

# Lessons and challenges: Vocational education in schools – Research overview

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# Lessons and challenges

## Vocational education in schools – Research overview

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The views and opinions expressed in this document are those of the author/project team and do not necessarily reflect the views of the Australian Government, state and territory governments or NCVER

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# Key messages

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This report provides an update on research findings and policy directions in relation to vocational education and training (VET) programs in schools between 1997 and mid-2003. It builds on a 1997 general review of research on the topic.

- ✧ As VET in Schools has evolved, early concerns about its value have been addressed and it has achieved a legitimate place in the school curriculum for senior year students in Years 10, 11 and 12. Earlier research had found that, in many schools, VET programs were of low status and seen as a ‘soft’ option. However, a major recent study reports a ‘sea change’ in cultural attitudes within schools, although industry acceptance of these programs remains an issue.
- ✧ Research undertaken towards the end of the timeframe considered by this project and focused on short-term outcomes, suggests that school VET is helping students to move on to work or to post-school VET at higher qualification levels, and that structured workplace learning is a key mechanism for achieving this. It is of concern, therefore, that the amount of real work experience is diminishing per student in VET in Schools programs.
- ✧ While a range of personal and social benefits of school VET programs have been identified by students and their teachers—such as improved student motivation and confidence and reduced absenteeism from school—the emerging outcomes data suggest that VET in Schools programs apparently have not kept more young people at school. Rather, they have made school more attractive for those students already planning to continue their studies.
- ✧ The literature also makes it clear that the practicalities of implementing VET in Schools programs, including the structured workplace learning components, remain major obstacles that are poorly understood by policy-makers and system-level managers.

# Executive summary

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The aim of this research was to develop a stocktake of activities and issues in vocationally oriented education in schools through the perspectives of the published research literature and policy documentation. Structured interviews were also undertaken with key policy personnel in Australian Government and state policy units with responsibility for vocational education in schools. The review focused on the period 1997 to mid-2003.

In accordance with the research brief, the starting point for the stocktake is the first general review of research on vocational education and schools, conducted in 1997 for the National Centre for Vocational Education Research (NCVER) (Ryan, R 1997). This review noted that, while the literature on vocational education and training (VET) in schools was extensive, little of it was based on firm data or systematic research. A concern in the 1997 review was the lack of data on outcomes and student achievement from the school vocational education experience. This has now been substantially remedied by a range of studies and by data from the Longitudinal Surveys of Australian Youth (LSAY).

## Findings

### Concepts and policies

As vocational programs in schools have evolved and become more widespread, the issue of defining the different types of programs has become more of a challenge. This was apparent in the review of the literature, which has found a number of studies that lack a definition of the type of vocational program involved. Our view is that differing definitions essentially reflect the multiple objectives of vocational learning programs and the differing goals of their proponents.

The broad categories of vocational programs in schools are described in this review under the following headings:

- ✧ vocational learning
- ✧ VET in Schools
- ✧ school-based New Apprenticeships
- ✧ work experience
- ✧ structured workplace learning.

In this report, the term ‘vocational learning’ is used as the most broadly encompassing term, following the example of the Department of Education, Science and Training, while VET in Schools is restricted to those programs involving recognised training in accordance with the National Training Framework as adopted by the Ministerial Council on Employment, Education, Training and Youth Affairs.

Interviews undertaken for this review with Australian Government and state policy personnel identified a strong trend to promote vocational learning, with VET in Schools programs (as defined by the Ministerial Council on Employment, Education, Training and Youth Affairs) as one component of this broader program context. There is also a trend for broader vocational learning to be part of a suite of programs, including career and enterprise education programs, designed to make school curricula more relevant to students' future working lives and to make stronger links between school and community. Since the development of the National Training Framework and the adoption of the Ministerial Council on Employment, Education, Training and Youth Affairs definition, there is now more general agreement on the use of terminology.

Concern to develop a clearer definitional framework for vocational learning in schools reflects in part a more sophisticated conceptual rationale for, and critique of, vocational programs in Western countries, particularly Organisation for Economic Co-operation and Development (OECD) members. Even so, varying stakeholder motives and perceptions cloud debate.

According to OECD research, the most successful transition pathways are those that allow both a high level of general education and an occupational qualification. This principle has been reflected in many aspects of VET in Schools policy development in Australia since 1997, especially the development of certification and assessment procedures that encompass both vocational and general education, often through the embedding of vocational learning within broader curricula.

Much of the evolution of VET in Schools in Australia since the mid-1990s has occurred as educators and policy-makers have attempted to develop bridges between vocational and general education. As a result, all states and territories now have some mechanism for recognising vocational courses in the senior secondary credential, and for counting the results towards tertiary entrance. The possible effects of marginalisation of VET in Schools programs remains an issue, although there is evidence of increased popularity among students with high academic abilities.

## Participation trends

Despite difficulties in gathering reliable and consistent data, it is clear that enrolments in vocational learning programs have increased substantially since 1997. Student numbers in VET in Schools have increased from an estimated 60 000 in 1996, to 185 500 in 2002. This growth represents an increase in the proportion of senior secondary students engaging in VET in Schools programs from 16% to 44%. Participation in structured workplace learning has also increased, although average hours available to students have decreased in recent years.

Although research on the capacity of vocational school programs to be equitable is patchy, there are indications that, with appropriate support and individualised modifications, these programs offer scope to develop pathways to further learning and to work for all students. Many of the lessons learned in relation to equity target groups provide models of delivery that represent good practice for all students. For example, VET programs have also been found to offer potentially positive outcomes for school students in rural areas—providing that the particular challenges arising from remote locations are addressed.

## Outcomes

In 1997, only a small number of formal evaluations had been completed, but by mid-2003 there was now a much more substantial body of evidence from which to seek conclusions. A number of studies have suggested that school VET provides a pathway to post-school VET, with higher proportions of school VET students continuing on to post-school VET. Studies of employment outcomes indicate that school VET programs are associated with higher employment levels

(Johns et al. 2004, p.10), particularly full-time employment (Fullarton 2001), and the link between school VET and employment has been found to increase beyond the first year after leaving school (Johns et al. 2004, p.11). Work placements have been associated with positive employment outcomes (Enterprise and Career Education Foundation 2002a).

Improvements in knowledge and learning are harder to demonstrate than social and personal benefits. A range of studies show that benefits to students lie less in the acquisition of specific vocational skills and more in confidence, maturity and independence, improved motivation and reduced absenteeism (Malley et al. 2001a). The largest issue for students, however, is marginalisation of VET programs and the status of VET courses.

School VET programs attempt to make use of real work experience to enable transfer of specific learning to generalised contexts and competencies, and to place them in a broader educational framework. Structured workplace learning is the primary mechanism for achieving this, so it is unfortunate that students' average participation has decreased in recent years, despite greater numbers receiving some exposure.

Work placement was found to be a critical success factor in achieving positive employment outcomes for school VET students in rural areas (Johns et al. 2004). There is a substantial body of research that supports the value of learning at and from work, not simply for vocational skills, but for its contribution to general education. The evidence suggests that authenticity, acceptance of responsibility and freedom from school constraints are important factors in the popularity of vocational programs and work placements among students (Ryan, R 1997, 2002; Malley et al. 2001a).

## Vocational learning in schools as an educational experience

Two broad themes are evident in research and these debate:

- ✧ the appropriateness of assessment and certification practices
- ✧ the quality of the experience for students and its contribution to learning outcomes.

A great deal of progress has been made on technical issues involved in the assessment of vocational programs, their inclusion in senior secondary certificates and their use for university entrance. However, debate continues over the value of specific, compared with generic, vocational skills, the practice of embedding vocational modules under the Australian Qualifications Framework in broader school courses, problems arising from competency-based assessment, and differing views of the nature of underpinning knowledge in vocational education.

## Quality issues

A consistent feature of critiques relating to vocational programs in schools is that the quality of the learning experience both in schools and in job placements is questioned, often in ways which reveal a depth of mistrust and cultural difference between the parties, especially school educators and industry representatives. There is a lack of systematic research on industry acceptance of VET in Schools in particular.

## Resource issues

The research leaves us with little doubt that vocational programs in schools are resource-intensive and that this has been a constraining factor throughout the life of these programs. Costs of vocational programs vary. There may be little additional cost where a simple vocational curriculum is substituted for an existing subject, but as qualitative change is made, especially the

integration of a substantial degree of structured workplace learning, costs rise significantly. Research by Polesel et al. (2003) identified fees as a key barrier to student participation in school VET programs. Apart from financial costs, there may simply be too few qualified and enthusiastic teachers and cooperative workplaces and employers. Considerable concern exists within school systems on the future of vocational programs once seed funding ends. A report commissioned by the Department of Education, Science and Training (2003) has explored cost issues more comprehensively than most existing sources.

## Emerging issues

Although not the subject of systematic research, the literature makes it clear that the practicalities of implementing VET in Schools and vocational learning at school and worksites remain major obstacles that are poorly appreciated by policy-makers and system-level managers.

There is little evidence that school VET programs have assisted in the major objective of encouraging increased retention enabling school completion—they may merely be providing a more attractive option to continuing students (Malley et al. 2001a). Several commentators have placed vocational learning initiatives in a broader context of school reform. To move beyond this pattern may require more comprehensive reform which focuses on structures and institutional form, as well as on curricula and programs (Selby Smith 2002, p.28).

The literature contains very little comment and no systematic research on vocational education for younger age cohorts. Clearly, duty-of-care issues, which already concern teachers, are greater when younger students are involved in workplace experience (Currie & McCollow 2002). However, the need to develop pathways into vocational programs from early in the secondary years has been identified as crucial to the participation of disadvantaged students, particularly Indigenous young people (Australasian Committee of Chief Executive Officers of Curriculum, Assessment and Certification Authorities 2002) and those with a disability (Barnett 2002).

# Introduction

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The aim of this review is to update research findings on vocational programs in schools since the first general review of research on this issue published in 1997 by the National Centre for Vocational Education Research (NCVER) (Ryan, R 1997) and to analyse the directions these programs are now taking.

The review of the literature was supplemented by structured interviews with key policy personnel in Australian Government and state policy units with responsibility for vocational education in schools. The review covered the period 1997 to mid-2003 and was guided by a number of research questions:

- ✧ What have been the policy drivers and underlying conceptual bases underpinning the evolution of school-based vocational learning?
- ✧ What is the current state of VET in Schools programs and other vocational learning initiatives aimed at school students? What data are available and what issues arise from current data collections?
- ✧ What impact is being made on particular groups such as Indigenous students, those with a disability and those in rural and isolated areas?
- ✧ What have been the major impacts of vocational learning initiatives?
- ✧ What does the research tell us about costs, benefits, quality and challenges?
- ✧ What is known about employers' and community attitudes?
- ✧ What are the likely future directions for vocational learning in schools?

## Literature since 1997

The previous NCVER review noted that, while the literature on vocational education in schools was extensive, little of it was based on research (Ryan, R 1997, p.3). However, in the intervening years the foundations for a substantial body of formal research have begun to emerge. This is reflected in official documents which now contain an increasing amount of supporting evidence for policy positions (for example, Spring & Syrmas 2002; Department of Education, Science and Training 2002; ANTA 2002a, 2002b). Published material now includes a number of comprehensive reviews of available data and evidence; for example,

- ✧ Malley et al. document the history, conceptual basis, policy evolution, practice and theoretical and practical issues arising from a decade of experience of the contemporary style of VET in Schools and vocational learning programs in Australian schools, published in two parts in 2001 (Malley et al. 2001a, 2001b).
- ✧ At much the same time, a review of policy and research in vocationally oriented school education was commissioned by TAFE Directors Australia and subsequently published in shorter form ((Ryan, R 2002).

- ✧ The House of Representatives Standing Committee Inquiry into Vocational Education in Schools (2002–03) has played a catalytic role, producing a range of research and practice-based analyses. These include:
  - ◆ NCVER has reviewed a wide range of primarily quantitative data in its submission to the inquiry (NCVER 2002).
  - ◆ Submissions to the inquiry by official and other stakeholders incorporate substantial overviews of published evidence (for example, Department of Education, Science and Training 2002; TAFE Directors Australia 2002; ANTA 2002a).
  - ◆ The Australian Education Union submission to the inquiry was also based on independent research (Currie & McCollow 2002).

A concern in the 1997 review was the lack of data on outcomes and student achievement from the vocational learning experience. This has now been substantially remedied by a range of studies (many summarised in NCVER 2002) and by data from the Department of Education, Science and Training–Australian Council of Educational Research Longitudinal Surveys of Australian Youth (Department of Education, Science and Training 2002, chapter 6).

Specific destinations surveys, sometimes of rather restricted scope, have followed; for example, Victorian VET in Schools graduates (Polesel 2001; National Working Group on the Recognition of VET in Schools 2001; Polesel, Teese & O'Brien 1999a, 1999b), rural students (Abbott Chapman & Kilpatrick 2001), independent schools (Lambert & Stehlik 2002) and equity groups (Holden 2001). Outcomes of structured workplace learning and other work experience programs are also increasingly well documented (Misko 1998; Enterprise and Career Education Foundation 2002a).

Other studies report practical experience in the field, case studies of programs, employer attitudes, certification and assessment, resourcing, curriculum, quality of on- and off-the-job learning experiences, intersectoral and cultural barriers and successes, and a range of implementation issues at system and site level (Malley et al. 2001a; Ryan, R 2002). VET in Schools and other vocational learning programs have been comprehensively described and some attempts at taxonomy development initiated (NCVER 2002; Malley et al. 2001b).

While the greatest range of quantitative information comes from participation and outcomes research, there is a need for caution, because of both data collection and methodology issues (NCVER 2002), and because policy development and program evolution have proceeded at such a pace that lengthy time series comparisons of same or even similar programs are not generally available (Malley et al. 2001a). In particular, many outcomes studies based on early or mid-1990s programs revealed at best a mixed, and frequently a negative picture of the benefits of school-based vocational learning (NCVER 2002; Robinson, Ball & Misko 2001; Ball & Lamb 1999b).

Lifelong learning perspectives are only occasionally adopted in Australian research on vocational learning at school, although lifelong learning is one of the principles listed in the Ministerial Council on Employment, Education, Training and Youth Affairs National Framework on VET in Schools. International organisations, such as the Organisation for Economic Co-operation and Development (OECD), see lifelong learning and transition policies as integrally connected. Many of the policy settings considered by the OECD to be vital to successful transition programs derive from lifelong learning principles. In a review of successful transition programs, the OECD argued that, in many countries, lifelong learning has been a powerful notion in the reform of transition policies in the 1990s (OECD 2000).

Spring and Syrmas (2002) provide one of the few Australian sources relating VET in Schools to lifelong learning principles. Citing the Delors Report (Delors 1996) published by the United Nations Educational, Scientific and Cultural Organisation (UNESCO), they attempt to locate Australian policy development within the framework of the 'learning to do' pillar of lifelong learning. Robin Ryan (2001) reviewed Australian VET practice at both adult and school level

against international principles and best practice in lifelong learning. He concluded that Australian practice has made considerable progress, but that it lacks many features considered essential by international organisations such as the United Nations Educational, Scientific and Cultural Organisation, the OECD and the Council of Europe.

# Policy drivers and underpinning concepts

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## Policy background

During the late 1970s and 1980s, profound technological and organisational change in workplaces coincided with unprecedented levels of youth unemployment and rapidly increasing post-compulsory educational participation, especially in higher education (Ryan, R 1997; Keating 1995). These developments led to growth in senior school retention and higher education participation without a corresponding increase in post-school vocational enrolments (Taylor 1996). It was clear that, to the extent that vocational learning had a part to play in facilitating youth transitions, it must be within the established Australian preference for comprehensive secondary schooling (Ryan, R 1997; McGaw 1996).

Early Australian policy development, like that in many OECD countries, tended to focus on numerical targets (such as those set by the Finn Committee in 1991) and on a view that vocational learning was required in schools to compensate for the failings of a traditional academic curriculum (Ryan, R 1997).

These early policy drivers have been largely superseded by a more cautious approach in many countries, including Australia (Ball 1999). The OECD has noted that, despite 20 years experience of a more vocationally oriented curriculum aimed at promoting smoother transitions, the issue remains in doubt (Ryan, R 1999). Greatest concern has focused on programs which are excessively vocationally specific when:

... report after report tells us that what employers value most in young people seeking employment are the individual-focused, not the industry-focused qualities.

(Smith 2000, p.7)

According to OECD research, the most successful transition pathways are those that allow both a high level of general education and an occupational qualification (OECD 2000). This principle has been reflected in many aspects of VET in Schools policy development since 1997, especially the development of certification and assessment machinery which encompasses both vocational and general education, often through the embedding of vocational learning within broader curricula (Malley et al. 2001a).

Important stages in the process of policy development date from 1996. In that year, the Ministerial Council for the Australian National Training Authority approved an annual allocation of \$20m for VET in Schools programs. With funding through the Department of Education, Science and Training (then the Department of Education, Training and Youth Affairs) and the Enterprise and Career Education Foundation (formerly the Australian Student Traineeship Foundation) this enabled a considerable expansion of programs and enrolments (Stephens 2001).

Also in 1996, the Ministerial Council on Employment, Education, Training and Youth Affairs established a VET in Schools Taskforce which was instrumental in increasing the take-up of VET in Schools throughout public and private school sectors (Spring 2002) and which, in 1998,

provided ministers with the first national stocktake (Department of Education, Science and Training 2002). In 1999 ministers adopted a commitment to a set of national goals for schooling (sometimes referred to as the Adelaide Declaration), agreeing that vocational learning should be an important element in the education of all young people in order to assist their transition to a broad range of post-school options and pathways (Department of Education, Science and Training 2002).

During 2000 the VET in Schools Taskforce developed a national framework which was endorsed by the Ministerial Council on Employment, Education, Training and Youth Affairs in early 2001. The framework emphasised the acquisition of generic or key competencies, acknowledging that industry seeks young people who have a range of employment-related skills and personal attributes (Department of Education, Science and Training 2002). Overall, the framework attempted to provide a seamless transition from school to work for the majority of young people, ensuring that Australia will have improved, flexible pathways (Spring 2002).

In surveying policy development at the official level, Spring and Syrmas conclude that:

The field is still evolving and many important connections are still being made. There is still at least one major challenge—to secure the place of vocational learning in all its forms in schools and accord it the same parity of esteem accorded to academic offerings.

(Spring & Syrmas 2002, p.16)

## Evolution of vocational programs in schools in the 1990s

The economic difficulties which faced Australia in the late 1980s, epitomised by the currency crisis of 1986, led to a series of structural reforms in a range of areas considered vital to economic prosperity. These initiatives included measures which transformed the higher, vocational and school education sectors. Therefore, the initial impetus for vocational programs in schools was derived from reforms in post-school and training which began with the Finn report in 1991, a review of young people's participation in post-compulsory education (Finn 1991). The then ministerial council for education (the Australian Education Council) endorsed the report's proposal for a series of numerical age-based targets aimed at increasing youth participation in either school or post-school education and training. Notably, the report adopted the view that school or post-school vocational education and training should be regarded as equivalent outcomes.

On the other hand, Finn had observed the overwhelming consensus by business and industry which placed at least as high a value on more intangible, transferable skills, such as teamwork, problem-solving and calculation, as on specific vocational and technical skills. It recommended that these be further explored, and a second review (Mayer 1992) introduced the concept of key competencies and generic and transferable skills which transcended specific vocational competencies and were highly valued by employers.

In 1992 a report proposed reform of the apprenticeship and traineeship systems in Australia, combining them into what was then termed the Australian Vocational Training System (AVTS), the predecessor of New Apprenticeships. An important innovation was that these programs were to be available to students still at school. A second feature was the addition of the Mayer Key Competencies to both school and post-school and training (Department of Education, Science and Training 2002).

The attempt to introduce the Australian Vocational Training System into schools from 1994 led to a range of difficulties. Developing vocational competencies within the school setting was more difficult than expected: assessment and certification were major hurdles; integration of on-the-job and off-the-job training was only partially successful; and there remained a gulf between

vocational competencies and the key competencies developed by general education (Ryan, R 1997).

The process of policy development throughout the 1990s was, therefore, underpinned by a tension between two not wholly compatible goals. The collapse of the youth labour market had led to a markedly increased demand for senior secondary education. Even with a rapid expansion in higher education places, at least 60% of this greater senior secondary school cohort would not proceed directly to university education. The extent to which senior school education had previously been geared to university entrance is often overstated (McGaw 1996), but it was felt by policy-makers that an increase in the vocational component of schooling was needed to address the changing requirements of senior school students (Department of Education, Science and Training 2002).

On the other hand, it gradually became clear that key competencies essential to employment prospects could not simply be treated as 'add ons' to specific vocational competencies but required dedicated curricular and pedagogic support (Ryan, R 1997). At the same time, international evidence was demonstrating that the most successful transition programs were those which did not close off options and pathways to later study (OECD 1994, 2000).

Much of the evolution of VET in Schools since the mid-1990s has occurred as educators and policy-makers have tried to develop bridges between vocational and general education. By the time the first national overview of progress was delivered to ministers by the VET in Schools Taskforce in 1998, views on what should be expected from secondary education had widened. As a result, the national goals agreed to by ministers the following year articulated:

The need for a paradigm shift in the way schools develop and deliver school education and signal a broadening of school education in order to provide for the intellectual, physical, moral, spiritual and aesthetic development of young Australians.

(Department of Education, Science and Training 2002, p.13)

Vocational learning in the national goals was put in a much broader context, encompassing the compulsory as well as the senior years and entailing:

- ✧ employment-related skills and an understanding of the work environment, career options and pathways as a foundation for, and positive attitudes towards, vocational education and training, further education, employment and lifelong learning
- ✧ programs and activities which foster and develop enterprise skills, including those skills which allow them maximum flexibility and adaptability in the future (Ministerial Council on Employment, Education, Training and Youth Affairs 1999, cited in Department of Education, Science and Training 2002, p.14).

The evolution of VET in Schools programs has therefore been in the direction of reduced marginalisation and greater integration into the broader objectives of school education. As a result, all states and territories now have some mechanism for recognising vocational courses (National Working Group on the Recognition of VET in Schools 2001, pp.12–14). As noted by Polesel:

This feature of the VET in Schools programme reflects a trend [internationally] towards increased general education content in school based VET programmes (for example, in Sweden and Norway, or in the double qualifying pathway available to Austrian students).

(Polesel 2001, p.327)

## Concepts and definitional issues

As vocational programs in schools have evolved and become more widespread, the issue of defining different types of programs has become more of a challenge. This was apparent in the review of the literature which has found a number of studies that lack a definition of the type of vocational program involved.

School programs with a focus on vocational outcomes have evolved from a wide range of motivations and sources and exhibit a variety of forms and characteristics. Prior to 1995, participation by students and by schools occurred through individual school initiatives involving mainly unstructured work experience or observation of work practices (Spring & Syrmas 2002). For many schools then and subsequently, vocational programs in schools often involved a relabelling of existing curricula (Ryan, R 2002). Around half of vocational education in school enrolments are in subjects in hospitality, office studies and information technology, which are new versions of traditional school curricula (Malley et al. 2001b). As a result, it is no easy matter to define what is meant by vocational learning in schools (and, in consequence, no easy task to develop meaningful measurements of programs, participation and outcomes). Differing definitions essentially reflect the multiple objectives of vocational learning programs and differing goals among their proponents (Malley et al. 2001a).

Many commentators have therefore chosen simply to list major types of vocational programs without entering definitional debate (Ryan, R 1997). As public policy has developed, a somewhat greater degree of formalisation has emerged, although there remain gulfs between the pronouncements of national bodies and the reality of work and school site experience.

The broad categories of vocational programs in schools used in this report are:

- ✧ vocational learning
- ✧ VET in Schools
- ✧ School-based New Apprenticeships
- ✧ work experience
- ✧ structured workplace learning.

### Vocational learning

Vocational learning represents the broadest description of vocational programs in schools. It incorporates VET in Schools, school-based New Apprenticeships and non-framework activities, such as enterprise, career and community-based education. Spring and Syrmas (2002) see vocational learning as an overarching concept, involving:

... general learning that addresses the broad understandings of the world of work and develops in young people a range of knowledge, skills, competencies and attributes relevant to a wide range of work environments. (Spring & Syrmas 2002, p.9)

In this report, the term 'vocational learning' is used as the most broadly encompassing term, following the example of the Department of Education, Science and Training, while VET in Schools is restricted to those programs involving recognised training in accordance with the National Training Framework as adopted by the Ministerial Council on Employment, Education, Training and Youth Affairs.

## VET in Schools

VET in Schools refers to programs available to students in Years 11 and 12 which fit within the National Training Framework, require delivery through a registered training organisation and are recognised both within senior secondary certificates and vocational certificates within the Australian Qualifications Framework (AQF). Frequently they include some work experience, but not in all cases. VET in Schools, as defined, now accounts for about 12% of all VET qualifications (Spring & Syrmas 2002).

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Interviews undertaken for this review with Australian Government and state policy personnel identified a strong trend to promote vocational learning, with VET in Schools programs (as defined by Ministerial Council on Employment, Education, Training and Youth Affairs) as one component of this broader program context. Since the development of the National Training Framework and the adoption of the Ministerial Council on Employment, Education, Training and Youth Affairs definition, there is now general agreement on the use of terminology.

There is also a trend for broader vocational learning to be part of a suite of programs, including career and enterprise education programs, designed to make school curricula more relevant to students' future working lives and to make stronger links between school and community.

For example, the Tasmanian Government is implementing its Vocational Education and Learning Framework which draws together disparate elements of career and enterprise development, transition planning and partnerships with community. VET in Schools is one sub-set of this broader framework.

The Victorian Certificate of Applied Learning (VCAL) develops and extends pathways for students and incorporates accredited VET units, work and industry skills, literacy and numeracy, and personal development.

In New South Wales, the K–10 Curriculum Framework, among other things, establishes that key competencies form part of the school curriculum, giving a vocational and enterprise focus to curriculum. Within this framework, the School to Work program combines workplace, career and enterprise learning. These policy developments are described as 'vocational learning' and are distinct from VET in Schools. From 2000 onwards, following the white paper, *Securing their future* (New South Wales Department of Education and Training 2000), vocational education in schools programs have been integrated into the senior secondary certificate (Higher School Certificate). As part of this strategy, there are nine industry curriculum frameworks which structure the curriculum, and these are based on national training packages, and include a mandatory structured workplace learning component of 70 hours.

The Queensland Government's educational reforms include creating smoother links between the education and training sectors and expanding the range of learning to achieve a recognised qualification. This includes positioning VET as an integral part of the curriculum, expanding VET options to meet individual student need, and promoting a commitment by local communities to meeting the vocational needs of school students.

In South Australia, policy directions locate VET in Schools within a broader transition framework.

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The Australian National Training Authority (ANTA) in its submission to the House of Representatives Inquiry into VET in Schools (2002–03) felt it important that VET in Schools be distinguished from other vocational learning activities in schools, using consistency with the National Training Framework as a means of distinguishing VET in Schools from other vocational learning (ANTA 2002a, 2002b). It located other forms of vocational learning within preparatory and awareness-raising activities and strongly favoured programs that combine traditional school studies with nationally accredited training and generic skills.

The added value of integrating vocational education with general education still tends to be undervalued by both industry and school communities. (ANTA 2002a, p.33)

In 2000, the Ministerial Council on Employment, Education, Training and Youth Affairs developed the New Framework for Vocational Education in Schools which systematised those aspects of vocational learning which accord with the Australian Qualifications Framework. The original principles agreed by ministers in April 1998 were updated to reflect the Australian Quality Training Framework and promote consistency in the application of the National Training Framework in schools. The *Principles and guidelines for improving outcomes for vocational education and training (VET) in schools (2002–2004)* identified six guiding principles involving:

- ✧ recognising training (that is, delivered by providers meeting the registration requirements of the Australian Quality Training Framework)
- ✧ meeting industry and/or enterprise standards (that is, delivering national and/or enterprise competency standards or accredited training where no training package exists)
- ✧ pathways through senior secondary certificate (contributing to Australian Quality Training Framework-defined qualifications and senior secondary certificates, providing multiple pathways which articulate to further training, education or employment)
- ✧ ensuring dual outcomes (that is, both senior secondary certificate and an Australian Quality Training Framework-defined VET qualification)
- ✧ determining priorities for the delivery of VET in Schools (taking account of national and local skill shortages, industry needs and student demand)
- ✧ using training packages.

NCVER points out that programs covered by the formal Ministerial Council on Employment, Education, Training and Youth Affairs definition of VET in Schools are a subset of a broader set of learning activities which school students undertake to assist their transition to the workforce. Other strategies used by young people include:

- ✧ undertaking general education subjects which provide underpinning or generic skills. There is a growing body of research which indicates that employers value these skills very highly
- ✧ undertaking work experience or work placement with an employer
- ✧ commencing a New Apprenticeship while at school
- ✧ enrolling with a VET provider independently of school activities (NCVER 2002).

## School-based New Apprenticeships

School-based New Apprenticeships comprise a specific vocational program involving young people in employment under a contract of training while they continue at school on a full- or part-time basis. Consequently, they are specifically vocational in intention. They may be undertaken by students who have not reached Year 11 but who otherwise may be eligible for New Apprenticeships. School-based New Apprenticeships differ from other school VET programs, since on-the-job training is, as with all New Apprenticeships, mandatory. A proportionate wage is paid to the trainee. At the June 1997 Ministerial Council on Employment, Education, Training and Youth Affairs meeting, ministers endorsed the Principles and Framework for New Apprenticeships for School Students which established guidelines and arrangements for New Apprenticeships in schools. These define school-based New Apprenticeships as:

- ✧ involving a training contract, linked to an industrial award or agreement
- ✧ being employment-based
- ✧ having the training component delivered by a registered training organisation
- ✧ including attainment of the senior secondary certificate and a VET qualification
- ✧ requiring attendance at school, work and training. (ANTA 2002b, p.11)

The 2001 national evaluation of school-based New Apprenticeships identified a slow take-up rate in the early years of the program, increasing steadily to 5755 in 2001, with around 20 000 projected by 2004 (but unlikely to be achieved). This overall rate includes significant variations, with Queensland having around 62% of commencements in 2001, Victoria having 15.3% and New South Wales, 5.5%. There is also a highly variable pattern across industry sectors, with retail and hospitality representing some 55% of commencements in 2001. The national evaluation

notes that implementation of school-based New Apprenticeships is ‘unexpectedly complex’ due to the different institutional boundaries which need to be crossed and the number of stakeholders from education, training and employment who need to be involved (ANTA 2002b, p.2). Other factors affecting the development of school-based New Apprenticeships include low levels of awareness among businesses; the need to develop national consistency in terminology, employment and training requirements; the need for support infrastructure in order to engage large enterprises; establishing timetabling efficiencies and flexibility to reduce current burdens on students; establishing industrial relations arrangements to support take-up; and improving data collection processes for measuring outcomes (ANTA 2002b, pp.3–5).

## Work experience

Work experience is a broad description of a range of immersions in workplaces by school students. For younger students, this may be only a short period of work observation or ‘taster’ placements.

## Structured workplace learning

Structured workplace learning is a formally designed and managed program of work placement. Frequently this is an integral component of a VET in Schools program, but it may also be a ‘stand alone’ experience. The Australian Student Traineeship Foundation (now the Enterprise and Career Education Foundation) defined structured workplace learning as differing from work experience in the following ways:

- ✧ Training is structured.
- ✧ On-the-job training (delivered in the workplace) is integrated with off-the-job training (delivered by a school, technical and further education [TAFE] institute or other registered training organisation).
- ✧ Competencies are clearly specified in competency assessment log books and curriculum documentation, to support both on- and off-the-job training.
- ✧ In each workplace, a workplace supervisor is nominated to train the student in the range of competencies identified in the competency assessment log book (or equivalent supporting documentation).
- ✧ Outcomes of on- and off-the-job training contribute to the senior secondary school certificate, and an industry-recognised qualification.
- ✧ The program is accredited by the board of studies (or equivalent) so that outcomes contribute to the senior secondary school certificate.
- ✧ The program is accredited by the state recognition authority (or equivalent) so that outcomes contribute to an industry-recognised qualification, aligned to the Australian Quality Training Framework. (Australian Student Traineeship Foundation 1998)

A recent national report (Knight et al. 2003) prepared for the Ministerial Council on Employment, Education, Training and Youth Affairs Transition School Taskforce has proposed a number of program measures to supplement the key performance measures for VET in Schools developed by the Ministerial Council on Employment, Education, Training and Youth Affairs. At the time of writing, the recommendations had no official status, but their findings are pertinent to the present review. These include recommendations made about a national definition of the term ‘structured workplace learning’ in order to improve the usefulness of data collection. The report identifies a continuum of structured workplace learning activities, at one end of which are loosely structured workplace visits usually referred to as ‘work experience’. At the other, are activities that are part of a tightly specified program with ten dimensions proposed as quality requirements for structured workplace learning:

1. an assurance of the appropriate nature of the negotiated workplace
2. equitable access to the program
3. appropriate occupational health and safety requirements
4. induction to the workplace
5. documented learning objectives and expected outcomes, usually related to some larger curriculum unit/training package
6. teaching/learning activities designed to lead to these outcomes
7. a scheduled duration of the program such that these outcomes are realistically achievable
8. appropriate monitoring and supervisory activity, in both program and personal dimensions
9. valid and reliable assessment procedures to identify developed competencies and other relevant learning achievements
10. effective and defensible reporting practices.

The report proposes a five-stage continuum to reflect the differing degrees to which workplace activities meet these ten dimensions. These are summarised in table 1.

**Table 1: Categories of structured workplace learning**

| Category |                                                                                                                                                                                     |
|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1        | All 10 quality specifications are met plus the structured workplace learning is part of a VET in Schools subject or course and a listed requirement in a relevant training package. |
| 2        | All 10 quality specifications are met plus the structured workplace learning is part of a VET in Schools subject or course but not specifically required in a training package.     |
| 3        | All 10 quality specifications are met in either a VET in Schools subject or course or a school students undertaking VET program.                                                    |
| 4        | All 10 quality specifications are met, but the program is not specifically related to a training package.                                                                           |
| 5        | Not all 10 quality specifications are met. No competency outcomes are listed or assessed.                                                                                           |

The report also recommends that reporting of structured workplace learning be defined and reported in terms of categories 1 and 2.

Interviews with policy staff reflect wide variation across Australia in the mandatory role of structured workplace learning in relation to VET in Schools programs. Table 2 summarises the national pattern.

**Table 2: Structured workplace learning by state**

| ACT                | Mandatory                                                                                                                                            |
|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| New South Wales    | Mandatory                                                                                                                                            |
| Northern Territory | Not mandatory                                                                                                                                        |
| Queensland         | Recommended but not mandatory unless stipulated in the training package                                                                              |
| South Australia    | Recommended but not mandatory unless stipulated in the training package                                                                              |
| Tasmania           | Mandatory                                                                                                                                            |
| Victoria           | Recommended but not mandatory unless stipulated in the training package                                                                              |
| Western Australia  | A key feature of VET in Schools programs but not mandatory. However, the average hours per student is 192 per year or 3.5 times the national average |

## Other programs

Other programs with potential for inclusion within VET in Schools arrangements in the future include recognition of VET competencies gained in students' own work and a generic entry-level

training certificate currently under consideration (Spring & Syrmas 2002). A range of vocational learning programs fall outside the National Training Framework. These include:

- ✧ enterprise education, aimed at developing skills, attitudes and attributes which bridge academic education, vocational learning and the world of work
- ✧ career education, which is aimed at enabling students to make informed decisions about their life, study and/or work options
- ✧ vocational preparation/foundation programs, including work readiness and occupational taster programs
- ✧ service learning and community-based learning, involving community projects to foster vocational learning
- ✧ youth development programs, aimed at developing specific vocational skills and life skills through community engagement (Spring & Syrmas 2002).

## Vocational learning and school retention

Within the broad objective of universal school completion, vocational learning and VET in Schools have been seen as significant means of attracting and retaining a substantial cohort of students whose orientation is to the world of work rather than to the traditional academic values of the school system. Policy and practice in vocational learning are contested fields in many ways, but the inherent desirability of some type of employment-focused vocational learning during the school years is seldom questioned. Where it has been, the critique has been largely in terms of the traditional liberal view of education for individual development and citizenship ends seen to be better served by academic and general education (Marginson 2001).

On the other hand, there has been a traditional sociological critique of education which alerts observers to its function as an instrument of social control and the reproduction of social and economic advantage. In Bordieu's classic formulation, hierarchies established within education correspond to hierarchies within society (Bordieu 1973). The streaming of a significant percentage of school cohorts into vocationally oriented programs attracts criticism of this type, especially when it appears to represent a degree of moral panic in times of employment dislocation.

White (1995), for example, has pointed to the similarities in policy-makers' responses to periods of persistent youth unemployment in the 1890s, 1930s and 1990s. A controversy over the attempted introduction of school-based apprenticeships in the 1930s has interesting parallels with modern experience (Ryan, R 1999).

To many policy-makers, restructuring education to align more closely with labour market opportunities presents itself as a commonsense reaction to a perceived student need. However, it may also be seen as a means of transferring responsibility for inadequate economic policy settings to individual young people, especially those from less advantaged socioeconomic backgrounds, by emphasising their unreadiness for the labour market (Williamson & Marsh 1999).

The Council of Europe has commented that young people's aspirations are increasingly defined and managed by adults who propose strategies which exclude the young from decision-making and social educational benefits while appearing to offer participation (cited by Williamson & Marsh 1999). The OECD has warned against the conscription of young people into low-status vocational programs (McFarland & Vickers 1994).

Against these critiques must be set the substantial body of research that supports the value of learning at and from work and the considerable enthusiasm of many young people and their

parents for the inclusion of vocational learning opportunities, especially those which give real experience of the world of work (Ryan, R 2002).

As a result, educational leaders have concentrated on the construction of pathways which reflect diversity of student talent and aspirations without prematurely closing off options, especially to further study and higher education (Durand-Drouhin, McKenzie & Sweet 1998). Even within this inclusive paradigm, however, the concept of the pathway has itself been contested by some commentators.

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Australian Government and state policy personnel interviewed as part of this review regard pressures to increase young people's employability as only one driver for the strong growth in vocational learning in schools programs. Other critical factors identified by them include:

- ✧ increased valuing of lifelong learning
- ✧ enhanced understanding of the importance of transition planning
- ✧ the changing nature of schooling itself, producing changes in curricula in order to remain relevant
- ✧ the changing nature of the economy and of work
- ✧ acknowledgement of career development as occurring throughout life, with transition phases also being a lifelong process
- ✧ recognition of the importance of choice for students
- ✧ an overall goal of making school relevant to students, and to employers, while developing a range of both generic and vocational learning outcomes.

Key policy initiatives seen to have shaped these directions are *Footprints to the future* (Australia Prime Minister's Youth Pathways Action Plan Taskforce 2001); the ministerial declaration, *Stepping forward—Improving pathways for all young people* (Ministerial Council on Employment, Education, Training and Youth Affairs 2002); the projects of the Ministerial Council on Employment, Education, Training and Youth Affairs Taskforces on young people and transition, as well as earlier research by the OECD and the Dusseldorf Forum on young people and transition.

The Ministerial Council on Employment, Education, Training and Youth Affairs' *Framework for vocational education in schools* (2000) has also been a key influence, as has the Adelaide Declaration, *National goals for schooling in the 21<sup>st</sup> century* (Ministerial Council on Employment, Education, Training and Youth Affairs 1999). More recently, the House of Representatives Inquiry into Vocational Education in Schools with an expected reporting timeframe of late 2003 or early 2004, is expected to be a major driver of future policy development.

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# Students and programs

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## Participation

Despite difficulties in gathering reliable and consistent data, it seems clear that enrolments in vocational learning programs have increased substantially since NCVER's first review in 1997. Student numbers in VET in Schools as defined by the Ministerial Council on Employment, Education, Training and Youth Affairs framework have increased from an estimated 60 000 in 1996, to 117 000 in 1998 to 170 000 in 2001. NCVER data for 2002 report 185 500 students in VET in Schools (Nguyen 2004). This growth represents an increase in the proportion of senior secondary students engaging in VET in Schools programs from 16% to 44% (ANTA 2002a, p.17) and to 44% in 2002 (Ministerial Council on Employment, Education, Training and Youth Affairs 2003, p.2). While these data may represent a degree of underestimation, omitting students involved in other kinds of vocational learning within the school system, there is also a degree of overstatement as pre-existing subjects and enrolments have been realigned with a vocational equivalent (Malley et al. 2001a).

Numbers involved in school-based New Apprenticeships are more modest, rising from 1500 in 1998 to 5755 in 2001 and 7390 in 2002. Within these aggregates there is considerable variation among states/territories and discipline areas (ANTA 2002a; Ministerial Council on Employment, Education, Training and Youth Affairs 2003). On the other hand, the proportion of total VET enrolments represented by young people still within the school system has risen significantly. For example, New Apprenticeships entered into by school students represented 12% of young people's (up to 19 years) total New Apprenticeship commencements in 2001 (NCVER 2002, p.2).

There is significant variation among states/territories in VET in Schools enrolments and proportions, and in rates of growth, with some states showing slower growth or even falls in numbers in 2000–01. However, as ANTA has pointed out, there is as yet no reliable, robust data system in place (ANTA 2002a, p.18). The development (2003) by the Ministerial Council on Employment, Education, Training and Youth Affairs Performance Measurement Reporting Taskforce of two key performance indicators (achievement and participation) should strengthen the continuous improvement of data collection by enhancing consistency.

It is possible that in some states a saturation point is being reached for VET in Schools programs. While this would be a natural development at some point, Malley et al. note that it seems likely that growth in enrolments is coming more from continuing students switching from general education, rather than from potential early school leavers (2001a, p.25). Almost equal numbers of female and male students participate (NCVER 2002, p.3).

The numbers of schools offering VET in Schools programs have increased substantially, from 70% in 1997 to 95% in 2001 (ANTA 2002a, p.19). Government schools accounted for 65% of enrolments in 2001, Catholic schools 17%, independent 9% and TAFE 9% (Department of Education, Science and Training 2002, p.54).

In 2002, nearly 61% of students enrolled in VET in Schools courses were participating in structured workplace learning, an increase from 44% in 2000. The average number of hours spent participating in VET in Schools was nearly 201 hours per student in 2002 (Ministerial Council on Employment, Education, Training and Youth Affairs 2003).

## Industry focus of programs undertaken by students

A majority of VET in Schools programs are at Australian Qualification Frameworks (AQF) certificate I or II level, and therefore do not in themselves provide an equivalent alternative to upper secondary studies (NCVER 2002, p.4). VET in Schools programs cover a wide range of industries and occupations, but over 60% of all participating students are located in four industry areas:

- ✧ tourism and hospitality
- ✧ computing
- ✧ business and clerical
- ✧ general education and training.

Other surveys have shown that two areas, hospitality and business/clerical, dominate enrolments, with most of the rest in communication/computing (Selby Smith 2002).

There was little change in the pattern of enrolment between 2000 and 2001 (Department of Education, Science and Training 2002, p.57).

The 1997 NCVER review noted that the then vocational learning programs in schools could be criticised for their relatively short duration and modest exposure to actual work experience (Ryan, R 1997). This has been partly overcome, as average student contact hours have increased from 110 in 1998 to 205 in 2001, with significant variation among states (ANTA 2002b, p.20). Increased exposure to structured workplace training, however, has been less marked, with average hours per student rising from 92 in 1997 to 98 in 1999, falling back to 79 in 2000 and 70 in 2001 (ANTA 2002b, p.21). In New South Wales and Tasmania, structured workplace learning is a mandatory element of VET in Schools, although structured workplace learning hours are relatively small in New South Wales, and VET in Schools participation overall in Tasmania is the lowest of the states (ANTA 2002b, pp.20–1).

## Student characteristics

Important information about the characteristics of students undertaking VET in Schools is available from the Longitudinal Surveys of Australian Youth (LSAY), although the most recent report at the time of writing (no.21 of 2001) utilises data from the 1998 cohort. Key findings from the study follow.

- ✧ Fifteen per cent of students had undertaken some VET in Schools subjects in either Year 11 or Year 12.
- ✧ Seven per cent had completed such subjects in both years.
- ✧ Slightly over 1% had been involved in a school-based New Apprenticeship.
- ✧ Males and females were almost equally likely to participate, although subject choices differed, and more males undertook school-based New Apprenticeships than did females.
- ✧ VET in Schools programs were more important for low-achieving students (36% of participants), although a significant proportion of high achievers (13%) also took part (Department of Education, Science and Training 2002, p.55).

Polesel (2001), in a comparative study of VET and non-VET students of similar academic achievement levels, found that, among academically weaker students, progression to further study was stronger for the VET group, with a stronger transfer to technical and further education (TAFE). These findings were seen as identifying a potentially significant role for VET in facilitating transitions to post-secondary education and training for these students (cited in Polesel et al. 2003, p.24).

The Australian Council for Educational Research's analysis of the Longitudinal Surveys of Australian Youth data (2002) found that the following groups of students were more likely than others to participate in VET in Schools programs:

- ✧ those with low academic results
- ✧ those from English speaking backgrounds
- ✧ those living in rural areas
- ✧ those without tertiary educated parents
- ✧ those attending government schools.

In their review of the literature, Polesel et al. (2003, p.21) also point out that schools servicing a predominantly low socioeconomic status populations are more likely to offer vocational programs, and students from low socioeconomic backgrounds are more likely to participate in them. Lamb et al. (1998, cited by Polesel et al. 2003), found that Year 11 and 12 students enrolled in vocational programs were more likely to have attended government schools and to have parents working in skilled or unskilled manual occupations. Similar results were found by Fullarton (2001).

In her analysis of the Longitudinal Surveys of Australian Youth data, Fullarton (2001) also found that students who showed some uncertainty about continuing at school were more likely to participate in VET in Schools, as were those who had expressed dissatisfaction with their schooling experience in Year 9. In terms of post-Year 12 activities, Fullarton found that those completers who had participated in VET in Schools were more likely to be working, either full-time or part-time, or in an indentured capacity (while those who had not undertaken VET in Schools were more likely to be studying full-time, either at TAFE or university), and that unemployment rates were similar for both groups of completers.

VET in Schools studies are more significant for students in government schools (where 25% participated) than for Catholic schools (21%) or independent schools (14%). VET in Schools is more popular for students with parents born in an English speaking country (25%) than for others (19%) and more popular in rural and regional areas. The higher the educational qualifications of parents, the less likely were children to take part in VET in Schools. Queensland, where 41% of students participated, had the highest penetration rate, while Victoria at 12% had the lowest (Department of Education, Science and Training 2002, pp.55–7).

As the Department of Education, Science and Training summarises:

... students with lower achievement levels and from lower socio-economic status backgrounds were more likely to participate in VET in Schools programs in years 11 and 12. However, a significant proportion of high achieving students and those from high SES backgrounds also participated in VET in Schools programs in those years.

(Department of Education, Science and Training 2002, p.57)

This picture is supported by a comparison of Victorian Certificate of Education results (Polesel 2001) which showed VET students to be lower academic achievers than non-VET and less likely to apply for a university place. On the other hand, a smaller group were interested in VET

courses for the bonus marks they brought to tertiary entrance scores and the prospect of impressing future employers.

## Equity in vocational programs in schools

Although research about the capacity of vocational school programs to be equitable is patchy, there are indications that these programs, with appropriate support inputs and individualised modifications, offer scope to develop pathways to further learning and to work. The action research Enterprise and Career Education Foundation Lighthouse Initiative project targeting students with a disability (Barnett 2002), and the Ministerial Council on Employment, Education, Training and Youth Affairs Transition from School Taskforce project, *Improving access for Indigenous students in VET in Schools programs* (due, at time of writing, to be reported later in 2003) are two major examples. This is an interesting finding because it balances the tendency reported in some schools to regard vocational programs as ‘dumping’ grounds for less able students.

Both the Enterprise and Career Education Foundation and Ministerial Council on Employment, Education, Training and Youth Affairs taskforce projects have identified that VET in Schools programs will be more accessible to students with a disability and to Indigenous students if the tendency for both groups to leave school before Year 11 is addressed. Early intervention strategies that provide bridging programs (for example, in literacy and numeracy) and career and transition planning have been found to be critical equity-promoting strategies. Research undertaken by the South Australian Ministerial Advisory Committee on Students with Disabilities (McCull & Nitschke 2002) also identified that VET was most effective for students with a disability when planning began in the early years of secondary school. Echoing the findings of a range of studies focusing on disability in the post-school VET environment, the study also identified the need for supported intervention that encompasses professional development for teachers. The study also highlighted the importance of ensuring that students are fully informed of the options available in VET programs; that flexible delivery and assessment is available; that learning support both within schools and at off-school sites where students participate in VET is improved; and that transport to ensure that students can attend workplace learning and other off-school sites (especially in rural areas where transport can be limited) is provided. Many of the lessons learned in relation to equity target groups provide models of delivery that represent good practice for all students.

VET programs have also been found to offer potentially positive outcomes for school students in rural areas—providing the particular challenges arising from remote location are addressed. Research undertaken in Tasmania by Boylan (2001) and Abbott-Chapman and Kilpatrick (2001), and Bell, Kilpatrick and Kilpatrick (2001) identifies VET programs as providing critical linkages to job-related skill development and employment.

Overiewing the literature, Johns et al. (2004) note the paucity of research on outcomes for rural VET students (defined as those participating in school VET courses leading to a nationally recognised VET qualification, usually Australian Quality Training Framework accredited), despite the increasing uptake of school VET in rural Australia (Frost 2000), and the fact that rural students are more likely than urban students to undertake a school VET course (Ball & Lamb 1999a). At the same time, rural students have lower senior school retention rates (Lamb, Long & Malley 1998). Other gaps in the research base are identified by Johns et al. as a lack of focus on medium- and long-term outcomes, with many studies limited to short-term destination surveys, taken within six months of school completion. There is also a lack of comparative information regarding the outcomes of school VET and non-VET students (Johns et al. 2004, p.10).

Existing research into rural school VET programs has yielded these key findings:

- ✧ benefits in terms of school-to-work transition, improved school retention rates (Kilpatrick, Bell & Kilpatrick 2001)

- ✧ a strong link between school VET participation and local employment outcomes, contributing to youth retention in rural areas (Kilpatrick et al. 2002)
- ✧ rural community capacity-building due to school VET programs (Smith 1996; Kilpatrick, Bell & Kilpatrick 2001; Kilpatrick et al. 2002).

Johns et al. conclude from their overview that the small amount of existing research suggests:

... that school VET programs may be particularly beneficial for rural students, and that rural schools, partly due to their strong local networks, may be well placed to deliver programs that promote favourable outcomes. (Johns et al. 2004, p.12)

Their study was designed to assess the community and individual impact of school VET programs in addressing rural community decline and highlight implications for the VET sector in rural and regional Australia. The researchers studied 270 former school VET and non-VET students from six rural school clusters (one in each state) who had been in Years 11, 12 or 13 in 1998 providing, for the first time, information about the medium-term impact of school VET programs in the post-school years. Among their findings were the following.

- ✧ School VET courses designed to provide a pathway to local employment appeared to be successful in terms of retaining students who otherwise may have left school early.
- ✧ School VET courses were also successful in assisting the transition from school to work.
- ✧ Work placements were a key component in the success of school VET courses as transition pathways to local employment and apprenticeships, and in increasing retention of young people in their local community.
- ✧ Many students were motivated to participate in school VET programs for career reasons, undertaking school VET and work placements as a pathway to their goal of local employment.
- ✧ Many of the training and education outcomes of participating in school VET for rural students were found to be similar to those for other school VET students. The authors found an increase in employment and further education and training rates for students three years after leaving school.
- ✧ There was little difference in the participation rates of school VET and non-VET students in apprenticeships and traineeships, leading Johns et al. to conclude that family connections and networks may be the significant distinguishing factor in small local communities.
- ✧ Although there was less evidence of an association between school VET participation and retention of rural young people in their communities than expected by the researchers, school VET students were more likely than non-VET students to intend to live in a rural location during their working lives, indicating a potential role for school VET programs in developing the future workforce of rural and regional Australia (Johns et al. 2004, pp.19–20).

## Motivation to participate in vocational programs in schools

Available research has identified a range of factors which motivate school students to participate in VET in Schools programs, but less is known about the way in which these interrelate. NCVER notes:

Although the available information is patchy, sufficient is known about reasons for undertaking a VET in Schools program to suggest that reasons are more varied than might be expected. (NCVER 2002, p.6)

NCVER also points out that one aspect of motivation about which little is known is the extent to which schools counsel students to enter VET in Schools and school-based New Apprenticeship

programs—and the extent to which this reinforces the academic and socioeconomic profile of VET in Schools participants.

One study comparing rural and non-rural students found that students chose VET programs, including VET in Schools narrowly defined, for general interest as well as career reasons. Students motivated primarily by career were less likely to finish Year 12, but more likely to go on to post-school education and training (NCVER 2002).

Research by Polesel et al. (2003, p.10) found that students enrol in VET for many reasons, the most important of which are to widen career options, obtain workplace training, and gain a VET qualification. VET was perceived by the 1500 students in their study as preparing them for work while keeping open other options, including pathways to university and TAFE. More than half had enrolled in school VET programs to access better part-time work.

A study of school-based New Apprenticeship students found their motivations to be primarily to gain the associated qualification or to gain specific experience in an industry area. Some were attracted by the mix of school and work, while a small group were interested in qualifying for part-time work while at university. Few students were apprentices, most studying at certificate II level (NCVER 2002).

# Outcomes

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At the time of the 1997 general review of research on VET in schools, only a small number of formal evaluations had been completed, many of these related to the Dusseldorp Skill Foundation's TRAC (retail training) program. The advantages attributed to vocational learning programs in these reviews focused on student satisfaction and self-esteem, while considerable difficulties were reported in relation to program structures and pedagogy (Ryan, R 1997). The 1997 review concluded that:

At present, what emerges from research is the conclusion that it is possible to deliver substantial educational benefits of a broad and enduring nature from vocational learning programs in schools, but that it is difficult to do so. (Ryan, R 1997, p.21)

Malley et al. cited that conclusion and went on to argue that their research:

... while pointing to numerous obstacles that must be overcome in the planning and implementation of VET in Schools, reveals that there is growing cause for optimism as schools and communities gradually recognise the positive results to be gained from programs that involve partnerships and co-operation between education and industry. (Malley et al. 2001a, p.50)

Certainly, from the perspective of the researcher, there is now a much more substantial body of evidence from which to draw conclusions, even if heavily qualified.

Some of the outcomes research continues to focus on are perceived outcomes. Teese, Davies and Ryan (1997) found that students reported that their work placements enhanced their confidence in finding work and built their self-confidence. Misko (1998) found that students experienced their work placements as enjoyable and interesting, and that they gained skills they expected would be valuable in future employment. Several studies have noted that teachers, parents and employers see the major benefits to students not in vocational skills gained, but in confidence, maturity and self-reliance. Teachers see an increased learning motivation, reflected in better attendance patterns and lower attrition (Malley et al. 2001a).

Employers perceive VET in Schools as an opportunity to contribute to the community and to improve the image of the enterprise. They also see the benefits of developing a pool of work-ready recruits and of some additional productivity in their enterprise. Teachers also appreciate the widening perspective they gain from dealing with enterprises' operations (Malley et al. 2001a).

Quantitative destinations studies are now becoming available. These show mixed results. Robinson and collaborators warn that it is still too early to conduct meaningful national longitudinal studies (Robinson, Ball & Misko 2001). Earlier results were not promising:

With the exception of students who took agriculture based subjects, students who studied a vocational education and technology curriculum in the early 1990s often struggled to make a successful transition to full-time employment in their teenage years.

(Robinson, Ball & Misko 2001, p.145)

Another study reporting on students who were in Years 11 and 12 in 1991–93 found that vocational students were less likely to go to university or to undertake any other formal post-school study than non-vocational classmates (Malley et al. 2001a, p.50). A number of studies have suggested that school VET provides a pathway to post-school VET, with higher proportions of school VET students continuing on to post-school VET studies (Ball & Lamb 1999; Fullarton 2001).

Reviewing outcomes over a longer timeframe, Selby Smith found that, while the largest group of ex-VET in Schools students go on to post-school VET (53%), another group (38% males, 36% females) were less likely to have engaged in further education than students who did not do VET in Schools. Moreover, VET in Schools students in adult VET were overwhelmingly in trainee and apprentice courses; students who chose humanities subjects at school were more likely than VET in Schools participants to proceed to other TAFE options, including higher-level awards (Selby Smith 2002, p.27).

More promising results come from five years destination data involving Victorian VET in Schools graduates.

In broad terms, over half of the leaving cohort are consistently going on to further study either at a university or a TAFE institute, with the majority of these students choosing to continue their schooling at TAFE ... Labour market transitions, too, have been effective, with high rates of transition to full-time employment, and apprenticeships and traineeships.

(Polesel 2001, p.331)

Of the total 1998 Year 12 cohort:

- ✧ 28% entered post-school VET.
- ✧ 22% entered university.
- ✧ 18% entered New Apprenticeships.
- ✧ 14% were in full-time work.
- ✧ 7% were in part-time work.
- ✧ 4% returned to school.
- ✧ 6% were unemployed.

(Polesel 2001, p.332)

Polesel notes that, controlling for achievement, the relative outcomes for the Victorian VET group are more impressive, with a greater transfer to further study for academically weak students than for their non-VET in Schools counterparts. On the other hand, academically stronger VET in Schools students are less likely to transfer to university, but more likely to undertake further study in TAFE (Polesel 2001, p.332). It has also been noted that an increasing proportion of VET in Schools graduates are enrolling at university, with 80% reporting that they were coping well (National Working Group on the Recognition of VET in Schools 2001, p.30).

The Victorian Department of Education and Training has established an initiative designed to track students leaving school in Years 10 to 12. 'On Track' will provide destination data while linking young people to a range of resources designed to support their career planning, and to develop pathways for them to further education, training or employment after leaving school. The department has engaged the University of Melbourne to track Year 12 students for the past seven years or so, and report on this research in 2003.

Smaller studies of specific groups of VET in Schools students provide more mixed results. A study of rural students showed that about a third of work placement students were offered employment or a New Apprenticeship by their placement employer, but as a consequence were less likely to finish Year 12. Two or three years after leaving school, students who had not

undertaken work placements at school were equally likely to be in employment (NCVER 2002, p.8). However, the same research team has noted the benefits to adult students and to the creation of social capital in rural communities through VET programs developed in local schools (Bell, Kilpatrick & Kilpatrick 2001).

A pilot study of VET in Schools students in independent schools found that, although 86% of their sample went on to further study, two-thirds reported that their decision had not been influenced by their VET course, with only 8% saying that it had completely influenced their decision. Of VET in Schools graduates in employment, three-quarters said that their VET course had not helped them gain work (Lambert & Stehlik 2002).

Studies of school-based New Apprenticeships indicate that the work experience of school-based New Apprenticeship students is little different from that of other students (NCVER 2002). This may be because school-based New Apprenticeships are concentrated in the same industries as students' part-time work. On the other hand, students reported greater learning outcomes than for part-time work (Smith & Wilson 2002). Overall, the recent national evaluation of school-based New Apprenticeships indicates that outcomes are more varied than might be expected and that employment is not necessarily the next step for all young people. As the evaluation notes, however, data are at present very inadequate (Smith & Wilson 2002).

Little systematic evidence is available for VET in Schools outcomes among Indigenous students, although some small case studies indicate promising results (for example, Bennett & Edwards 2001–02). The Australasian Committee of Chief Executive Officers of Curriculum, Assessment and Certification Authorities, in its submission to the Standing Committee Inquiry into Vocational Education in Schools (26 May 2003) states that VET in Schools programs have assisted schools in meeting the needs of Indigenous students, noting that, in some jurisdictions, VET in Schools programs have been designed specifically with their needs in mind, for example, by targeting students in the lower secondary years.

A three-year action research project by the Enterprise and Career Education Foundation—the Lighthouse Initiative—has identified promising outcomes for students with a disability participating in VET in Schools programs with a range of tailored supports. The Lighthouse Initiative was designed to increase the participation of people with a disability in VET programs by building pathways prior to Year 11 from VET in Schools programs, to post-school VET, lifelong learning and in some cases, employment. Initial evaluation findings (Barnett 2002) indicate that VET in Schools offers significant possibilities for young people with a disability, providing that appropriate transition planning and support is made available, and that schools, registered training organisations, employers and disability experts work collaboratively.

VET opportunities (including structured workplace learning) were achieved for all 158 participating students after the first 18 months. Employment opportunities (full-time work, part-time work, school-based apprenticeships or traineeships) were achieved for 29 students. Significantly increased self-confidence was reported for most students. Involvement in the projects has enhanced expectations about career possibilities held by VET and transition education teachers, by employers, by parents and by students themselves.

Particularly positive outcomes have been achieved by the Adelaide Lighthouse Project which, in its 2000–01 phase had 22 of its 45 participants gain employment. Of these, six were full-time, twelve were part-time and four were traineeships. In addition, participants were given the opportunity to obtain a VET qualification. The 'Becoming a Worker' course was completed by 32 participants. The Certificate I in Retail Operations was undertaken by 19 participants and the Certificate I in Engineering was undertaken by 18 participants. The Lighthouse Initiative model is regarded as a good practice model for all VET in Schools participants (Barnett 2002).

Studies of employment outcomes indicate that school VET programs are associated with higher employment levels (Johns et al. 2004, p.10), particularly full-time employment (Fullarton 2001), and the link between school VET and employment has been found to increase beyond the first year after leaving school (Johns et al. 2004, p.11). Work placements have been associated with positive employment outcomes (Enterprise and Career Education Foundation 2002a).

It is desirable that outcomes from different types of vocational learning experiences be linked to the specific types of programs involved, as has been done in this section for school-based New Apprenticeships. However, agreement on definitions, especially restricting the term 'VET in Schools' to programs with both Australian Quality Training Framework and secondary credential recognition, is too recent to be applied confidently to most of the available data. Similarly, structured workplace learning outcomes data do not differentiate between placements which are part of a VET in Schools course and those which stand alone.

## Learning at and from work

There is a substantial body of research that supports the value of learning at and from work, not simply for vocational skills but for its contribution to general education (Ryan, R 1997, 2002). Sweet argues that research demonstrates that flows exist from problem-solving to understanding about basic principles, that learning about abstract thought and symbolic manipulation follows from teaching meaningful practical content, and that work-based problem-solving involves a combination of social, technological, material and symbolic resources (Sweet 1993).

The 'new vocationalism' in the United States, for example, is centred on using work-based learning as an integrating factor between vocational and academic pathways. Work-based learning should involve authenticity, academic rigour, applied learning, active explorations, adult connections and appropriate assessment practices as much suited to the academically talented as to those with vocational interests (Stern 1999).

Australian practice has not made equal progress in the integration of academic and vocational education, but, as indicated earlier, VET in Schools programs are generally attempting to use real work experience to facilitate transfer of specific learning to generalised contexts and competencies and to place them in a broader educational framework.

Structured workplace learning is the primary means for achieving this, so it is unfortunate that students' average participation has decreased in recent years, despite greater numbers receiving some exposure. Structured workplace learning is a key feature of VET in Schools and participation in structured workplace learning has been growing among VET in Schools and other students. A national survey in 1999 showed that 76 000 students from 700 schools experienced some form of workplace training. In 2001, almost 60% of VET in Schools students participated in structured workplace learning compared with 53% in 2000 and 42% in 1999 (Department of Education, Science and Training 2002, p.58).

Work placements are not necessarily confined to students engaged in VET in Schools programs, although the Victorian surveys suggest that structured workplace learning is more beneficial as part of such programs. The VET in Schools group were more likely than non-VET students to report that they had learned key competencies in structured workplace learning and to be more positive about a range of other benefits. They were almost twice as likely to describe their work placement as related to what they learned at school and were more likely to report the experience as enjoyable (Polesel 2001). Work placement was found to be a critical success factor in achieving positive employment outcomes for school VET students in rural areas (Johns et al. 2004).

A major force in promoting structured workplace learning has been the Enterprise and Career Education Foundation. A large-scale study of 42 000 school leavers (Years 11 and 12) in 2000 received 9607 useable replies. Of these:

- ✧ 70% were in full-time work or further study.
- ✧ 48% were in full- or part-time work, of whom 65% said work experience helped their choice.
- ✧ 44% were in full- or part-time study, of whom 43% said work experience helped their choice.
- ✧ 10% were unemployed, compared with 17% for the age cohort.

There were some gender differences:

- ✧ 44% of males, 30% of females were in full-time work.
- ✧ 39% of females, 29% of males were in full-time study.
- ✧ 14% of males, 11% of males were in part-time work.
- ✧ 11% of males, 8% of females were unemployed.

A very small sample (3%) of students reported a disability. Of these:

- ✧ 27% were in full-time study.
- ✧ 24% were in full-time work.
- ✧ 16% were in part-time work.
- ✧ 20% were unemployed.

A small sample (4%) were Indigenous. Of these:

- ✧ 58% were in full-time work or full-time study.
- ✧ 31% were in full-time work.
- ✧ 19% were unemployed.

(Watson et al. 2002)

Although these data present some suggestive results, the Enterprise and Career Education Foundation expressed concern that present data collections and methodology are unsatisfactory. They argued for a redefinition of what is to be included in workplace learning and for the development of strategies for a coherent national approach to data-gathering (Enterprise and Career Education Foundation 2002b).

An important issue in evaluations of the outcomes of work placements is the need to consider the consequences of students' own, labour market-determined work. Australia is one of the countries where student part-time employment is relatively high, both in numbers of students and average hours worked (Ainley 1996; Ryan, P 1999). This experience is almost entirely lacking in many countries, such as France, Greece, Italy and Spain.

Research indicates that students learn transferable skills in their part-time employment, but that they differentiate it from their experience in school-organised work. Paid work had the primary goal of earning money, but students were confident that they learned valuable, mostly generic, skills from it. Vocational placements, such as structured workplace learning, were considered to promote learning of specific skills, whereas broader work experience was valued as career sampling placements (Smith & Green 2001).

One consequence of the widespread experience of paid work among school students is that it enables comparisons, often unfavourable, with the school experience. Studies of boys' alienation from schooling suggest that students make unfavourable comparisons between the responsibilities they are entrusted with at work and the over-regulated atmosphere of their

schools. This dissatisfaction is shared equally by lower-achieving and by academically successful students (Slade & Trent 2000).

Steps are being taken to incorporate the learning outcomes of students' own work into school certification (Spring & Syrmas 2002). At the time of writing, both ANTA and the Senior Secondary Assessment Board of South Australia have implemented research which is examining the recognition of 'other learning' (for example, community work) which could extend to the recognition of learning from students' own paid work.

These steps may, however, be only at best a partial solution, as the issue seems to be less one of recognition and certification than of school climate. The evidence suggests that authenticity, acceptance of responsibility and freedom from school constraints are important factors in the popularity of vocational programs and work placements among students (Ryan, R 1997, 2002; Malley et al. 2001a).

## Vocational education and training as an educational experience

Two broad themes have dominated debate about vocational learning in schools:

- ✧ the appropriateness of assessment and certification policies and practices
- ✧ the quality of the experience for students and its contribution to learning outcomes.

Clearly the two sets of issues are linked, with the concept of quality embracing curriculum design, on- and off-the-job experiences, integration of on- and off-the-job learning, the reliability of assessment, the success of embedding procedures, and the quality of delivery agencies from both pedagogic and industry authenticity perspectives.

While policy evolution in vocational learning in schools has been driven by the need for a greater integration of academic and vocational education, the gap between the two remains wide (Ryan, R 2001). The associated issue of parity of esteem of vocational and academic subjects remains unresolved (Spring & Syrmas 2002).

The integration of VET in Schools and academic courses is not an easy task, as the style and purpose of general education is not immediately compatible with the objectives of the competency-based VET training framework and its accompanying assessment norms. One result has been the need to devote a great deal of attention to assessment and recognition regimes which attempt to deploy technical methodologies to harmonise VET and school assessment processes; for example, through the 'embedding' of VET within broader school curricula.

Malley et al. (2001a) argue that debates about vocational learning in schools continue because its form and placement within a general secondary education are not agreed. They suggest that attempts to achieve integration between vocational and academic studies, secondary and post-secondary education, and between education and work have been reflected in Australian policy development from the 1991 Finn review onwards.

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Interviews undertaken for this review show a trend for VET in Schools programs to be considered as a component of broader vocational learning, which provides both accredited VET and senior school certificate recognition and is increasingly delivered through stand-alone courses (partly because of the difficulties of balancing the different delivery and assessment requirements of general education and the VET training framework recognised education).

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## Curriculum design and development

The evolution of curricula for vocational learning has been formed by the interplay of sometimes conflicting forces. Vocational learning innovations were originally largely local initiatives, sometimes facilitated by external catalysts such as the Dusseldorp Foundation. As vocational subjects gained in importance and popularity, however, it became necessary for them to be redeveloped in standard forms to ensure recognition in secondary credentialling systems, and sometimes to secure funding support. This development naturally put at risk the spontaneity and experimentation which had been a strength of early programs (Ryan, R 2002).

Although the intervention of state and territory boards of studies to some extent standardised VET programs, from a national perspective great diversity remained, implying significantly different approaches to the role of VET in Schools. Differences were evident in:

- ✧ the number of modules available to students, with implications for the amount of credit transfer possible
- ✧ variations in the extent to which the subject was seen as standard or additional
- ✧ whether the subject was listed on the secondary credential.

While these and other differences often reflect different jurisdictional procedures, it has been noted that students faced significant variation in program quality and that some reduction in diversity would be beneficial (Malley et al. 2001a). In 1998 the Ministerial Council on Education, Employment, Training and Youth Affairs agreed to involve the Australasian Curriculum Assessment and Certification Authority in developing a national approach to the implementation of VET in Schools. The national framework was the eventual outcome along with a range of support resources (Malley et al. 2001a).

Despite its benefits, the nationally consistent approach is not without its drawbacks. There is a risk that school-developed programs not leading to Australian Quality Training Framework endorsement, but meeting the identified needs of individual students, could be stifled. Students who have benefited from the blurring of boundaries between VET and other school programs, such as community-based learning, may be disadvantaged. Various commentators have argued against equipping students with skills that are too narrow for all the demands of the workplace, including employee rights (Malley et al. 2001a). The danger of too narrow a skills base is echoed in a range of sources. The OECD, while supporting vocational learning in schools, argues that studies show the most advantageous options are those which qualify young people for tertiary studies as well as for work (Durand-Drouhin, McKenzie & Sweet 1998).

A strong body of evidence indicates that school subject choice is crucial for later life employment experience and that critical choices involve academic subjects, especially mathematics (Ball & Lamb 1999a; NCVER 2002). Expanding the range of subjects available to school students may not enhance options if they do not lead to later study (NCVER 2000). The Kirby report on post-compulsory education in Victoria pointed out that the danger of relying on a narrow set of trades-based skills is well recognised in many OECD countries, and argued that school-based New Apprenticeships needed strong links to general education (Kirby 2000).

A growing awareness of the need to integrate VET and other more general forms of school education has been an important force in the evolution of VET in Schools curricula, with the competing concepts of embedding or stand-alone VET occupying much attention. While much of the concern has been focused on the technicalities of including VET in Schools in certification and university selection scores, there is a more basic disagreement about the nature of underpinning knowledge. Research commissioned by ANTA on the incorporation of underpinning knowledge in training package competencies uncovered divergent views between

those who saw underpinning knowledge as ‘knowledge in competent action’ and those who want underpinning knowledge to be precise and detailed about what needs to be taught and assessed.

The research disputed the idea of underpinning knowledge as building blocks and sought to use an alternative model of embedded knowledge, which is not distinguishable from the practical skills involved (National Working Group on the Recognition of VET in Schools 2001, part 4). While this research related primarily to the interface between adult VET and university, it noted the relevance to VET in Schools programs articulating to university. It is a concept of knowledge which does not fit easily into school pedagogies and is, in fact, the reverse of the assumption behind ‘embedded subjects’.

A further difficulty may arise in the case of academically less able students. While there remains an attitude in many schools that VET in Schools is best suited to the least academic (National Working Group on the Recognition of VET in Schools, part 4), it is in fact far from clear that vocational learning best suits their learning style and educational needs. The Kirby report particularly noted that VET in Schools may not be a good answer for many students with low educational achievement (Kirby 2000).

## Assessment, tertiary selection and secondary certification

According to the National Working Group on the Recognition of VET in Schools:

All states and territories would claim that at least some VET in Schools programs contribute, in one way or another, to [their] tertiary admissions index. Most commonly, however, this occurs when the competencies are embedded in senior secondary certificate subjects that, in turn, count towards the calculation of the index.

(National Working Group on the Recognition of VET in Schools 2001, p.13)

There are also arrangements in some states and territories which permit stand-alone VET courses to be included in the index, using graded assessment as an option. In addition, there are approaches which avoid the issue by employing alternative university admission schemes.

The wide variety of approaches by different jurisdictions to assessment, certification and selection machinery are outlined in a number of sources (for example, National Working Group on the Recognition of VET in Schools 2001; Currie & McCollow 2002; the Australasian Committee of Chief Executive Officers of Curriculum, Assessment and Certification Authority 2003), although it remains difficult to secure a valid static snapshot of a continually changing scene.

Despite considerable progress, many issues remain to be resolved. The use of competency-based assessment was identified as a barrier to acceptance of vocational qualifications by universities by the Schools Council during the early stages of the evolution of VET in Schools programs (Schools Council 1994) and the issue is not yet fully resolved. According to the National Working Group of the Recognition of VET in Schools:

The situation exists, however, where the outcomes of VET courses, which are part of a national framework and lead to industry recognised qualifications, are not fully accepted by universities, while other school courses, which could be described as vocationally focussed and outcomes based, are fully accepted by universities but do not lead to industry recognised AQF qualifications.

(National Working Group on the Recognition of VET in Schools 2001, p.14)

The national working group has undertaken considerable work on technical issues in developing graded assessments within competency-assessed subjects. However, the issues involved are more than technical, with other barriers being identified, including:

- ✧ the difficulty of aligning statements of competency to the outcomes of university courses or other senior secondary subjects. This may reinforce the perceived incompatibility between the content of vocational learning courses and university subjects, and may contribute to inadequate recognition of student achievement
- ✧ perceptions about narrowness and lack of depth of knowledge and understanding in vocational courses
- ✧ a desire to judge vocational courses on a terminology of equivalence rather than recognition of distinct value as another kind of education (National Working Group on the Recognition of VET in Schools 2001, pp.14–15).

At school level, difficulties with the two systems of assessment persist. Not infrequently, students achieve successful assessments in the senior secondary qualification while not achieving competency in the Australian Quality Training Framework assessment and vice versa (Spark 1998; Currie & McCollow 2002).

There are also concerns about the validity of competency assessments. Most students undertake placements in workplaces lacking qualified and experienced assessors, with competencies being merely ticked off (Spark 1998; Malley et al. 2001a). Employers complain that log books are complex, bureaucratic and time-consuming (Malley et al. 2001a).

The national working group pointed to dilemmas in the different approaches to the inclusion of VET in university selection calculations. The embedding model tends to downplay the significance of the VET component. On the other hand, not all stand-alone VET in Schools subjects count for selection purposes.

ANTA and the New South Wales Board of Vocational Education and Training have provided funding for research on these issues. Funds have been allocated to:

- ✧ establish a comprehensive stocktake across Australia
- ✧ expand university entrance regimes
- ✧ identify practical ways to integrate industry-focused competency standards and student ranking for university admission
- ✧ develop market-based information strategies to promote the outcomes made available to students through increased recognition (Department of Education, Science and Training 2002).

Furthermore, ANTA has funded the Assessment Research Centre at the University of Melbourne to test the feasibility of a standards-referenced approach to the scoring of assessment in VET in Schools courses (Department of Education, Science and Training 2002).

## Quality issues

A consistent feature of VET in Schools programs is that the quality of the learning experience both in schools and in job placements is questioned, often in ways which reveal a depth of mistrust and cultural difference between the parties, especially school educators and industry representatives.

It is not difficult to list industry complaints about the quality of learning outcomes from VET in Schools programs (see, for example, Currie & McCollow 2002, pp.54–6). Similar sentiments have been expressed to the House of Representatives Inquiry into VET in Schools (for example, Housing Industry Association 2002; Victorian Automobile Chamber of Commerce 2002). Essentially the industry view is that:

Few schools have adequate staff, experience and facilities to deliver vocational programs to the level required in the standards.

(Victorian Automobile Chamber of Commerce 2002, p.5)

TAFE directors take a similar stand:

If VET in Schools programs are to have credibility with industry, and sound pathways are to be developed to higher level vocational courses, it is very important that appropriate quality systems and processes are in place and that the overall integrity and characteristics of VET, as contained within the principles of the AQTF and requirements for RTOs, are maintained. It is TAFE Institutes' view that this is not always the case and it makes the process of auspicings schools' programs increasingly difficult, both in the amount of resources required and the lack of control over how schools conduct their assessment and delivery.

(TAFE Directors Australia 2002, pp.3–4)

This is supported by group training organisations, which not only doubt the acceptability of school-delivered programs in the eyes of industry, but question all institution-based training:

Employers are also not convinced that a qualification gained through an institutional pathway, even if it includes some work placement, is comparable with the same qualification gained in the workplace under a training contract, regardless of their supposed parity under a competency based system.

(Group Training Australia 2002, p.7)

Despite the substantial evidence of industry perception of quality problems in school-delivered VET in Schools, the major finding of an investigation conducted by the ANTA National Training Quality Council in February 2002 was that schools registered as registered training organisations were generally compliant with the Australian Quality Training Framework (Department of Education, Science and Training 2002). However, some of the responses made during the consultation phase of the investigation indicated potential problems for some schools when attempting to comply with the Australian Quality Training Framework (ANTA 2002a).

Some employer bodies argue that the model of delivering vocational competencies through the school system is misconceived. The Australian Industry Group, surveying its members for the House of Representatives Inquiry into VET in Schools, received complaints about both schools' attempts to deliver training package outcomes, and their failure to produce adequate outcomes in general education, above all in mathematics capability (Ghost 2002). Moreover, they felt that schools should focus on the future skill needs of the economy rather than following current labour market requirements.

An approach to VET in Schools focusing on generic work skills may deliver more appropriate outcomes for industry into the future. The paper by the Australian Industry Group cited above, when referring to skill needs for emerging technologies, determined that significant skill sets required for employment in emerging industries do not yet exist, and consequently the generic skills and knowledge that underpin the capacity to efficiently and effectively embrace new technology skill sets are critical to the success of new industry in Australia (Ghost 2002, pp.62–3).

On the other hand, there are serious concerns about the quality of learning in the workplace. Some of this concern focuses on assessment practices. However, a larger issue is the lack of clarity and agreement on the purposes of work placements. Malley et al. report that their case studies showed that, while placement aims were generally met at the lower end of the skills continuum, policy assumes that placements should also provide for the upper end. Yet there was little evidence of extensive formal learning occurring only in the workplace (Malley et al. 2001a).

Schofield (2001) argued from her extensive reviews of quality of training in apprenticeships and traineeships in several states that, while a range of issues impact on the quality of VET programs

in schools, quality training requires greater attention to the provision of structured, planned and intentional on-the-job training.

ANTA's response to quality issues in VET in Schools has been to propose more rigorous adherence to Australian Quality Training Framework requirements (ANTA 2000a), but this assumes that the broad needs of school-aged students are compatible with the specific vocational outcomes sought by young and older adult students already embarked on specific career training. As Currie and McCollow argue:

VET in Schools is about such things as increasing student knowledge, motivation, self-esteem and self-awareness as well as providing specific employment related competencies. Valid judgement about the quality of VET in Schools programs would need to consider and weigh up the sometimes competing claims of the various agendas that are driving it.

(Currie & McCollow 2002, p.57)

# Stakeholder expectations

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## VET in Schools and industry

There is a lack of systematic research on industry acceptance of VET in Schools, and, although commentary and anecdotal evidence exists, its acceptability is often compromised because employers may have offered this advice through self-interest or on the basis of stereotypes.

Some early reports indicated considerable employer enthusiasm for VET in Schools programs, although there may be a degree of self-selection by employers who are sufficiently public-spirited to support educational initiatives. Malley and collaborators list a range of studies demonstrating employer goodwill, while noting research which emphasises that the quality of placements depends crucially on local enterprise–school relationships, rather than system-level factors (Malley et al. 2001a).

Employers involved in VET in Schools are motivated by the improvements they see in students' attitudes and self-esteem and by a desire to help their local communities. They also see the benefits of an improved civic profile and a source of future recruitment. On the other hand, employers and teachers are separated by a cultural divide that challenges their ability to work collaboratively. It is difficult to secure active employer engagement, and few employers are involved in selecting participating students (Malley et al. 2001a).

Recent evidence is more critical, perhaps as the focus of VET in Schools has turned more towards programs based on the Australian Quality Training Framework and hence, in principle, equivalent to registered training organisation- and industry-provided training. In submissions to the House of Representatives inquiry, Group Training Australia has described problems in employer acceptance of VET in Schools outcomes and a range of practical issues and industry/education cultural differences (Group Training Australia 2002). The Housing Industry Association referred to a low opinion of training carried out in schools (Housing Industry Association 2002), and the Victorian Automotive Chamber of Commerce noted concerns over registered training organisation status for schools, the low level of completion of school-based New Apprenticeships and teachers' lack of awareness of industry (Victorian Automobile Chamber of Commerce 2002).

TAFE directors noted industry doubts that schools could produce satisfactory training outcomes and also the difficulty of securing sufficient work placements (TAFE Directors Australia 2002). Independent schools noted a mixed employer acceptance of school-based New Apprenticeships (National Council of Independent Schools' Associations Australia 2002). ANTA's national evaluation of school-based New Apprenticeships detected a range of issues:

Implementation of School-based New Apprenticeships is unexpectedly complex in that it crosses many conventional institutional boundaries and involves many stakeholders in training, employment and schooling. It requires a significantly different approach—especially from schools—in achieving outcomes and, with the small numbers involved, it is obviously difficult for most schools to manage. (ANTA 2002b, p.2)

On the other hand, the Building and Construction Industry Training Board does not see all the problems arising within schools: it criticises the inflexibility of training packages and points to the need for a greater training culture in industry (Tasmanian Building and Construction Industry Training Board 2002). Ghost, citing research among member firms of the Australian Industry Group, considers it unlikely that schools can deliver satisfactorily technically based training packages and that:

... it may be timely to consider other ways to deliver VET in Schools. (Ghost 2002, p.62)

In particular, Ghost notes that employers are most likely to seek, on the one hand, basic academic skills, and on the other, the Mayer-style competencies of communication, problem-solving, planning and organising, technology, learning, self-management, and initiative and enterprise skills. Workplace skills are constantly changing and:

... for students, a particular work context is less important than acquiring generic underpinning skills and knowledge. (Ghost 2002, p.63)

Another perspective on VET in Schools and industry is provided by Australian Education Union research. School education is itself a major industry and the expansion of VET in Schools programs has produced a range of industrial issues. The Australian Education Union has found that inadequate attention has been paid to the re-organisation of teacher work patterns, teacher workload, curriculum demands, staffing, physical spaces, hours of school, supervision of work placements, occupational health and safety and child protection requirements, tracking of post-school outcomes and VET audit requirements (Currie & McCollow 2002). There are also major issues arising from the need for teachers to acquire certificate IV workplace training qualifications and in relation to the content and recency of teacher industrial experience (Currie & McCollow 2002).

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Interviews undertaken to support this review identify a range of challenges associated with ensuring that VET in Schools programs have industry relevance. These include:

- ✧ the suitability of training packages for some VET in Schools courses; for example, the new construction package is seen by some as inappropriate for school students
  - ✧ the difficulty faced by schools in adjusting curriculum quickly when training packages change. The time involved in developing a new syllabus and retraining teachers poses a significant challenge, while some students may be part way through a VET course based on an existing package
  - ✧ obtaining quality work placements.
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## VET in Schools and students

Vocational learning programs have remained popular with students, especially where a significant work experience component exists. The 1997 NCVER review cited Grosse's ethnographic study of students participating in a Tasmanian TRAC program:

It was the 'realness' of the experience in work placements that captivated students. The theoretical learning began to make sense when the students were able to apply the theory.

(Grosse 1993, p.31)

Follow-up TRAC surveys in 1994 and 1995 indicated measurable benefits in personal development and learning outcomes (Ryan, R 1997). Later research has provided similar results. Most students in an NCVER evaluation of work-based programs found the experience worthwhile and 'real world'. Both students and teachers believe that work placements work best when students have meaningful things to do, but this involves careful planning by the school and by the employer, and careful coordination between the two (Misko 1998). A majority of students in Teese's survey found they were interested and challenged most of the time (although many were not) (Teese, Davies & Ryan 1997).

However, improvements in learning and knowledge are harder to demonstrate than social and personal benefits (Keating 1998; Misko 1998). A range of studies show that benefits to students are less in the acquisition of specific vocational skills, and more in confidence, maturity and independence, improved motivation and reduced absenteeism (Malley et al. 2001a).

There are downsides to VET in Schools programs. Worksites vary greatly in their suitability as learning centres (Currie & McCollow 2002) and many students face rigid or uninterested supervisors (Schofield 2001). The availability of worksites varies by occupational category and by region, with a major equity issue emerging for rural schools in securing adequate and varied work placement opportunities (Currie & McCollow 2002).

The Enterprise and Career Education Foundation points to mixed views about the value and success of structured workplace learning and notes that some employers do not have a motivation based on a desire to help students with their education (Enterprise and Career Education Foundation 2002b). There is some evidence of work placement students being used as exploited labour and even displacing normal employees (Currie & McCollow 2002).

The largest issue for students, however, is marginalisation of VET programs and the status of VET courses. The 1997 review noted that:

Vocational education remains limited by the conception that it is for lower achieving students. At the same time, many pilot schemes rely on selectivity to achieve their objectives, while few possibilities of vocational education for disadvantaged or 'at risk' students have been exploited. (Ryan, R 1997, p.19)

There has clearly been movement on both dimensions. Studies indicate that there has been an increase in interest in vocational studies among higher-achieving students, though not a large number (Department of Education, Science and Training 2002; Malley 1999). However, VET students are generally lower achievers and less likely to apply for a university place (Teese et al. 1997). Reports from practitioners describe continuing poor perceptions of VET in Schools programs. Klee argues that the perception and credibility of VET programs by the general educational community need improving because:

If VET is perceived as a dumping ground for academic failures and delivered as such by staff, with little or no rapport with the students involved, then it is doomed. (Klee 2002, p.53)

Selby Smith concluded that:

Because these vocational students continue to be more likely than average secondary school students to come from non-metropolitan, lower socio-economic English-speaking backgrounds and to be in the lower quartiles of achievement within government schools, much apparently remains to be done to change the cultural attitudes and expectations of those involved, including parents, students, teachers and careers advisers. (Selby Smith 2002, p.28)

# Issues emerging from the literature overview

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## Implementation issues

The literature makes it clear that, although not the subject of systematic research, the practicalities of implementing VET in Schools and vocational learning at school and worksites remain major obstacles which are poorly appreciated by policy-makers and system-level managers.

Reviewing a range of studies, Ryan (Ryan, R 2002) argued that a number of practical challenges face those wishing to introduce VET in Schools programs.

Problems with accessing industry-experienced teachers and industrial equivalent equipment and facilities have been noted. Access to a sufficient number of worksites for work placement is a frequently reported issue. Timetabling work experience is difficult and students are often forced to make up or miss schoolwork. Successful programs require dedicated coordinators, perhaps best organised on a regional or cluster basis.

(Ryan, R 2002, p.8)

The task of negotiating, developing and implementing VET programs in a school is demanding and time-consuming (Watson 2000; Bradley & Nield 2002). Numbers are variable and often very small (Malley et al. 2001a). Currie and McCollow argue that VET programs are operating on a reservoir of teacher energy and goodwill. From the teacher's perspective:

The bureaucracy that has been built around VET in general and VET in Schools in particular—and the associated administrative and accountability processes—is astounding and wasteful.

(Currie & McCollow 2002, p.65)

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Supporting interviews for this review identified a range of similar organisational challenges, and in addition:

- ✧ ongoing professional development and recruitment challenges in order to ensure that VET teachers have the skills and knowledge required
  - ✧ a range of factors that make partnerships between schools and TAFE difficult; for example, the lack of budget flexibility for schools to purchase registered training organisation services and the constraints of TAFE institutes' performance agreements which make it seem that they are 'double dipping' if schools purchase from them. Schools face a range of charges when services are purchased—varying from highly subsidised to fully commercial rates.
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## Resourcing and sustainability

The 1997 review noted the lack of systematic and detailed analysis of the resource implications of VET in Schools (Ryan, R 1997), and this remains true, although the Australian Government has analytic work underway to assess the costs of VET programs in schools (Department of Education, Science and Training 2002). Schools with VET programs need to employ program coordinators, provide professional development for teachers, develop learning materials and

purchase services from TAFE or other registered training organisations, leading to considerable costs to schools (Schools Council 1994). Many schools pass on costs to parents, especially where training is provided by TAFE or another non-school registered training organisation. These fees have been as high as \$2000 (Currie & McCollow 2002, p.63). Research by Polesel et al. (2003) identified fees as a key barrier to student participation in school VET programs. There seems little doubt that VET in Schools is resource-intensive and that this has been a constraining factor throughout the life of VET programs.

Seed funding seldom covers the full cost of programs and there are shortfalls between numbers of students funded by state sources and those actually participating (Malley et al. 2001a). There are restrictions by funding agencies on the use of funds for capital purposes, although capital works may be needed to meet industry standards (Spark 1998; Keating et al. 1998).

The Ministerial Council on Employment, Education, Training and Youth Affairs has accepted that VET in Schools is more expensive than general education, and surveys of schools show that most school managers and teachers believe that, if ANTA funding ceases as planned, states will not provide the resources needed for a sustainable program (Currie & McCollow 2002). Estimates of costs of VET in Schools programs rise on a five-model scale, from about the same for a model which simply substitutes VET programs for existing curricula with no other changes, to as high as 1.06 to 1.08 loading as the training is purchased from registered VET providers and structured workplace learning is added (Currie & McCollow 2002, table 19, p.122).

A recent report (made available since the time of writing) prepared by consultants for the Department of Education, Science and Training has explored costing issues more comprehensively (Department of Education, Science and Training 2003).

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Interviews supporting this review identified concerns that vocational learning costs more than general education, and that this is not acknowledged in current funding models.

Those interviewed expressed mixed views about the planned termination of ANTA seed funding, with some jurisdictions seeing this as a major issue; others take the opposite view, pointing out that states and territories are already making substantial funding contributions to VET in Schools.

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## School reform

There is little evidence that, rather than merely being a more attractive option to continuing students, VET in Schools programs have assisted in the major objective of encouraging increased retention to school completion (Malley et al. 2001a). Several commentators have placed vocational learning initiatives in a broader context of school reform. To move beyond this pattern may require more comprehensive reform which focuses on structures and institutional form, as well as on curricula and programs (Selby Smith 2002, p.28). As Robin Ryan notes:

Proponents of reform in the schools' role in the transition process have long advocated new institutions and structures which promote a climate of adult learning and see the post-compulsory years as the first stage of lifelong learning. While there are benefits from the present enthusiasm for vocational programs in schools, the suspicion remains that they are seen largely as an alternative to the root and branch reform of secondary school that has been so long neglected.

(Ryan, R 2002, p.13)

Reform is also needed to address the culture in secondary schools.

We know that young people leave school because they are not interested in learning and because they do not like school. One of the keys to raising Year 12 completion rates must be wider curriculum choice ... Making schools more enjoyable places is another.

(Sweet 2002, p.7)

One of the most consistent findings of outcomes research is the pleasure young people derive from being treated as adults when in their work placements; this contrasts markedly with their school experience and is particularly important for rural young people (Bell, Kilpatrick & Kilpatrick 2001).

Studies of boys' education and of students' real work experience confirm their disillusion with their daily school experience and the contrast they draw with their experience at work (Slade & Trent 2000; Smith & Green 2001). Teese found that:

Every third boy who is a low achiever claims to be in a prison, in a place of negative confinement, governed by teachers who are no more than gaolers (and these had reached Year 12). (Teese 2000, p.5)

According to Slade and Trent (2000), this feeling is shared at least to some extent by girls and by high-achieving students. Such feelings of alienation are unlikely to be assuaged by greater curriculum choice or minor changes to school routines. The ministerial review of post-compulsory education in Victoria is another source that suggests that the senior school years (including Year 10) should be taken as a coherent unit (Kirby 2000).

The literature contains very little comment and no systematic research on vocational learning for younger age cohorts. Clearly duty-of-care issues, which already concern teachers, are greater when younger students are involved in workplace experience (Currie & McCollow 2002). However, the need to develop pathways into vocational programs from early in the secondary years has been identified as crucial to the participation of disadvantaged students, particularly Indigenous young people (Australasian Committee of Chief Executive Officers of Curriculum, Assessment and Certification Authorities) and those with a disability (Barnett 2002). The Enterprise and Career Education Foundation also notes that 'taster' work experience in junior school years may facilitate transfer to vocational studies in higher years (Enterprise and Career Education Foundation 2002b).

Spring and Syrmas (2000) suggest that there is a range of vocational learning opportunities outside the National Training Framework which are suitable for introduction to all age cohorts. These programs, including enterprise education, career education, service learning and youth development programs, have as intended outcomes:

- ✧ understanding of the dynamic nature of work, its cultures and environments
- ✧ understanding of changing economic and social environments, including patterns of employment and factors that influence the labour market
- ✧ understanding of the range of school and post-school options
- ✧ self-awareness, making and implementing decisions on educational and career pathways
- ✧ generic competencies that prepare students for work, including self-employment, and the application of such skills to work
- ✧ enterprise skills and enterprise behaviour, including the ability to recognise, create and utilise opportunities, products and services in business, community and other contexts
- ✧ capacity to manage transitions to and through post-school life. (Spring & Syrmas 2002, p.13)

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Interviews with vocational education in schools policy personnel identify consistent support for these directions, with drivers from both Australian Government and state decision-making levels shaping a range of policy and program initiatives in support of a school system that enables broader vocational and lifelong learning, with VET in Schools forming a discrete component of this system.

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## Full service schools

Although the term is less commonly employed in Australia than in the United States, there are suggestions in the literature that vocational learning programs need to be accompanied by a repertoire of wider student services. During 1999 and 2000, the then Department of Employment, Training and Youth Affairs implemented the Full Service Schools program, which included a number of research projects. The program aimed to encourage young people under 18 years of age to return to or remain at school until the end of Year 12 so that successful transition to further education, training or employment could be facilitated. National evaluation of the program (Department of Employment, Training and Youth Affairs 2001) found that it had made a significant impact on 'at risk' young people, with key success factors being school–community relationships, developing a 'culture of innovation and enterprise', flexibility in curriculum design and delivery, and the quality of student–teacher relationships.

Reviewing a number of case studies, the Enterprise and Career Education Foundation argues for drawing together a range of services in local partnership arrangements. These would include programs linked to the labour market; enterprise education programs and entrepreneurial activities; career guidance; counselling and advice services; the placement of teachers in industry and the training of industry personnel to deliver their aspects of programs; vocational learning activities; and career and transition management support designed and driven by local partnerships (Enterprise and Career Education Foundation 2002b, p.50).

Spring and Syrmas (2002) also see the provision of student support services, especially comprehensive career advice linked to job opportunities supported by information technology systems, as integral to the further development of vocational learning in schools. Special attention to broader service availability may be required in rural or remote areas. A Tasmanian study of rural schools with vocational learning programs demonstrated the importance of integrating community employment and education agencies, and the need for a more holistic approach to education for lifelong learning (Williamson & Marsh 1999).

The National Council of Independent Schools Associations, reflecting the experience of its member schools, argues that future development of VET in Schools will require:

... much greater collaboration between government and non-government agencies across a range of portfolios (education and training, health, welfare, community services etc) that provide services to young people. NCISA considers that access to these support services should be considered an entitlement for students requiring these services, regardless of the school sector attended. (National Council of Independent Schools Associations 2002, p.i)

## Conflicting cultures

The 1997 NCVER review of research into school programs commented that:

Perhaps more important than the costs and logistical difficulties is the sometimes profound incompatibility between school and work cultures. Sometimes this emerges in practical matters like timetabling and organisation but also reflects fundamentally different outlooks on society and the position of the individual. (Ryan, R 1997, pp.17–18)

The evidence from the literature 1997–2003 suggests that cultural barriers remain between educators and employers and within schools, but are diminishing as an issue. Earlier research found that, in many schools, VET programs were of low status and seen as a 'soft' option. Where VET students undertake discrete courses and are segregated from other students, VET is sometimes marginalised (Spark 1998).

Currie and McCollow (2002) report complaints from academic teachers about timetabling problems and the funding requirements of additional professional development for VET

teachers. Case studies indicate that academic teachers sometimes believe that students' broader education is disrupted (Green & Boylan 2001).

Beyond these issues, many teachers remain unconvinced about the educational value of VET programs (Currie & McCollow 2002). However, a major study recently completed for NCVER reports a 'sea change' in cultural attitudes within schools. It notes the issues identified here, but argues that they are not major barriers to further growth of vocational learning in schools (Polesel et al. 2003). The study was designed to investigate the place of VET in school culture and policy, and sought information from 12 schools and six TAFE institutes in three eastern states. The data represented the views of more than 300 teachers, 1100 Year 11 and 400 exit Year 12 students. There was a majority perception that:

... VET plays an essential role in making the curriculum inclusive of a broader range of needs. VET was also viewed as a useful means of improving learning, giving many students a chance of success at school, some for the first time. (Polesel et al. 2003, p.7)

The study also found that 'cultural' barriers were less important to growth than issues involving resources, the provision of infrastructure and training and the costs of delivering VET. For teachers, resource-related issues brought extra workload and responsibilities (for example, liaising with employers and TAFE, increased administrative work); inadequate facilities for delivering VET on site; additional inputs of time, money and effort to comply with the Australian Quality Training Framework; costs involved in purchasing registered training organisation delivery; and fees and charges for students (Polesel et al. 2003, p.8). Students were found to not enrol in VET programs when they had university-oriented goals; when cost of participation was an issue; or when there was limited availability of VET programs. Negative perceptions of VET were given relatively little importance (Polesel et al. 2003, p.11).

## Conclusions from the literature

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One clear conclusion is that the literature on VET programs in schools has widened and deepened considerably since the 1997 review. A much greater and more reliable corpus of quantitative data on programs, student characteristics, outcomes, and work experience now exists, although significant methodological and definitional problems persist.

Definitional problems underlie much of the continuing debate on vocational education in schools; these in turn reflect widespread, although sometimes unarticulated disputes about the purposes and expected outcomes of VET programs. At the same time, a convergence may be detected in attempts to secure a greater integration in policy and practice of vocational and academic education, of school and post-school pathways, and of education and industry.

Opposing this integration are viewpoints that seek the greater development of occupation-specific outcomes and qualifications. A significant barrier to the further development of this approach, however, lies in industry doubts about the quality and effectiveness of specific vocational training provided by schools. Other issues include the difficulties schools experience in taking students through to completion of full qualifications; the shortage of work placements; the relatively modest and declining structured workplace learning component of school-based VET; and the doubts expressed by many in industry and education about the value of this path.

Considerable progress has been made in technical work to develop educationally appropriate curricula for vocational learning, to create assessment methodologies which accommodate new forms of learning, and to measure these achievements for tertiary selection procedures.

A wide range of implementation issues still complicate the development and expansion of vocational learning opportunities at individual schools and worksites, and evidence suggests that insufficient attention is paid to these difficulties by policy-makers and system managers. Major issues in resourcing and sustainability continue to arise, and some educators in the field have doubts about the continuation of VET in Schools programs after the scheduled cessation of ANTA and Enterprise and Career Education Foundation funding.

Despite many doubts and difficulties, most key stakeholders welcome the emergence of vocational programs as a distinct and valued stream of school education. Nowadays (2003) more than 40% of students engage in these programs to some degree and welcome the opportunities they provide, despite the extent to which they remain marginalised and skewed to lower-achieving groups. To go beyond the present point of development and to embrace a philosophy of learning at and from work by students of all ability levels may require a more comprehensive program of school reform than has so far been contemplated.

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# Appendix: Acknowledgements

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