VET in Schools. For males

the increase was around 5 percentage points, whether or not they participated in VET in Schools.

There are different outcomes in terms of apprenticeships and traineeships for males and females. The take-up rate of apprenticeships or traineeships, particularly amongst young males, is substantially higher for those students who participated in VET in Schools. The proportion of young males in apprenticeships or traineeships continued to increase in the second year after leaving school, whilst the participation rate for females remained static or decreased slightly. It may be that in general the vocational training that young females undertake, primarily in the form of traineeships, is of shorter duration than that undertaken by young males, and that they enter the full-time work force a little earlier.

With regard to tertiary education there are also large differences between males and female enrolments according to whether or not they participated in VET in Schools. For those who did not, almost six in ten females and half of the males were enrolled in university or TAFE courses in the first year after completing secondary school, while for those who did VET in Schools, just under half of the females and one-quarter of the males were enrolled. The difference in gender participation in tertiary education is greater for those students who did VET in Schools, more than counterbalancing the disparity in apprenticeships and traineeships.

The students in this group are those who are most likely to participate in VET in Schools. This section has described gender differences within this sub-group. It is clear that there are a greater proportion of males in this group who enter into apprenticeships and traineeships, and it is clear that there are a greater proportion of females in this group participating in tertiary study. The data also suggest that VET in Schools might facilitate the pathway from school to employment for this particular group of young females.

Socioeconomic differences

Table 16 examines the outcomes for the low achieving students by participation in VET in Schools and by socioeconomic status, and Figure 9 provides a summary of education and training outcomes for 1999. Socioeconomic status for these analyses was formed by aggregating the lowest two socioeconomic groups (representing unskilled, manual and clerical parental occupations) into a “lower ses” variable, and the two highest socioeconomic groups (managerial and professional parental occupations) into a “higher ses” variable.

If VET in Schools is providing opportunities for those with a greater likelihood of leaving school early, then the outcomes for those in the lower socioeconomic group should be similar to those in the higher socioeconomic group.

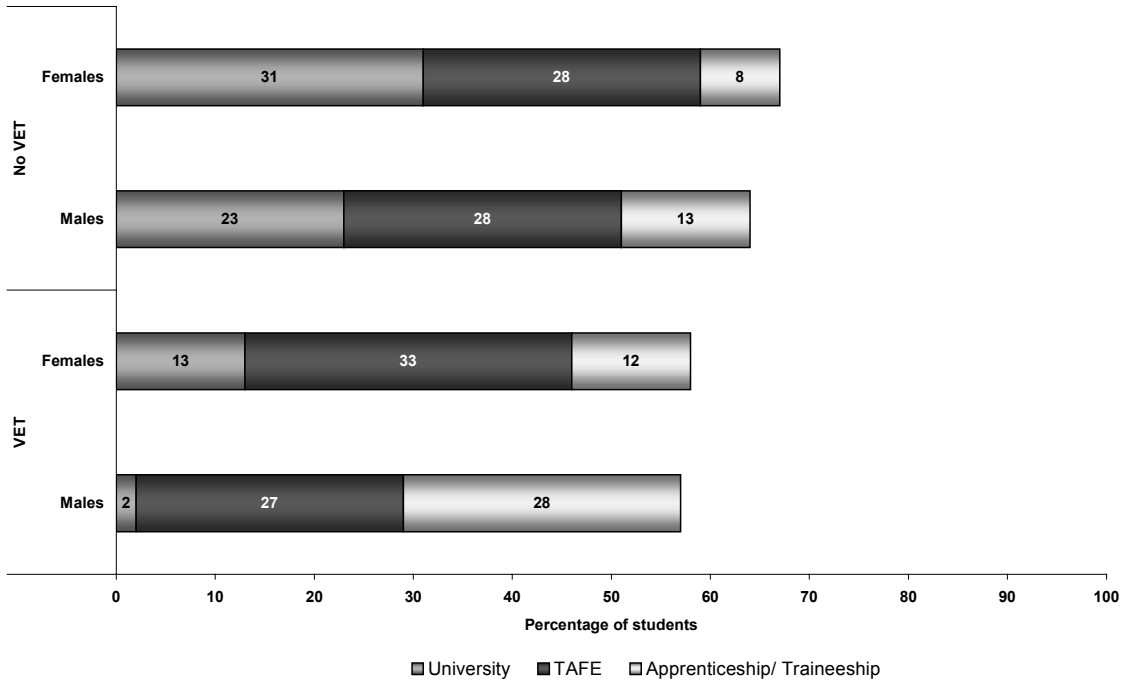

Figure 8 Participation in education and training by students with low achievement and low socioeconomic status, by gender and VET participation, for 1999

In terms firstly of those who could be considered to be in "at-risk" categories after leaving school, there are moderate differences between socioeconomic groups in the first year after completing school. These "at-risk" categories are part-time employment without further study, unemployment or not in the labour force. There is a gap of some 5 percentage points between higher and lower socioeconomic status for those who did not do VET in Schools, and some 7 percentage points for those who did. In both cases there is a higher proportion of those in the "at-risk" categories for those in the lower socioeconomic levels. However by the second year after school the gaps had narrowed due to a larger rise in levels of unemployment and participation in part-time work by those in the higher socioeconomic levels than by those in the lower levels.

Between socioeconomic groups there was little difference in the proportion of full-time employment within the VET and non-VET groups. For example 24 per cent of low SES students with VET compared to 25 per cent of high SES students with VET were working full-time and not studying in 1999.

It might be expected that the most marked differences would be evident in university participation. As Kirby (2000), for example, argued "the competition to enter university intensifies pressure on family and school resources, both economic and cultural, which disadvantages students from lower-socioeconomic backgrounds" (p. 71).

Table 16 Activities in 1999 and 2000 for the lowest two achievement quartiles, by participation in VET in Schools and socioeconomic status

	1999				2000			
	Lower SES		Higher SES		Lower SES		Higher SES	
	No VET (%)	VET (%)	No VET (%)	VET (%)	No VET (%)	VET (%)	No VET (%)	VET (%)
Working	**68**	**75**	**74**	**83**	**75**	**85**	**78**	**88**
Full-time	*22*	*29*	*24*	*32*	*32*	*45*	*36*	*47*
No study	18	24	15	25	25	39	26	38
University	2	-	3	2	2	1	5	1
TAFE	2	5	6	5	5	5	5	8
Part-time	*36*	*26*	*43*	*34*	*31*	*21*	*36*	*27*
No study	9	8	6	7	7	8	6	9
University	14	6	23	10	16	6	25	9
TAFE	13	12	14	17	8	7	5	9
Apprenticeship	*5*	*11*	*2*	*8*	*8*	*14*	*4*	*9*
Traineeship	*5*	*9*	*5*	*9*	*4*	*5*	*2*	*5*
Not working	**32**	**25**	**26**	**17**	**25**	**15**	**22**	**12**
Studying	*24*	*15*	*21*	*13*	*12*	*4*	*10*	*2*
University	12	2	13	5	8	1	7	2
TAFE	12	13	8	8	4	3	3	-
Not studying	*7*	*10*	*5*	*4*	*13*	*12*	*12*	*10*
Unemployed	6	7	4	3	12	10	10	10
Not in the labour force	1	3	1	1	1	2	2	-
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
N	*1053*	*571*	*511*	*168*	*1075*	*582*	*515*	*168*

This is indeed the picture we can see in these data. Of the students who did not do VET in Schools, 28 per cent of those from lower socioeconomic levels were at university in 1999 compared to 39 per cent of those from higher socioeconomic backgrounds. Of those students who participated in VET in Schools, 8 per cent from the lower socioeconomic parental backgrounds compared to 17 per cent from the higher socioeconomic backgrounds were enrolled at university. The outcomes were similar for the 2000 data.

In 2000, the educational outcomes for those who participated in VET in Schools are similar to those who did not, with around one in ten from each group attending university and just fewer than one in five attending TAFE (see Table 16). For the groups that did no VET in Schools, there was a larger gap in both university and TAFE participation rates between those from high and low SES backgrounds.

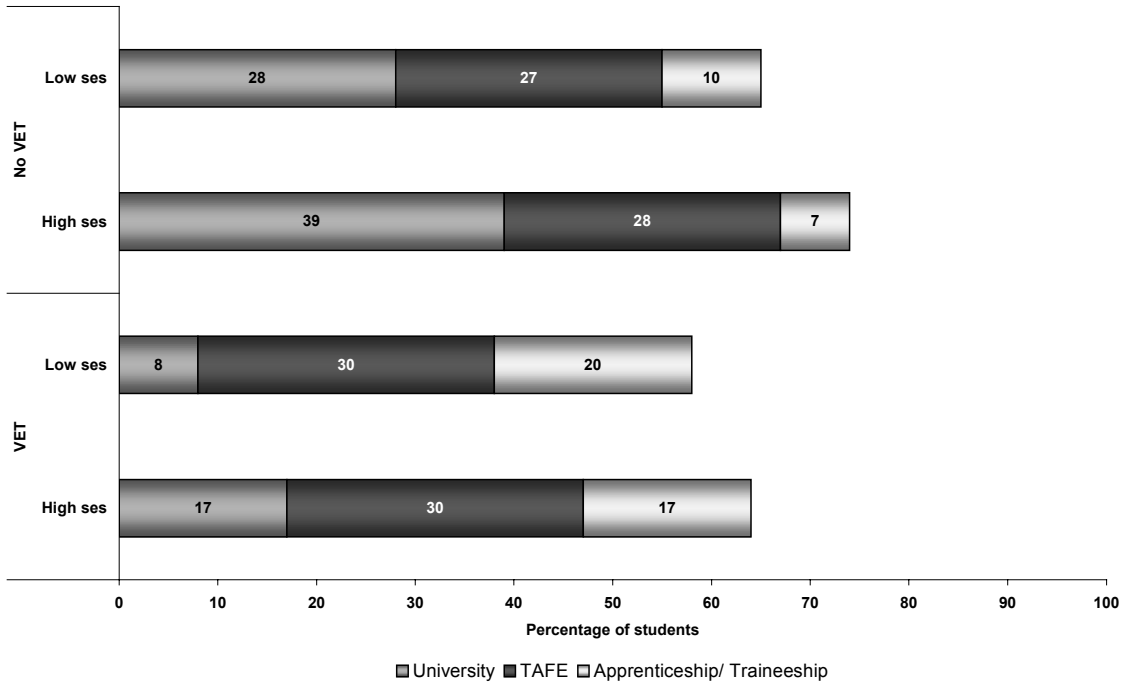

Figure 9 Participation in education and training by students with low achievement, by socioeconomic status and VET in Schools participation, for 1999

This section of the report has provided snapshots of the main activities of different groups of students as they move out of secondary school. In the first year after Year 12 students who participated in VET in Schools were more likely than those who did not to move on to full-time employment. While the proportion of non-VET in Schools students attending university was higher than for the VET in Schools students, more of the VET in Schools students moved on to TAFE studies, apprenticeships and traineeships. These conclusions were found to hold when holding constant achievement and socioeconomic status.

Pathways from the first to second years after school

Annual snapshots of education and employment activities are useful for looking at aggregate changes in participation and status over time. However, they do not take account of changes in individual status from year to year. The aggregate figures can conceal a large degree of movement between activities for different individuals.

This section presents an analysis of the pathways undertaken by students in the first two years after leaving school. This analysis gives us some idea of the activities that are taken by former Year 12 students early on in their post-school lives, and the stability of particular paths.

Figure 10 presents the pathways for those students who studied no VET in Schools in their senior secondary years, Figure 11 the pathways for those who studied some VET in Schools subjects in either Year 11 or Year 12, and Figure 12 the pathways for those students who studied VET in Schools subjects in both Year 11 and Year 12. This last category includes those students who were doing school-based new apprenticeships or traineeships in Year 11 and Year 12.

No VET in Schools studies

As Figure 10 shows, almost half (47 per cent) of Year 12 students who had not participated in VET in Schools continued on to university in the first year (1999) after completing secondary school. The retention rate in university in the second year is very high, with some 80 per cent of students continuing their education at this level. Around 6 per cent leave university to move to full-time work, and around 4 per cent transfer their studies to the TAFE sector. A much smaller proportion (39 per cent) of students remained at TAFE for a second year; and at least part of the large movement out of TAFE would be due to completion of the requirements of the course in the first year. Almost one-quarter of these former Year 12 students who did TAFE in 1999 moved into full-time employment in their second year after school. However, around 7 per cent moved to part-time work and another 13 per cent became unemployed.

The majority of those in full-time work in 1999 remained there (although not necessarily in the same job), while just over one in five returned to study (and perhaps work part-time instead) and one in ten took up an apprenticeship or traineeship. Of those in apprenticeships or traineeships in 1999, just over one-half remained in that program in 2000, while around 30 per cent moved into full-time employment. Around one in ten were working in part-time only positions or were unemployed.

Of those in part-time work only in 1999, one-quarter obtained full-time employment in 2000. Around one in five of the group moved to study at university in 2000 and a little over one in seven to TAFE. One in six remained in part-time employment only from 1999 to 2000, while one in eight became unemployed and a very small number dropped out of the labour force completely. Of those unemployed in 1999, one-quarter obtained full-time jobs in 2000, a further one-quarter moved to study and one-fifth obtained some part-time work. Of those who were classed as "not in the labour force" in 1999, almost two-fifths enrolled in study in the second year after school. The high proportion (31 per cent) who moved into university courses in 2000 suggests that a large number of this group had obtained and deferred places at university in 1999.

Overall, these are positive outcomes for many of this group of former Year 12 students. The majority (85 per cent) were employed full-time or were studying and working. Only 12 per cent were in "economically precarious" positions, that is in part-time work without also studying, unemployed or not in the labour force. The majority of former Year 12 students who had experienced positive outcomes in their first year after school continued to do so in 2000.

The next two Figures compare these former Year 12 students to those who completed some VET studies in school and those who have completed two years of VET studies. In this way we are able to see if the pathways are different for those who have "tasted" VET in Schools and those who have participated more fully.

One year of VET in Schools

It can be seen in Figure 11 that over eight in ten students who studied some VET in Schools subjects in either Year 11 or Year 12 were participating in either full-time employment, study, or an apprenticeship or traineeship in their first year after school. Of those in full-time employment, just over seven in ten remained so into their second year post-school. Around one in seven moved on to either TAFE studies or an apprenticeship

or traineeship after a year of employment. However, just over one in ten moved to part-time employment, unemployment or out of the labour force.

Almost three-quarters of those who went to university straight after secondary school remained there for a second year. Eight per cent moved from study at university to full-time employment, and 6 per cent left university and were unemployed or in part-time work only in their second year. Of those studying at TAFE in their first year after school, some 37 per cent remained there in the following year. Twenty-eight per cent of this group moved into full-time employment while 9 per cent moved into part-time work only and a similar proportion to take up apprenticeships or traineeships.

Twenty-seven per cent of those undertaking apprenticeships or traineeships moved into full-time employment, while 57 per cent remained in the program. Ten per cent of this group moved into the more marginal areas of part-time employment only, unemployment or out of the labour force.

Of those in part-time employment in their first year after school, 32 per cent obtained full-time positions in their second. Twenty-six per cent moved to study, with equal proportions to university and TAFE, while 19 per cent remained in part-time employment alone. A further 16 per cent were unemployed or not in the labour force in their second year out of school.

Twenty-five per cent of those who were unemployed in their first year obtained full-time employment in their second, and the same proportion obtained part-time work. Eighteen per cent remained unemployed, while 10 per cent made the transition to further study at either university or TAFE, and 14 per cent to an apprenticeship or traineeship.

Again, the majority of this group has experienced positive outcomes, with 83 per cent working full-time or enrolled either at university or TAFE or in an apprenticeship or traineeship. As with the group who did not participate in VET in Schools, the majority of those who "tasted" VET in school maintained their path from the first to second years. Their pathways are to a much greater extent vocationally oriented than those of the no VET in Schools group, with 63 per cent, compared to 41 per cent in the no-VET group, either working, enrolled at TAFE or in an apprenticeship or traineeship.

The proportion of those in this group both in 1999 and 2000 working part-time, unemployed or not in the labour force was about 5 percentage points greater than for those who did no VET in Schools.

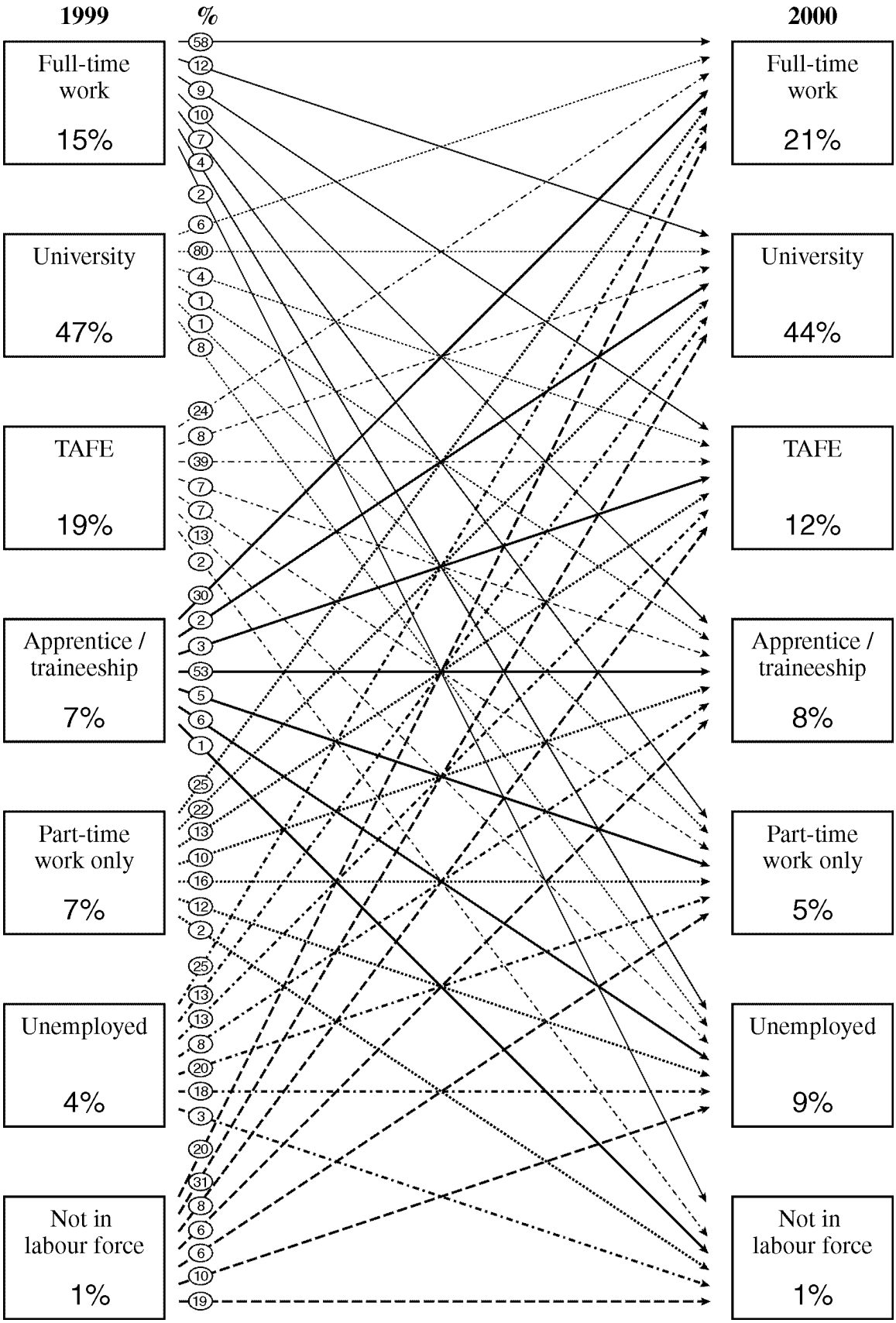

Figure 10 Pathways from the first to second year after Year 12, students with no VET in Schools studies

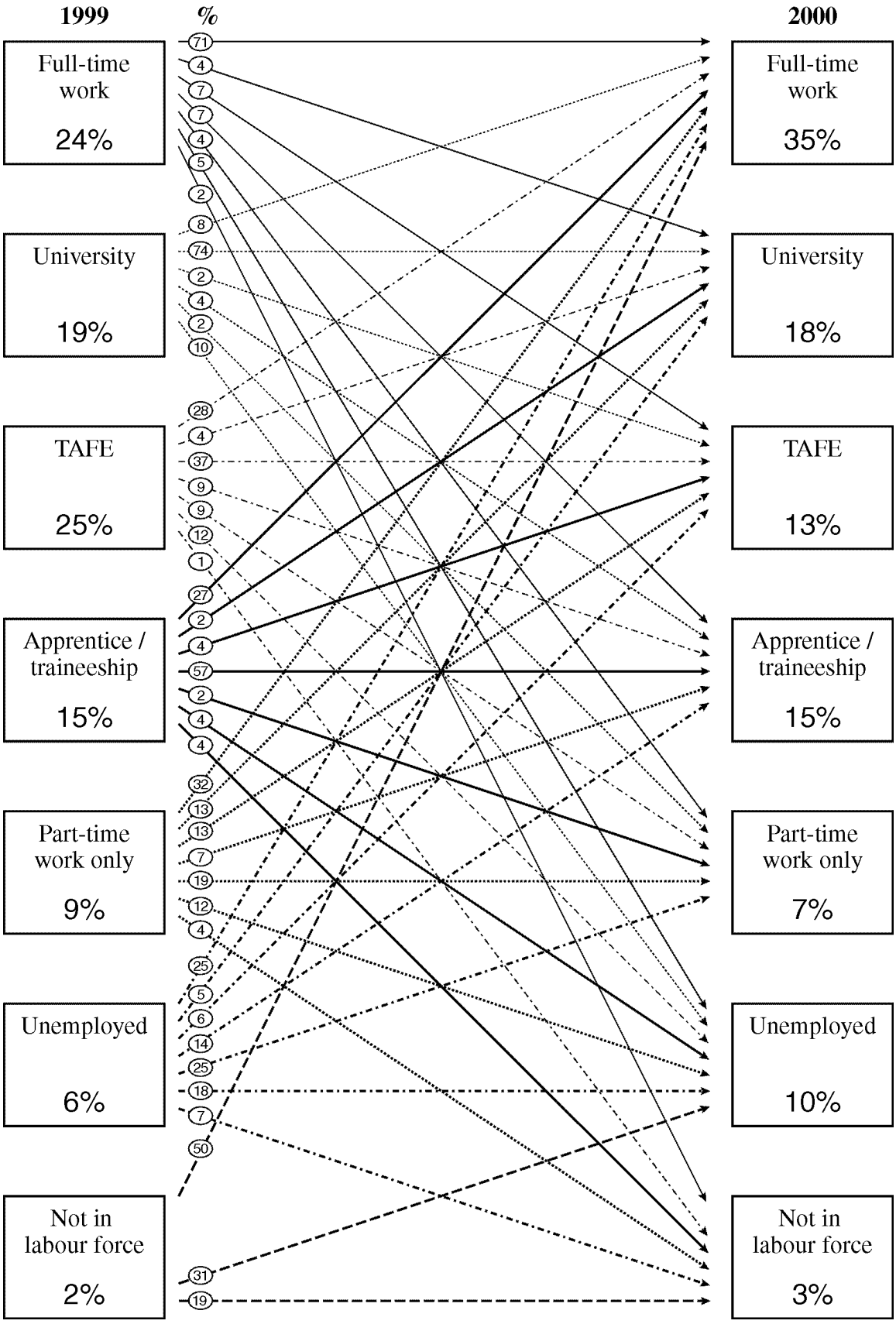

Figure 11 Pathways from the first to second year after Year 12, students with VET in Schools studies in either Year 11 or Year 12

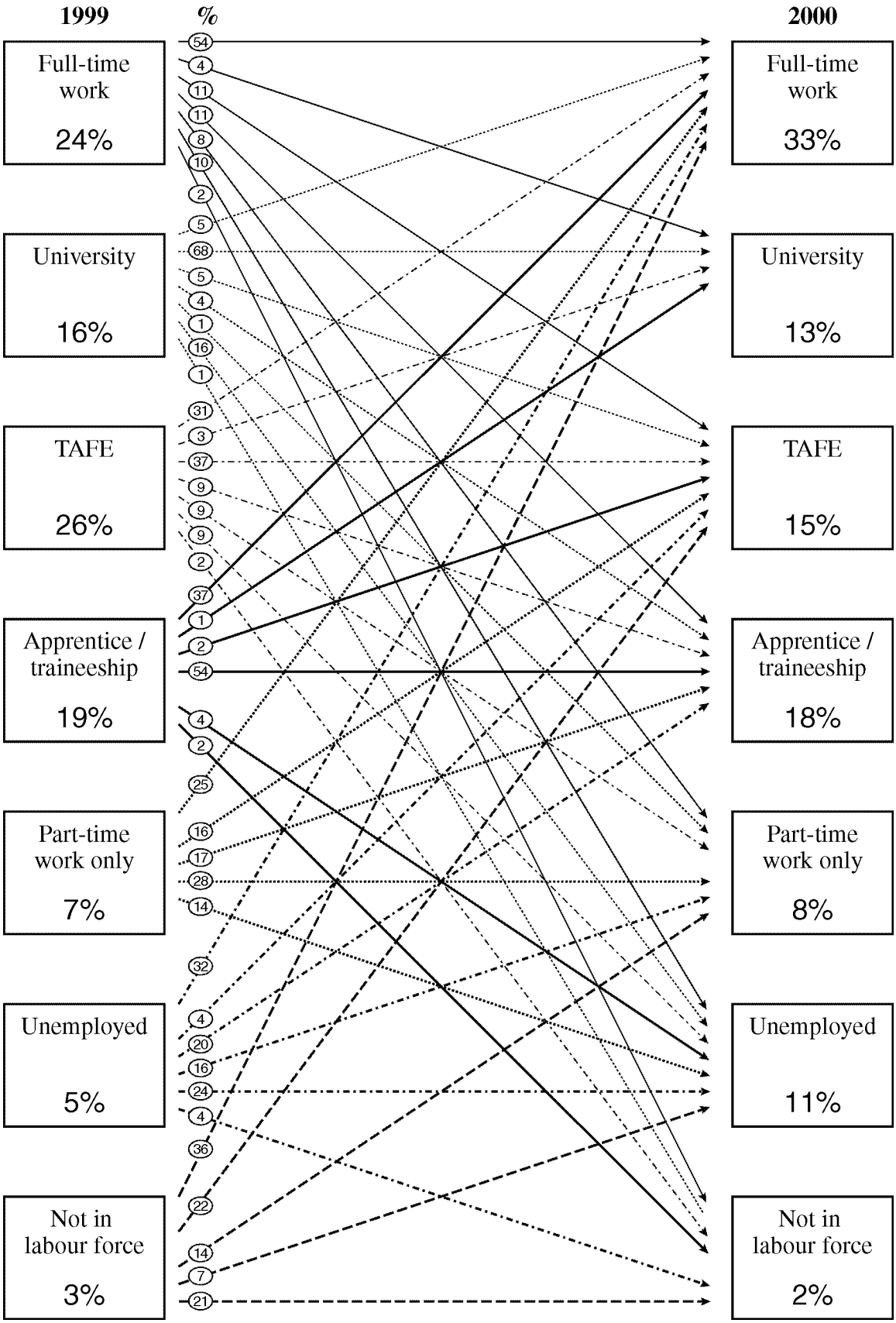

Figure 12 Pathways from the first to second year after Year 12, students with VET in Schools studies at Yr 11 and Yr 12 (incl. Apprenticeships and traineeships)

Two years of VET in Schools

Figure 12 shows the pathways for those for whom participation in VET in Schools was more extensive. These students participated in VET in Schools subjects at both Year 11 and Year 12, so perhaps exhibiting more of a vocational orientation than the other two groups. For these students, university was perhaps less likely to be a destination. Only 16 per cent of this group entered university in 1999 (the first year after Year 12), but most of those students who moved into university studies remained there into 2000.

The most positive and stable outcomes (at this early stage) were perhaps evident for the group who moved into apprenticeships or traineeships directly after finishing school. Almost one in five of the group (19 per cent) were in an apprenticeship or traineeship in the first year after Year 12, and of these, just over half (54 per cent) remained doing so into their second year after school. A further 40 per cent of this group either found a full-time job or transferred to a university or TAFE course.

Of the other groups the outcomes are mixed. Around one in five of those former Year 12 students in full-time employment (20 per cent), attending a university (18 per cent) or TAFE (20 per cent) in the first year after school were in a more "marginal" activity in the second year; either in part-time employment, unemployed or out of the labour force. For those who were already in these categories in the first year, there was not a lot of improvement in the second, with around two in five of these young people remaining in these at-risk categories in the second year.

Thirty-one per cent of those students at TAFE in the first year and 25 per cent of those in part-time positions moved into full-time employment in the second year. Fifteen per cent of those who were in full-time work only in 1999 moved into tertiary education in 2000, while 33 per cent of those who were working part-time moved into TAFE or an apprenticeship or traineeship.

Apprentices and trainees

The group of students who participated in school-based apprenticeships and traineeships in Years 11 and 12 was small, comprising 71 members of the cohort. Table 17 presents the numbers of such young people for each of the educational, training and labour force experiences for 1999 and 2000. Because of the small numbers involved, these data should be treated with caution.

Summarising Table 17, and providing some context from the pathways that are evident:

- More males than females were working full-time in both years.
- More females than males were attending university in both years.
- More females than males were at TAFE in 1999. All of these females moved into full-time employment in the second year, and the change in numbers enrolled in TAFE courses comes from others moving into them from either full-time or part-time employment.
- Rates of participation in apprenticeships in the two years following completion of secondary school were a great deal higher for males than females. While some students completed their apprenticeship and moved into full-time work, several took up apprenticeships in the second year; principally those who had been working part-time or full-time or had been attending TAFE.

Table 17 Outcomes in 1999 and 2000 for students who participated in apprenticeships and traineeships in Years 11 and 12, by gender (actual numbers)

	1999		2000	
	Males	**Females**	**Males**	**Females**
Working	**34**	**17**	**33**	**19**
Full-time	*14*	*1*	*12*	*6*
No study	10	1	12	6
University	-	-	-	-
TAFE	4	-	-	-
Part-time	*4*	*11*	*6*	*9*
No study	3	1	2	4
University	-	6	-	5
TAFE	1	4	4	-
Apprenticeship	*15*	*4*	*15*	*4*
Traineeship	*1*	*1*	-	-
Not working	**9**	**10**	**10**	**7**
Studying	*7*	*2*	*3*	*1*
University	5	2	3	1
TAFE	2	-	-	-
Not studying	*2*	*8*	*7*	*6*
Unemployed	2	4	6	5
Not in the labour force	-	4	1	1
Total	**43**	**27**	**43**	**26**

- The number who were unemployed was generally quite low for those who had a school-based apprenticeship or traineeship, but for both males and females slightly more were unemployed in the second year after school.

Summary

This chapter has examined activities and pathways after school for those who did no VET in Schools studies, those who did some VET in Schools studies, those who did VET in Schools studies in both Year 11 and Year 12. Key findings were as follows:

- A higher percentage of males than females went from school into full-time jobs in their first year after school, however by the second year a higher percentage of females than males were in full-time work;
- Of those who did not do VET in Schools, males in further study were concentrated in areas of computer sciences, with most of the remainder entering professions such as business, engineering and commerce, while females' participation was spread more widely over a range of courses, the main ones being traditional "female" areas such as nursing and the humanities;
- Of those who did participate in VET in Schools, males were more likely to be studying computer sciences, with the remainder generally entering trades. Females

were more likely to be enrolled in travel and tourism courses, with the remainder in other personal service areas;

- Those who had done VET in Schools were more likely to move into apprenticeships or traineeships after school than those who did not do any VET studies;
- Unemployment rates in the first two years after Year 12 were similar for the VET in Schools and non-VET groups;
- For males, VET in Schools participation appears to be associated with a stronger pathway to full-time employment than for females, particularly for those males who completed two years of VET in Schools studies;
- Young females participate in tertiary education to a greater extent than do young males, particularly university, and combine work with study to a greater extent. In addition, more females than males remain in study in the second year post-school, and these differences increase by the level of VET in Schools participation;
- Two years of VET in Schools participation appears to act in different ways for males and females: for males it is associated with a substantially lower likelihood of attending university; while for females it is associated with a greater likelihood;
- For those in the lowest achievement quartile at Year 9, VET in Schools appears to be associated with a pathway to employment, but not to tertiary education;
- For those students in the lowest two achievement quartiles and lowest two socioeconomic groups, VET in Schools is associated with a pathway to employment rather than into further education or training;
- Twice the proportion of males than females in the lowest achievement and lowest socioeconomic group participated in apprenticeships or traineeships after they had completed Year 12;
- For those students in the lowest two achievement levels, students from higher parental background status were more likely to be attending university than those from low status parental occupational backgrounds.

Examination of the pathways from the first to second years after Year 12 showed that:

- For those students who move on to full-time work after school, TAFE or apprenticeships or traineeships, participation in at least one year of VET in Schools appears to be associated with a higher proportion of positive outcomes;
- For those former Year 12 students who are classified as either working part-time (with no study), unemployed, or not in the labour force, participation in VET in Schools did not appear to improve their outcomes in the second year. Adverse experiences in the first year after school seem to persist. The main contribution of VET in Schools is in increasing the likelihood of the first post-school year being spent in full-time work, an apprenticeship or traineeship, or tertiary education.

4

Conclusions

The introduction of vocational education and training (VET) programs into secondary schools is a significant development in Australian education. VET in Schools programs are intended to broaden the range of curriculum offerings and provide young people with another pathway into work and tertiary education. This report has used a substantial longitudinal data set, the Longitudinal Surveys of Australian Youth, to analyse the levels of participation in VET in Schools, the characteristics of the young people who take these programs, and their work and study activities after leaving Year 12.

The report provides several features that have not been available before from the research literature on VET in Schools.

- The data provide a national picture of participation and post-school activities, whereas most previous studies have concentrated on particular states.
- The sample provides a full representation of the national cohort of young people who were enrolled in Year 9 in 1995, and their activities since that time. Because the sample covers all the cohort, it enables those who have done VET in Schools to be compared with those who have not.
- The longitudinal nature of the LSAY data enable allowance to be made for the social and educational backgrounds of the students who take up different options in Year 11 and Year 12, including VET in Schools.

Despite the considerable advantages of the LSAY data, some limitations should be recognised. Firstly, the data about participation in VET in Schools are based on students' self-reports. These data may underestimate actual participation levels, as students may not always be aware that some of their subjects are officially classified as VET in Schools. Secondly, although LSAY is a large sample, the estimates are subject to sampling error, particularly in the case where the numbers enrolled are low.

In addition there are two further challenges posed for any study of VET in Schools. There is a great variety around Australia in the nature of the VET programs that are provided by secondary schools. As well, most students taking VET in Schools spend relatively little time in that part of their curriculum. The heterogeneity of the programs offered and the limited amount of time involved in them suggest caution in attributing too much to the effect of VET participation on post-school activities.

Participation in VET in Schools

Given these caveats, it is important to monitor both participation in VET in Schools and the activities after completing Year 12 of those who undertake such studies. With a focus on those sample members who completed Year 12 in 1998 this report disaggregated the data to compare four groups of students. These groups were:

- those who did not participate in VET in Schools;
- those who participated in VET in Schools subjects at either Year 11 or Year 12;
- those who participated in VET in Schools at both Year 11 and Year 12; and

- those who undertook a school-based new apprenticeship or traineeship in Year 11 and Year 12.

While VET in Schools has shown annual growth, the profile of the young people who participate in it has remained relatively stable. More than six in ten students participating in VET in Schools were found to be located in the lowest two achievement quartiles, and twice the percentage were from unskilled manual backgrounds as from professional backgrounds. Most are enrolled in government schools. They were more likely to be those who wish to leave school if there was an opportunity to do so, and more likely to be somewhat disengaged from and less satisfied with the educational system.

Participation was more likely among those students who saw school as providing them with some opportunity to learn things that would be useful for them in adult life, however it was less likely among those students who felt that they could be successful at school. This latter finding has some implications for the management of VET in Schools programs. If in general the students who participate in these programs are more negative about their ability and the educational system, then positive steps need to be taken to engage these students. VET in Schools needs to be seen by these students and by the wider community as a positive alternative to the more traditional academic subjects. It also needs to be perceived as valuable for all students rather than just catering for low achievers.

Fewer than 15 per cent of students from high socioeconomic parental occupational backgrounds, (compared to 25 per cent of those from low socioeconomic parental backgrounds), and 13 per cent of those from the highest achievement quartile, (compared to 37 per cent from the lowest achievement quartile), participated in VET in Schools. There were also marked differences in the rates of participation in VET in Schools between government and non-Catholic independent schools. It is difficult to attribute causality to these differences. Is it because VET in Schools is perceived as being a "second-best" option, or is it that the plans of students in independent schools, those in high socioeconomic levels and those with high levels of achievement are more likely to include further study and entry into the professions rather than entering the workforce or completing a trade course? Further research is needed to explore this question.

Activities after completing Year 12

This report also examined the outcomes for each of the groups of students in the first two years after completing secondary school. For VET in Schools programs to be seen to be effective, they must be seen to improve the pathways for young Australians who might otherwise be disadvantaged by the traditional tertiary-oriented focus of secondary schools. While this study can only report on the very early post-school outcomes, there are some promising signs that this is the case. While there is some milling and churning in the first two years, a number of positive outcomes can be seen and some stable pathways appear to be forming. Lamb & McKenzie (2001) argue that there is a strong relationship between initial post-school activities and long-term outcomes, underlining the importance of research monitoring these activities.

The results suggest that VET in Schools is associated with a pathway either into a recognised form of post-secondary vocational education and training, including apprenticeships and traineeships, or into work without any further training. Participation

in VET in Schools is much less likely to provide a pathway to university study. VET in Schools participation appears to be associated with an increase in the likelihood of young women remaining in education; however these results are not seen so clearly for young males. For those in the lowest achievement quartiles, participation in VET in Schools appears to provide a "buffer" that largely sustains positive outcomes from the first to second year after completing school. For those students in the lowest two achievement quartiles and lowest two socioeconomic groups, those most at-risk of ending up in economically precarious positions, participation in VET in Schools appears to be associated with a successful transition to full-time employment and to similar levels of participation in TAFE as those who did not participate in VET in Schools.

For these young people, to have remained and completed their senior secondary certificate, and for the majority to have moved successfully into full-time work or further study can be seen as a success for the VET in Schools program. Acknowledgement is due also to the teachers and schools who manage the program. However, it is unreasonable to assume that VET in Schools will work as a universal panacea. This report has highlighted a number of positive outcomes for students participating in VET in Schools programs, and as such it is important that support continues to be provided for further development of these programs in schools.

The results of this study underline the importance of monitoring participation and outcomes of participation in VET in Schools. In order to do so, it is important that the outcomes of those who do not participate in VET in Schools also be monitored, in order that some comparisons can be made. VET in Schools is still in its infancy. It is also perhaps the most substantial change that has occurred in post-compulsory study over the last decade. Offering students a range of options and pathways in their post-compulsory schooling suited to differing interests and needs of young people encourages a higher proportion to remain in education and training.

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Appendix 1: Sample and measures

The Sample

The LSAY samples involved a two-stage clustered design. Schools were first sampled with a probability proportional to the size of their Year 9 enrolments, and then intact classes of Year 9 students were sampled from within each school. When a school declined to take part in the study, a replacement school of the same type (Government, Catholic or Independent) in a nearby locality (identified by postcode) was selected.

In large schools two or three classes were sampled, whereas in small schools all Year 9 students constituted the sample. On average, 48 students were sampled per school. Around 6 per cent of all Year 9 students were selected in each sample, and around 12 per cent of schools with Year 9 students. Small States and Territories were over-sampled in order to give large enough samples for estimates at State level. The two-stage clustered nature of the sample means that the confidence limits for population estimates are larger than for a simple random sample of students of the same size. The structure of the initial Y95 sample is given in Table A1.

Longitudinal samples are subject to attrition as contact is lost with some sample members and others decline to continue with the survey. Typically, the annual response in LSAY has exceeded 90 per cent. However, the impact of sample attrition is cumulative. At the end of 2000 the active sample size of the Y95 cohort was 7889 members (58 per cent of the original sample). Sample attrition is generally non-randomly distributed among the original sample members. The common pattern is for attrition to be greatest among young people from more disadvantaged backgrounds. Weighting procedures are used to adjust for the effects of non-random sample attrition.

Following the school-based collection of data from sample members in Year 9, the following year ACER mails them a short pen-and-paper survey form to their home address. This form collects basic information on their educational and labour force activities over the previous 12 months and contact details for subsequent telephone-based interviews. In the second year after the initial survey contact (by which time sample members are normally in Year 11) the method of data collection changes to Computer-Assisted Telephone Interviewing (CATI).

The initial contact in Year 9 also involves students in completing a short questionnaire that collects information on their family background, and their educational and occupational aspirations. Over time the LSAY data collections from each cohort build up a comprehensive picture of the social and educational backgrounds of young people, their participation in various forms of education, training and work, and their attitudes to education, work and life more generally.

Table A1 Schools and Students in the 1995 Year 9 LSAY Sample

State	*Sector*	*Y95 Schools*	*Y95 Students*
NSW	*Government*	44	2118
	Catholic	13	663
	Independent	6	309
	Total	63	3090
VIC	*Government*	39	1931
	Catholic	11	568
	Independent	8	366
	Total	58	2865
QLD	*Government*	37	1809
	Catholic	8	396
	Independent	7	319
	Total	52	2524
SA	*Government*	26	1050
	Catholic	5	240
	Independent	5	430
	Total	36	1720
WA	*Government*	29	1187
	Catholic	4	259
	Independent	6	391
	Total	39	1837
TAS	*Government*	11	337
	Catholic	3	136
	Independent	2	109
	Total	16	582
NT	*Government*	8	304
	Catholic	1	50
	Independent	1	42
	Total	10	396
ACT	*Government*	7	345
	Catholic	4	205
	Independent	1	49
	Total	12	599
AUS	*Government*	201	9081
	Catholic	49	2517
	Independent	36	2015
	Total	286	13613

Measures

The variables used in this study were defined as follows:

Participation in VET in Schools: Participation in VET in Schools was defined from positive responses to questions on the 1997 and 1998 surveys asking Years 11 and 12 students respectively to indicate whether they were completing subjects at a TAFE college or VET subjects or courses as part of apprenticeship or traineeship courses.

Parents' occupation: Sample members were asked to report the occupations of their father or male guardian and mother or female guardian, and to describe their work. This information was used to create the occupational measure. To simplify the presentation and make best use of the available information, the occupation of the male parent was taken as the basis for the occupational measures. When information on the male parent was missing, that of the female parent was substituted. The responses were assigned occupational prestige scores based on the ANU2 scale (Broom et al., 1977), and then a condensation of the full scale was used, comprising:

- professional;
- managerial;
- clerical and related intermediate non-manual; and
- manual.

Parents' educational level: Respondents were asked to report the highest level of education completed by each parent. The measure of parents' education is based on a combination of these two variables similar to that described, except that mother's education was taken as the base measure which, if missing, was replaced by father's education.

Place of residence: This variable covered young people living, in Year 9, in

- rural areas of Australia or
- urban/metropolitan areas.

It was derived from a question asking whether the respondent lived in a capital city, some other city, a rural town or village, or other rural area.

Parents' country of birth: This birthplace variable was coded according to three categories:

- Australian-born,
- Born in another English-speaking country, and
- Born in non-English speaking country.

To be classified as non-English speaking, both parents had to be born in a non-English speaking country. To be classified as Australian-born, at least one parent had to be born in Australia.

Type of school attended: This measure refers to the type of school attended in Year 9. Three categories are used:

- Attendance at a government school,
- Catholic school,
- Non-Catholic independent school.

School Achievement: School achievement is a score which combines results from standardised reading comprehension and numeracy tests administered to sample members when they were in Year 9. For this report, the achievement scores were divided into quartiles from lowest to highest.

State or Territory: This measure refers to the State or Territory in which students were attending school in Year 9.

Main activity: This involved the activities that young people reported that they were engaged in at their annual interview. Their main activity was defined as the one which they were doing for the main part of that year (more than six months).

Full-time and part time work: Full-time work refers to 30 or more hours per week and part-time work to less than 30 hours.

Not in the labour force: This included those who were not in paid employment, not in further study or training, and not unemployed.

Aspirations: Respondents were asked in Year 10 about their intentions with regards to further study (university, apprenticeship or traineeship, TAFE, no study or undecided). They were also asked when they planned on leaving school (Year 10, Year 11 or after completing Year 12), and what their plans were for the year after completing school (work only, study only, or a mixture of the two).

Satisfaction with schooling: The dimensions that describe the students' beliefs about the quality of their school life were developed from their responses to questions asked in Year 9 about their views on their life at school. The constructs that were derived from these questions focus on:

- General Satisfaction with school, reflecting responses to items such as *"I like to go to school*", and "*I enjoy what I do at school*";
- Opportunity or relevance of school, reflecting responses to items such as "*School is a place where I learn things that will help me in adult life*", and *"At school I get a chance to do interesting work*";
- Achievement, reflecting responses to items such as "*I can be successful*" and "*I can achieve a satisfactory standard in my work*"; and
- Attitude to teachers, reflecting responses to items such as "*Teachers give me the marks I deserve*" and "*Teachers are fair and just*".

Appendix 2: Multivariate analysis

Logistic regression was used for this analysis since the dependent variable (participation in VET in Schools) is a dichotomy. Logistic regression allows one to predict a discrete outcome such as participation from a set of variables that are categorical.

The model to which other categories was compared had the following characteristics:

- Male
- Government school
- English-speaking background
- Parents in unskilled occupation
- Metropolitan area of residence
- Lowest overall achievement quartile
- At school in New South Wales.

Predicted probabilities were calculated using the logistic regression equation for the probability of an event occurring:

$$\text{Prob(event)} = \frac{1}{1+e^{-Z}},$$

where Z is the linear combination $Z = B_0+B_1X_1+ B_2X_2+ \ldots + B_pX_p$.

The results of the analysis are shown in Table A2, which provides regression coefficients, the significance of the coefficients, and the odds ratios for each variable in the model.

Table A2 Influence of social background and educational characteristics on participation in VET

	Regression coefficient	Significance	Odds Ratio
Intercept	-1.60	.001	
Gender			
Male	-	-	-
Female	-.11	ns	.11
Parents' occupational group			
Manual	-	-	-
Clerical/Personal service	-.01	ns	.99
Managerial	-.36	.001	.70
Professional	-.50	.001	.61
Parents' country of birth			
Australia	-	-	-
English speaking country	.10	ns	1.10
Non-English speaking country	-.38	.001	.68
Locality			
Metropolitan	-	-	-
Rural and remote	.02	ns	1.02
School sector			
Government school	-	-	-
Catholic	-.10	ns	.91
Non-Catholic independent	-.58	.001	.56
Early school achievement quartiles			
Lowest	-	-	-
Lower middle	-.29	.01	.75
Upper middle	-.83	.001	.44
Highest	-1.17	.001	.31
State or Territory			
New South Wales	-	-	-
Victoria	-.75	.001	.47
Queensland	.77	.001	2.16
South Australia	-.29	.05	.75
Western Australia	.44	.001	1.55
Tasmania	-.02	ns	.98
Northern Territory	-.50	ns	.61
Australian Capital Territory	-.54	ns	.58