

The **quest** for a **working blueprint**

Vocational education and training

in **Australian secondary schools**

Part 2

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1 A survey of school-based VET

Vocational education provision in secondary schools has been a subject of renewed international interest since the early 1990s. In response to the globalisation of capital, technology, management, transportation and core markets over the last ten years, nation States have pursued policies aimed at making them more competitive. A significant feature of globalisation is its reliance on the knowledge-based activities of information, innovation and the capacity to change. Consequently, one policy response of governments seeking to maintain or improve their position in a globally competitive economy has been to increase the supply of higher-skilled workers by expanding the number of young people completing secondary school and continuing on to further education. One of the mechanisms used by governments to meet these global challenges has been the inclusion of vocational education and training into the senior secondary school curriculum (OECD 1999a,c).

As part of this global picture Australian activity in school-based vocational education accelerated from a 1995 position of approximately 26 000 enrolments spread across small, unco-ordinated State-based programs to one in 1999 with an estimated 129 000 enrolments in nationally recognised vocational programs. This growth occurred within a strong federalist framework where States and Territories increasingly asserted control over the agenda of vocational education in schools, but only after a series of Commonwealth Government policy and resourcing initiatives.

Origins of the current interest in vocational education and training

The origins of the current national vocational framework for secondary schools probably lie with the formation of the Australian Education Council's review of young people's participation in post-compulsory education and training in 1990 (Finn 1991). Following this report a connected sequence of reviews and agreements led to the adoption in 1998 by State and Territory school agencies of a post-school VET sector model of national industry competencies and qualifications as the recognised form of vocational learning in upper secondary school.¹

This 'recognised' form of vocational provision is of two types: 'VET-in-Schools' programs and 'school-based new apprenticeships' (SBNAs). The former is generally embedded into a school completion certificate with full-time students studying vocational subjects/modules/competencies to national industry standards. School-based new apprenticeships allow young people to participate in a wage-based contract of training with an employer and continue with studies at school leading to a school completion certificate. The concept of school-based new apprenticeships is new and subject to further development. Consequently, models vary from part-time school and part-time work spread over an extended period (typically a three-year period for school completion certificates) to full-time schooling

¹ As defined by the Ministers of Education at the MCEETYA meeting, Hobart 23–24 April 1998. Paper 6.6.2 vocational education in schools is identified as ... 'Boards of Studies, in agreement with State/Territory Recognition Authorities, will recognise as VET in schools only that which delivers national industry and/or enterprise competency standards'.

with an after-school-hours contract of training. Indentures vary from one-year contracts of training in non-traditional areas such as office and business skills to extended contracts over three or four years in traditional areas such as engineering.

In addition to these dominant forms of vocationalism, some schools and schooling systems maintain other vocational programs which include elements of workplace learning, skills training and career exposure. These 'other' vocational programs are not yet fully integrated into a comprehensive policy and program framework with VET-in-Schools programs and school-based new apprenticeships. Nevertheless, these other programs are identified by practitioners as an essential part of the response by schools to progressively equip youth to make better informed career and further education choices.

The separate establishment of post-school vocational training sectors in most States (VET/TAFE) meant that the process of policy formation for this new wave of vocationalism was often contested between schools and training agencies. Furthermore, the history of strong, centralised and hierarchical State agencies of school education often resulted in policy processes which gave only fleeting recognition to school and community-based practice. Consequently, very little debate occurred in Australian policy circles during this growth period about what vocational education in schools is or should be. The post-school VET sector model was tacitly accepted as the appropriate form of vocationalism. Only since 1998 has this debate emerged in Ministerial Council on Education, Employment, Training and Youth Affairs (MCEETYA) discussion papers and position statements such as the 1999 *Adelaide declaration on national goals for schooling in the twenty-first century* (MCEETYA 1999b). Since then, as State/Territory boards of study and innovative schools and their communities attempted to meld general education system precepts with youth needs and the mechanics of occupationally defined competencies, a schools-based derivative of vocationalism has begun to emerge. As this debate progresses it will no doubt draw upon recent experiences and debate encountered in other countries such as the United Kingdom and the United States of America where school-based vocational programs are also subject to ongoing development.

Competing goals and objectives

These debates about vocational education provision continue in large part because its form and placement within a general secondary education are not agreed (for example Green 1998; Thompson 1973). Vocational education is increasingly referred to within contemporary policy as an available tool serving multiple ends such as secondary school reform, labour market training reform, inculcating lifelong learning skills and improving youth transition from education to work (Urquiola et al. 1999; DfEE 1999a,c; OECD 1999a,c). In particular, policies for improving youth transition and establishing lifelong learning capabilities identify vocational education provision in schools as one of a range of mechanisms available to governments to help achieve these ends.

A recent example of this complex supporting role of vocationalism is the OECD (2000) review of youth transition from initial education to working life in 14 countries which uses the construct of 'pathways' to generically describe three main forms of learning provision made available to young people: apprenticeship, vocational education and general education. It proceeds to the conclusion that '... no one type of pathway ... appears to hold the key to successful transition outcomes' and then discusses the relative merits of various forms and combinations of vocational and general education in meeting this policy goal of transition outcomes. Vocational education is therefore cast as an available tool (means) for nations to improve transition outcomes (an end) for youth to work and/or further education and training.

Behind this international interest in school-based vocationalism are two related themes. One theme identified at the beginning of this chapter is about global change and the dynamic inter-relationships between technology, economic growth, global competitiveness, work organisation and skills training. The other is about the welfare of youth, 15 to 19-year-olds in particular, in a rapidly changing society where welfare is increasingly associated with longer spells in structured education acquiring useful skills and knowledge and facilitating successful transition to work or further education. This welfare theme often has an initial focus on that

group of youth who either leave school early or who do not engage in further 'recognised' education or training in the immediate post-school years and who are likely to experience extended periods of unemployment or under-employment.

Vocationalism is therefore seen as an important equity policy tool in addition to considerations of improving national workforce quality and efficiency. The linking of the themes comes via a series of axioms that recur in the developing literature on globalisation, new growth economics and education and training reform.

These axioms are that:

- ❖ National welfare is related to a national capacity to earn income through participation in the globally competitive economy.
- ❖ Nations need to ensure that the skill and knowledge base of the workforce, and the infrastructure which supports it, is appropriate to advancing the national response to international markets and competition.
- ❖ The entry-level skill and knowledge base of youth is an important dynamic in maintaining a skilled and flexible workforce.
- ❖ The higher the entry-level skill and knowledge base of youth, the more likely they are to contribute to national and personal welfare, and less likely to be in marginalised income, employment and social conditions.
- ❖ For efficiency and equity reasons governments should provide education and training systems to meet the general formative skills and knowledge needs of youth, industry and community, and individuals and employers should engage more in provision as the skill and knowledge demands become more occupationally or enterprise specific.

The prevalence of these axioms is demonstrated by the contextual arguments contained within national reports on youth transition, school-to-work programs and vocational qualification access from within senior secondary schooling. To these countries vocational education and training is an available policy tool to influence wide-ranging economic and social outcomes for youth (OECD 2000; Gill, Fluitman & Dar 2000).

In particular the provision of vocational education is often used by education authorities to keep more young people attached to education systems for longer periods of time to acquire higher levels of useful skills and knowledge. For many education systems this means changing traditional curricula, structures and student flows to cater more equitably for the majority of 15–19-year-olds who do not proceed directly from secondary school to university. A commitment to provide this type of vocational education, whether it be through partnership with other educational institutions and workplaces or simulated work environments within schools, is a major structural reform often associated with central agency leadership (Riley & Reich 1996; DfEE 1999a, 1999b, 1999c; Kemp 1999b, 1999c).

Benson (1992) in an earlier discussion identified this complexity of purpose for vocational education in schools in the USA and ascribed the following aims to it:

- ❖ to stand as an alternative to the traditional restricted entry programs of college preparation
- ❖ to provide an integrated form of instruction so that more students, through applied learning would acquire more academic knowledge and thus meet the requirements for four-year college entrance and at the same time gains skills to directly enter the workforce
- ❖ to provide more people with the opportunity to attain well-paid and satisfying work
- ❖ to relieve the economy of the 'enormous cost of students milling around in secondary school, community college, and low skill, temporary jobs'

He then argued that before these aims could be achieved and a new vocationalism for schools established, three sets of integration had to occur among currently separate activities. These were:

- ❖ the integration of vocational and academic studies

- ❖ the integration of secondary and post-secondary education
- ❖ the integration of education and work

These apparently simple integrations involve major structural reform for traditionally organised education and training systems.

Benson's framework of objectives and integrations appear to have maintained relevance throughout the 1990s. Not only are they reflected in subsequent vocational policy initiatives in the USA and UK, but they also appear in the Organisation for Economic Co-operation and Development (OECD) country reviews, including that of Australia. In paraphrased form these recurring elements are:

- ❖ improving transition outcomes for youth at a time of changing youth labour markets
- ❖ reforming secondary school structures and content to improve youth retention
- ❖ improving the relevance of schooling outcomes to employers and employment, sometimes with a view to enhancing the participation of employers in a social partnership of entry-level core skills provision for youth

In an Australian context the Benson framework of integration has been reflected in the cumulative policy goals of Australian governments through national reviews of education, training and youth employment ranging from Finn (1991), Mayer (1992), Carmichael (1992); a white paper on employment and education *Working nation* (Australia 1994) to ministerial statements (Kemp 1996, 1999b,c) and collective agreements between Commonwealth and State ministers as reflected in MCEETYA resolutions since 1992. An analysis of formation and integration therefore provides a useful basis to consider the implementation of school-based vocational education and training in Australia.

Layered conversations and action points

In Australia the interactive effects of four broad stakeholder groups and their individual members influence the policy and practice agendas of youth transition, schooling reform and vocational education and training. These stakeholder groups are:

- ❖ the federal government and agencies and advisory structures (Department of Education, Training and Youth Affairs [DETYA], Australian National Training Authority [ANTA], Australian Student Traineeship Foundation [ASTF]);
- ❖ State and Territory governments and their agencies (departments of education, training, employment and youth affairs variously configured, and curriculum and certification agencies)
- ❖ individual schools
- ❖ clusters of community interest bringing together employers, unions, service agencies such as Rotary, local government, other training providers and third party enabling agencies, such as area consultative committees (ACC), and regional employment and youth agencies

Youth and their parents are not listed as separate stakeholders as their interests tend to be variously reflected within any of the above groupings of stakeholders.

Vocational policy and activity has been progressed by each of these groups, often acting in harmony but sometimes in conflict or out of synchronisation. This differential progression occurs for two reasons:

- ❖ different or overlapping agendas and strategies from entities representing stakeholder interests. For example from time to time vigorous debate has occurred within particular States between school, post-school training and end-of-school certification authorities about the shape and control of vocationalism within a school delivered context
- ❖ different levels of connection between stakeholders at various locations. Policy agents at federal and State levels tend to focus on concepts of growth as measured by aggregations of students, courses and budget-driven resourcing whereas communities and practitioners

focus on the day-to-day realities of creating new forms of organisation and management for vocational programs. Sometimes these differences create tensions as central policy mechanisms appear to be hierarchical and insensitive to new organisational forms created by schools and community groups. One reaction by some education communities is to not* participate in the new forms of vocational learning and to stay outside the policy frameworks of central agencies.

The implementation of this 'new vocationalism' in Australian schools means that the connections and differences between the stakeholder groups should be considered. In part this report attempts to consider both the macro policy and structural change frameworks which drive central agencies, and the practical micro issues of school management and the community desire to improve outcomes for their youth. These interactions between and within stakeholder groups illustrate the complexity of objectives embedded within vocational education and training and identify key issues surrounding the integration of vocational and academic studies, secondary and post-secondary education, and education and work.

Towards a framework of intent for secondary school-based vocational learning

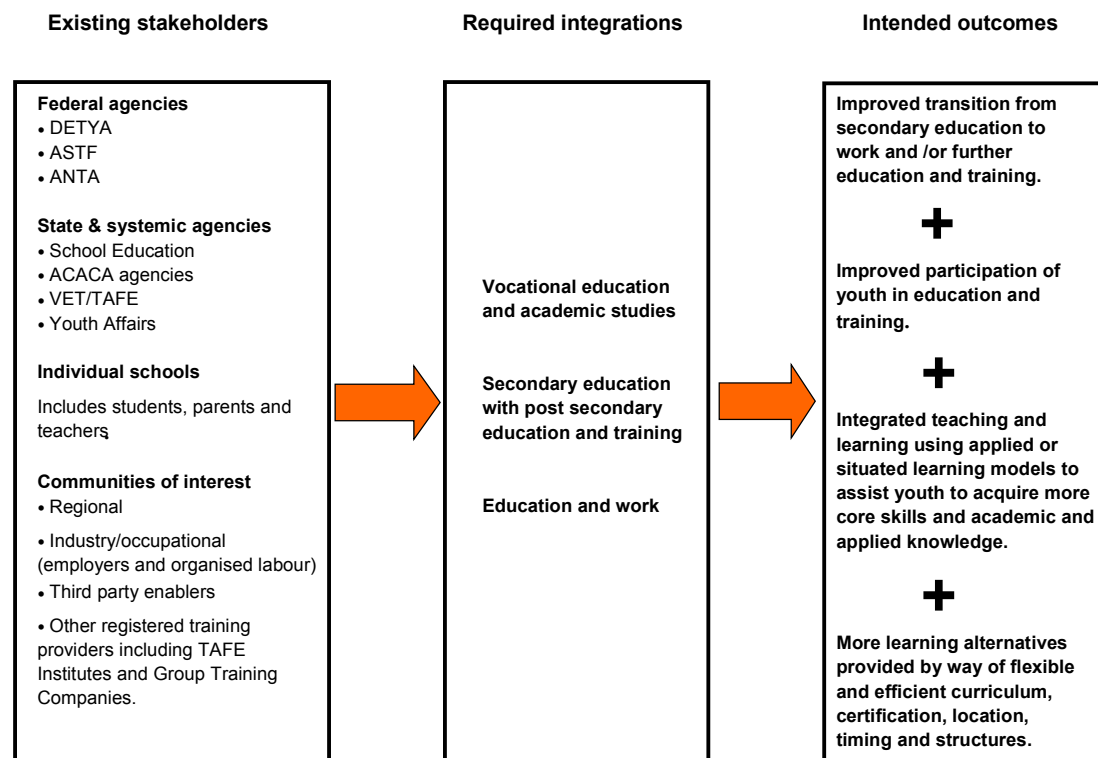
As we enter the new millennium there appears to be a common concern shared by nations about improving youth economic and social outcomes through reform of post-compulsory education and training structures. This shared concern also has a common component which is the use of vocational education or related concepts such as situated learning (Cumming 1997) as a major element of policy and practice to drive this reform. While reforms vary between countries, States and districts, depending on respective legislative and social frameworks for education and training, many of them appear to embrace the principals of integration. That is, many countries are attempting to achieve a more efficient and equitable integration of education and training with work and life.

It is therefore not appropriate when discussing vocational education and training in schools to contain the focus on a narrow conceptualisation because it acts as a connector to, and sometimes a trigger for, these larger social and economic issues.

This preliminary consideration of secondary school-based vocational education and training in Australia and overseas lends itself to the development of a framework to identify key issues of direction and intent. By merging some of the Benson concepts with issues from recent international reviews, figure 1 illustrates the complexity of the topic of vocationalism in secondary schools. What is not identified in this simplified schema are the organisational and procedural relationships required to achieve structural reforms and agreed outcomes. This schema therefore provides a starting point to consider the various structures, processes and expectations of stakeholders involved in the recent shaping of school-based vocationalism in Australia. Further, it becomes apparent from this introductory overview that this new vocationalism has been cast as a key part of a broad intent to reform the provision of education and training for youth. To assume that vocational education and training in schools is only about the acquisition of industry-approved job skills and competencies would ignore the accumulating experiences occurring within Australia and overseas that it is much more than this.

The following model of integration represents a description of present stakeholder entities, desired outcomes and structural changes considered necessary to achieve them. The changes required to integrate education with work, school with post-school institutions, and vocational with academic studies, will be guided and limited by past and present developments and practice. Broad historical aspects on the development of vocational education and training in Australia are therefore considered in the following chapter. For comparative purposes an account of the development of vocational education and training in secondary schools in the United Kingdom and the United States of America is also included. From this the leadership role of national governments in shaping vocational education provision becomes evident, as well as a shift in the focus of implementation to local and regional groups.

Figure 1: A framework of participation and intent for school-based vocational studies



2 Historical and international aspects of vocationalism in secondary schooling

In historical terms the major influences on vocational education provision in Australia have been our British heritage and constitutional federalism. While these historical factors have shaped the cultural base of education and training, it is local and global economic conditions which have consistently triggered demands for reform (Symes 1995).

The British heritage factor shaped education through shared values and structures which, amongst other things, encouraged private secondary education, delayed the engagement of the State in providing extensive secondary education systems and allowed university interests to control an academic curriculum. Given this context, vocational education in Australian private and public schooling systems was provided on a limited basis. Occupationally specific skills training was associated more with traditional apprenticeship derived from the guilds and trade union movements of Great Britain. The initial provision of vocational skills training and education in Australia occurred either in philanthropically based working men's colleges, locally organised mechanics institutes or on the job (Murray-Smith 1965). One notable exception was the provision of agricultural training in regionally based secondary schools, some of which continue today in Western Australia as specialist vocational secondary schools (Malley et al. 1999).

Under the Australian Constitution the responsibility for education lies with the States. Since Federation, the States (and later the Territories) have vigorously maintained this right in the area of schooling, but gradually allowed university education to become subject to federal government funding and policy directives. Since 1975 the States have also allowed a significant part of the new post-school technical and further education sector (TAFE)² to be subject to federal funding and policy guidelines. Nevertheless, States still maintain significant control of the operations and delivery of post-school vocational education and training, leaving the provision of capital works, curriculum and certification frameworks to federal agencies. In this complex system of post-school vocational education and training there has been a collaborative drift towards agreed national frameworks administered by the Australian National Training Authority. The more recent VET in schools developments have been, and continue to be, subject to negotiated outcomes between State and Territory Governments and the Commonwealth Government through federal forums such as the Ministerial Council on Education, Employment, Training and Youth Affairs and the Ministers with training responsibilities referred to as ANTA MINCO.

The Australian federal system of government places it administratively closer to countries such as the USA, Germany and Canada, even though its values system is derived from the United Kingdom. However, Australia does not have education systems characterised by strong local government responsibilities. In this regard Australian government education systems are subject to higher levels of central control from State and Territory authorities and less influence from local and regional entities than in most other federal systems.

Since the 1970s demands for structural change based on participation in the globally competitive economy have grown. Participation in the global economy required that attention be paid to production costs, labour skill and quality considerations (Symes 1995; Levin 1998)

² Now referred to as the vocational education and training or VET sector.

which in turn encouraged education and training systems to consider forms of international best practice outside their traditional structural and values base. In this comparative process the strengths of apparently successful vocational training systems were considered for adaption and adoption within the local environment. During the 1980s and 1990s the Germanic apprenticeship systems were noted for their development of a 'dual' education model for youth and the application of the apprenticeship concept to a wide range of occupations. The Scandinavian countries were noted for their integration of social support networks with school-based vocational learning and the USA was noted for the long-standing federal government leadership given to promoting and developing partnership models of vocational learning at the local level of schooling.

However, McKenzie (1998) sounds a warning that, as education and training systems are embedded within national cultural values and traditions, their most apparently inviting features might not successfully translate into different settings. This is not to say that developments in other countries should not be considered, but that we should be cautious about transplanting social and cultural structures and processes without first understanding underlying factors which shape them.

This chapter considers developmental aspects of education and training systems in Australia and other countries and the influence of national cultures in shaping them. Common themes from these evolving relationships are then identified and discussed with particular reference to the characteristics of the vocational model developed in the first chapter of this part of the report.

Historical formative considerations ideals and traditions in education and training

Ideals and traditions in education and training

Educational ideals and traditions relate to social needs, including cultural maintenance and development and the needs of the democratic state; individual needs, including the competition for positional goods; and economic needs, both individual and industrial. They are not abstract constructs. They are essentially historical, and have a tendency to outlive the conditions that produced them (Ringer 1979; Symes 1995).

Educational traditions are, amongst other things, expressed in the form of the construction of knowledge and its relation to the individual, culture and society, and ways of learning. It is these forms that have sometimes divided general and vocational education through different constructs of curriculum, access, outcome and control through systematisation.

Any discussion of the relationship between general and vocational education in upper secondary education in Australia needs to account for the particular construction of this phase of general education, as well as the construction of vocational education.

Education systematisation

The concepts of general and vocational education are difficult to locate historically because the historical relationship of education to society has not been clear-cut. The foundation of education has been related to social groups, either religious or class, and to a lesser extent economic or industrial (Archer 1979). As such, there is not a deep societal tradition from which to draw insights into the relationship between general and vocational education traditions, as there is for religious traditions, for example. Education only began to systematise in the nineteenth century and was closely related to the formation of nation States. The patterns of educational systems, whether elementary or technical, were closely related to the needs of the nineteenth century States in the context of industrialisation and imperialism (Green 1990; Symes 1995).

The processes of systematisation related to the particular patterns of needs of nation States, which were mainly in constitutional and military forms. Where the constitutional needs were considerable, as in the USA (King 1993), the state was active in the formulation of a strong elementary school system. Where the military needs of the State were considerable, as in France under Napoleon (McLean 1992), the state took a strong role in technical education. In the absence of these needs, as in England, the systematisation of education lagged and did not take place until the twentieth century.

Training on the other hand has a different legacy. Prior to industrialism it was defined occupationally. The crafts, their guilds and the apprenticeship system were essentially a social construct. As a consequence, in the Germanic nations where apprenticeships survive most strongly, they have strong social and cultural foundations (Steedman 1992). The redefinition of the apprenticeship system in industrial terms in Britain has undoubtedly weakened their cultural foundations and subsequently contributed to their relative decline in the post-industrial era (DfEE 1999a,c; Gospel 1995).

The early systematisation of vocational education in the USA is of interest because it includes incorporation with general education systems through Congressional support. During the 1870s a small group of committed individuals from the university sector convinced laymen and educators that ‘... manual instruction should be given in the public schools and that the principles of effective labour were best learnt in the classroom’ (Lazerson 1971, p.474). Encouraged by post-Civil War industrial, population and urban growth, a key group of American States adopted these principles, and by 1917 influenced the federal government to introduce legislation to support vocational learning in schools (Lazerson 1971; Stern 1999b).

Another feature from this period of early systematisation of vocational education in the USA was the separation of vocational instruction from actual real production environments and the subsequent promotion of classroom workshops as the appropriate place for vocational learning (Lazerson 1971). This particular ideology exerted an influence over the provision of school-based vocational learning for the next 100 years.

From the above examples it can be seen that vocational education has been subject to a complex historical pattern for educational systemisation, which in most industrialised States commenced during the last half of the nineteenth century. Since this period, two further elements emerged to influence the systematised shape of vocational learning—private interests in secondary education and State intervention in the management of economic cycles.

‘Private interests’ and secondary education traditions

Secondary education in some nations, notably England and Australia (French 1958), was the last element of education and training to systematise. In these nations it retained a stronger element of private interest and investment than other parts of the ‘system’. Private interests are related to the ‘positional outcomes’ that secondary education can deliver (Marginson 1997) and are often independent of public or societal interests. Consequently, private interests to varying degrees have done much to shape systemic ‘educational traditions’ in Australia (Keating 1999).

This influence of private interests has origins associated with different aspects of our British heritage. Thus, for example, the ‘liberal education’ traditions of English secondary education grew in relative isolation from broader social and economic inputs and behind the protective barriers of a laissez-faire state, and a strong class and religious monopoly of access to the only universities of Oxford and Cambridge. In Scotland, on the other hand, a middle class with fewer privileges required an education of greater utility, so a different educational tradition developed. In Europe the political states developed different relationships with their education ‘systems’, and extended the idea of preparation for citizenship well beyond the elementary years. What constitutes as ‘general’ education, therefore, is quite different in England, Scotland and Europe. This continues today.

In Australia, as in England, the State entered secondary education tentatively, and in the case of some States such as Victoria, with considerable reluctance. There was little real attempt at

systematisation, until after the Second World War, with frameworks and 'traditions' being set by the universities. State intervention in secondary education has essentially been political. It has not been for the needs of the State, as in primary education, or the needs of the economy or industry, as in the case of technical education. It has been for the social and economic needs of constituents. The patterns of secondary education in Australia, therefore, have been influenced by the patterns of State politics. Only with the emergence of youth unemployment in the late 1970s has a compelling reason for State intervention emerged.

State intervention in economic cycles

The second factor to emerge in the twentieth century has been state intervention in the context of the economic cycles. As the western democracies moved through classical, Keynesian and post-Keynesian views on the role of the state in the economy there has been a consistent acceptance that the state should intervene in the area of training and industry skills formation. This has been the case even in Britain, where the most liberal of economic theories has flourished (Wolf 1998). In Australia the 1890s depression was the trigger for the Fink Commission into Technical Education in Victoria, thus establishing a continuing pattern of government intervention in times of economic crisis (White 1995). Across almost a century and usually prompted by economic crisis, state intervention in vocational education and training continued often reaching down to secondary education (Ling 1984). Recent examples are the Finn review (Finn 1991) and its offspring (Mayer 1992; Carmichael 1992) and the *Working nation* white paper (Australia 1994) which led to a series of government interventions to re-assert secondary education links with the skill needs of the economy. In non-crisis periods, state intervention in vocational education and training was through the regulation of apprenticeship provision and the funding of profile hours in post-school institutes of TAFE. A recent intervention paradox occurred in the secondary school arena when calls for the state's withdrawal from secondary education (Calwell & Heywood 1997) took place during a period when state intervention in the school-based provision of vocational education and training was argued for (Shackleton et al. 1995; Fitzgerald 1995; Kemp 1996).

Technical and vocational education

The assumption that technical and vocational education and training is related to the structure and needs of a nation's economy needs to be heavily qualified. Technical and vocational education is a broad theatre, and ranges from the high level training of the elite French Grandes Ecoles to rudimentary skills training in school classrooms. Its orientation towards practical skill formation and the needs of industry is not exclusive, as an examination of education for the liberal professions will reveal. Of interest for this discussion, however, is its relation to the state.

More than the other three main education sectors (primary, secondary and university education), technical and vocational education and training has relatively diverse origins and until recently has been less prone to systemisation. This is especially so in Australia where Murray-Smith (1966) chronicled a diverse set of arrangements connected to craft and industrial institutions, professions and para-professions, industries, and hobbies. On top of these links came the more liberal agenda of community access to further education embedded within the report by Kangan which established the national TAFE identity (Kangan 1974; Goozee 1993).

In comparison with other sectors of education, the systemisation of technical and vocational education into Australian schools as a separate and identifiable part has been relatively late. Some States and Catholic education systems maintained technical secondary schools from the 1930s and earlier into the mid-1980s and all States maintained vocational elements within the secondary curriculum. By the close of the 1980s vocational learning in secondary schools could no longer be considered as systematised. The implementation of the Kangan report (1975) resulted in the creation of a new post-school sector with a designated responsibility for skills training. This new form of post-school vocational education and training now had a national focus through the creation of a TAFE Commission and so began to separate itself from integrated links with general education. It did this through an increasing focus on post-school

attendance modes, curriculum models based on competency and content designed to serve the skill needs of industry.

National systematisation of TAFE accelerated with the establishment of the Australian National Training Authority in 1993 and the implementation of national frameworks for qualifications in 1994. In 1996 ANTA provided four-year conditional funds to State and systemic school agencies for secondary schools to purchase access to VET sector facilities and courses, and in 1997 there was an agreement for the implementation of VET in schools between State governments and the federal government. Together these events further reinforced the systematisation of a State-provided economic model of vocationalism.

Yet while this was taking place, a number of State secondary education boards of study were either restricting the movement of externally sourced (that is, not school system) vocational subjects into the end-of-school certificate and from receiving tertiary entrance scores (for example in Queensland), or were providing their own form of vocational subjects which were based on multiple objectives of career awareness (occupational tasters), personal development and skills training (INSTEP in WA). The once separate systematised State models of general and vocational education were now encountering areas of difference in the design and delivery of vocational learning.

Since the mid-1990s there has been a renewed interest by Australian governments in school-based technical and vocational education, but its shape and form has been initially determined by post-school interests. Given this dynamic environment the concept of technical or vocational education traditions therefore is difficult to define. If anything these traditions can only be described as tendencies and orientations which include industry, practical, work-oriented and non-abstract learning and as yet do not reflect the more defined traditions of continental Europe and the USA.

Modern formative influences

Since the early 1970s there has been an escalation of internationalisation of markets, reduced trade barriers between nations and the use of micro electronic technology in the supply and production of goods and services. Successful countries, particularly the so called 'tiger economies' of South East Asia, Japan and Europe, were seen to be those with embodied partnerships between the State and enterprises where knowledge and skills provision, at technical and professional levels, were closely aligned with economic activity (Steedman 1992; Drucker 1993; Thurow 1993, 1999). The narrow science and engineering response of the 1960s and 1970s to the post-Sputnik shock, based on a liberal secondary education model where a minority of secondary school students proceeded to university, was now considered inappropriate. It was too detached from the world of work and not suited to this emerging era of global competition, rapid change and diffused production technology (Mitchell & Encarnation 1984). As this new era required new forms of work and skill formation at all occupational levels, then the training and supply of skilled and flexible labour became a national issue for many countries seeking to influence the location of capital and production facilities (Carnoy 1998). A noted feature of this form of globalisation to impact on the design of training systems is a rising instability in product markets. Levin has suggested that this results in unstable and uncertain employment conditions which favour workers with skills that can cope with change and adaptability (Levin 1998). It is no coincidence then that the language of 'change, adaptability and flexible skill' permeates the policy frameworks of the post-school VET sector in Australia (ANTA 1998).

A by-product of these market and technology-driven changes has been a reshaping of work patterns and labour markets and a reduced availability of full-time jobs for youth, particularly for unskilled early school leavers (OECD 1996; Gregory 1995; OECD 1999a). One policy response to these events has been for governments to intervene by seeking to improve education and training participation rates of the 15–19-age group so as to increase skills and to delay their entry to the full-time labour market. Vocational education is presented as assisting these policy objectives by providing an applied curriculum to equip youth with recognised and industry demanded entry-level skills, which also address lower and middle-level skill

imbalances within national labour forces (OECD 1996, 1999a, 1999b). Another part of this policy response has been to use vocational education to create more connected pathways or gateways for youth to further education and training during their working lives.

The collapse of youth labour markets over the 1980s and 1990s and the associated spread of education and training reviews drew attention to the inappropriateness of many traditional education, training and welfare systems for a large proportion of youth. An apparent mismatch between traditional government- (federal, State and local) based policies and structures of education and training on the one hand, and the needs of globalised production and cost-driven enterprises seeking skilled workforces on the other, was identified by several national review groups in countries such as Australia, USA and the UK (Finn 1991; OECD 1996; Riley & Reich 1996; DfEE 1999a,c).

Another debate impacting on the shape and form of vocational provision has been about the relative responsibilities between individuals, enterprises and governments for the provision of general or specific education and training. Origins of this influence on training provision can be sourced to the human capital movement. The debate has been taking a form where it is argued that where there is an apparent 'market failure' by enterprises to engage sufficiently in entry-level skills training, then governments, for the good of society should intervene to provide more of the 'core' and transferable industry skills training. This could occur through increased public sector provision via secondary schools and technical institutes (Steedman 1992; Oosterbeek 1998; Brown & Keep 1999; Stevens 1999).

In various forms these debates continue today in Australia, often embedded within government policy discussions about user-pay principles, vouchers and entitlements, training markets and training levies (ANTA 1996; Anderson 1996). In practical terms these debates are evident in the differential pricing policy in some States where government sector school students sometimes have to pay disguised fees to include vocational studies in their Year 11 and 12 program. The shifting of costs of instruction by governments to individuals is seen by Carnoy (1998) as an inevitable consequence of the impact of globalisation on government-provided education.

Benson (1992, 1997) reflected on the beginnings of this changing environment from within the United States and coined the phrase 'new vocationalism' to describe what he saw as a necessary response by governments and others to address the needs of youth and the employment needs of enterprises. At about the same time Steedman (1992) was making similar observations about the state of education and training in the United Kingdom. More recently the OECD (1999a) through its review of transition and lifelong learning for youth across a select number of countries re-affirmed the occurrence of common restructuring activities, including the flexible provision of vocational education as a means of meeting the needs of youth and the labour market.

It is therefore not surprising that international competitiveness and the global economy are identified as issues that shape Australian education and training policy. The Commonwealth Minister for Education and Youth Affairs reiterated this when he declared:

The government's main objectives for schooling derive firstly from our desire to see a strengthening of the educational foundations of our democratic society, and secondly from our belief that the quality of our education is the surest guarantee that Australia will meet the challenges of competition in the global economy and provide our citizens with jobs and opportunities in the years ahead.

(Kemp 1999d)

International developments in school-based vocational learning

In order to provide a wider perspective on the re-emergence of vocational education in Australian secondary schools, this section reviews similar developments in the United Kingdom and the United States of America and comments on trends occurring in other countries. The United Kingdom is referred to because it is the historical source of many schooling, apprenticeship and traineeship models used in Australia. The United States of America however, provides a federalist model similar to Australia where education and training responsibilities lie predominantly with the States, but are subject to federal intervention and leadership through specific-purpose legislation and conditional funding. Both of these nations have strong local or regional administrative arrangements for education and training which are absent from the state-controlled government education systems of Australia.

Recurring patterns of development in these and other countries are identified below. Of interest is an international movement towards an integrated provision of learning which reflect the elements of the new vocational model presented in the first chapter of this part of the report.

United Kingdom

Since the 1980s the United Kingdom has experienced a number of shifts in the relationship between secondary education, vocational training and youth outcomes. Beginning in the 1970s the UK has moved through stages with a selective secondary education system based on the entity of the school and influenced by an academic construct of general education which distanced itself from considerations of youth welfare, employment and skills training. Then a competitive model for education and training was introduced to be replaced in 2000 by one where an integrated learning system for post-16-year-old youth is in the process of being established.

In this new system a national learning and skills council (LSC) with 47 regional LSCs will become the community agencies responsible to government for ensuring the development of a new approach to learning for post-16-year-olds, including those at school, in further education colleges or in the labour market. These LSCs will be characterised by principles of partnership, inclusion and integration to ensure local relevance, efficiency and equity in the provision of learning and be oriented to the needs of local learners, employers and community rather than to institutional needs and national planning and funding assumptions of central agencies (DfEE 1999b).

A consequence of these policy and structural changes has been the placement of skilling and vocationalism into a broad economic and social framework rather than one based just on narrowly defined industry need. The pathways leading to these most recent reforms are significant because of their similarities to some Australian structures and experiences.

Traditionally, vocational training in the UK was essentially a post-school activity associated with either the industrialised apprenticeship movement with its traditional craft and manufacturing-based occupations or with post-school courses in technical institutes.

Until the early 1990s secondary schooling was essentially offered to young people as academic or comprehensive streams through the 'O' and 'A' levels of subject certification with little provision for vocational learning. When reform occurred to vocational training in 1983, through the introduction of the Youth Training Scheme (YTS), it was directed to youth who had already left secondary school for the labour market. It used a traineeship model and was intended mainly for unemployed youth to acquire low-level-entry skills in non-apprentice areas. Youth received a supplemented allowance (not a wage) and were guaranteed training from an employer.

This structure changed and vocational options became available to post-compulsory school age students in the early 1990s when:

- ❖ the *Further and higher education act* of 1992 created an education market place by allowing competition between schools and the further education sector for 16–19-year-old enrolments
- ❖ the intermediate and advanced level General National Vocational Qualifications (GNVQ) were introduced in 1992, followed by a foundation level GNVQ in 1993 (Bathmaker 1999; DfEE 1999c)

GNVQs were proposed by a government white paper in 1991 to increase participation and achievement in post-compulsory education by preparing students for employment and further education but without having to commit themselves to a specific vocational pathway. The GNVQ was also not intended to replace the academic qualifications of General Certificate of Secondary Education (GCSE) and General Certificate of Education (GCE) (Bathmaker 1999).

Through the creation of a competitive educational market place, GNVQs and academic qualifications became available through a range of ‘providers’ such as schools, either as comprehensive secondary colleges or specialist sixth form colleges, or further education colleges.

This encouraged overlapping and competitive institutional arrangements for the development, delivery and certification of general and vocational education, and provided a national framework through a focus on qualifications and qualification ladders.

Out of these reforms a three-tiered national qualification framework evolved during the 1990s. The three qualification streams—the academic, the general vocational and the occupationally specific—were linked via the concept of ‘levels’ (see table 1, p.19) which denote equivalence between different types of qualification at the same level for the purpose of entry and progression to another qualification at the next level. These five levels are derived from the European CEDEFOP levels and can be related to the International Standard Classification for Education (ISCED). Even though this framework represented progression towards coherence of national qualifications and a delivery framework, there was continual criticism that it was complex, not well understood by employers, students and parents and that it encouraged sub-optimal resourcing as institutes competed for students (OECD 1999a; DfEE 1999a).

Despite some of the structural defects of the qualifications and delivery framework there are underlying principles that have merit and appear to be supported. The three streams of qualifications can be decoded into plainer language. The academic stream at the school level might be referred to as providing a ‘general’ education; the GNVQ grouping, because of its broader approach to skills training, could be viewed as a general technological stream; and the narrower National Vocational Qualification (NVQ) with its emphasis on on-the-job competencies could be viewed as the vocational stream. Of these, the GNVQ appears to be the main instrument for achieving higher levels of full-time engagement of post-compulsory youth in education and training, even though some further education colleges with extensive workshop facilities are also offering full-time NVQs as an option. This general technological option appears to be absent from the Australian National Qualifications Framework, but is present in some State education systems through board-of-study-developed technology subjects.

The establishment of this qualifications framework shifted the delivery of skills training for youth away from traditional apprenticeship, reliant on industrial training boards to national training organisations (NTOs). These NTOs were independent, employer-led bodies recognised by government and given a responsibility to develop competency standards for occupations (National Occupational Standards) on a module and skill basis within defined industry sectors reflected through the award of a particular National Vocational Qualification. The 65 NTOs and their associated modules of competency are subject to a certification of qualification process through a peak national body, the Qualifications and Curriculum

Authority (QCA) for England³ formed in 1997 by combining separate entities responsible for the curriculum of compulsory education and vocational qualifications. The consolidation of responsibility for all post-compulsory education and training qualifications into one national post-compulsory agency was one of the first reforms of the then new Labour Government.

Brown and Keep (1999) present the GNVQ as a pre-vocational middle pathway which has possibilities for pushing into lower-year levels of secondary schooling and propose two options for delivery. One is to proceed with externally defined outcomes for a self-selecting group of vocational students and allow the teacher some latitude as to how these might be attained. This is essentially an extension of existing arrangements. The other is to use the GNVQ to set a context for the provision of all subjects for all students. This latter option, they suggest, would overcome the association of vocational learners as students with low ability and shift the valuing of vocationalism so that it is not seen as an alternative to or competing against academic qualifications.

In theory the notion of equivalence of level should allow a holder of any form of qualification entry into the next highest level, and not necessarily within the same stream. In practice this is variable. Some employers seeking specific skills do not accept the GNVQ as equivalent to an NVQ at a given level and some higher education institutions do not readily accept GNVQs and NVQs for unconditional entrance into first degree courses.

In addition to these institutional providers and pathways, there are work-based pathways relying on learning contracts available through modern apprenticeships and national traineeships which, through the qualifications framework, connect a GNVQ into traditional or modern apprenticeships.

The complexity of vocational learning in the UK has been partly due to the choices available to youth to continue in full-time or part-time education and training after the post-compulsory age of 16. Choices include continuation at school, pursuing separately or in combination, combining GNVQ and GCSE at either further education colleges, community colleges, sixth form colleges or specialist colleges operating in fields such as agriculture and horticulture. Of these, further education colleges followed by sixth form colleges have been considered to be the most influential institutional arrangements for increasing the retention of 16 and 17-year-olds with structured education and training (OECD 1999a, 1999b; DfEE 1999a; Bathmaker 1999).

A continuing dissatisfaction with these arrangements prompted the present government to initiate a number of review and pilot projects during 1998 and 1999, which in turn led to the June 1999 white paper *Learning to succeed: A new framework for post-16 learning* with a range of reform proposals including the formation of learning and skill councils at national and local levels (DfEE 1999c).

In reviewing the growth of participation in schooling, one review group, the Skills Taskforce, noted that even with the 1990s qualification framework and varied institutional arrangements, the participation of 70% of 16-year-olds in full-time education in 1997 had come mainly through more students participating in schooling via the academic route, not the vocational. The proportion of 16-year-olds studying for full-time occupationally focussed qualifications between 1987 and 1997 hardly changed, hovering around 14 to 15% (DfEE 1999a).

The taskforce also noted that despite the consolidation of vocational pathways for 16–19-year-olds ‘... there is a clear lack of well defined routes of progression for those young people most at risk of performing poorly in general education and dropping out after age 16’. Responding to these observations, the government established a series of pilots under which young people could be released from some of the requirements of the national curriculum to engage in various forms of vocational learning alongside their general education.

³ The Scottish Qualifications Authority (SQA) and the Curriculum and Assessment Authority (ACCAC) for Wales are equivalent agencies.

Table 1: Post-16 qualifications and delivery structures in the United Kingdom, late 1990s

Education level	Academic qualifications	General vocational qualifications (GNVQs)	Competency-based occupational qualifications (NVQs)	Other qualifications outside the QCA framework
	Delivered mainly through established education providers such as schools, colleges and universities.	GNVQs are more broadly defined and are associated with 14 industry sectors. Delivered through schools, colleges and workplaces, but particularly FE colleges and sixth form colleges. Introduced in 1992 for intermediate and advanced levels, and 1993 for foundation level.	There are approximately 840 NVQs with more to be approved. Intended to be delivered through the workplace (modern apprenticeship) but now FE colleges with workplace style workshops are also delivering.	Over 17 000 vocational qualifications outside the NVQ framework including former youth training programs.
5	Postgraduate degrees		NVQ/SVQ 5: professional, senior management	
4	Higher education first degrees		NVQ/SVQ 4: higher technician, management	
3	GCSEs: two A levels or equivalent	GNVQ—Advanced	NVQ/SVQ 3: advanced craft, technician, supervisor modern apprenticeships	
2	GCSEs: five passes at higher grades in range of A–C	GNVQ—Intermediate	NVQ/SVQ 2: basic craft national traineeships	
1	GCSEs: four passes at lower grades in range of D–G	GNVQ—Foundation	NVQ (or SVQ) 1: foundation	

Source: Derived from Roodhouse (1999)

One particular recommendation was for the provision of a 'foundation' apprenticeship route for 14–16-year-olds to deliver vocational learning alongside a general education for students most at risk of leaving school early. At the time these pilots did not form a full national system with a recognisable identity supported by a uniform set of vocational qualifications (DfEE 1999a).

Another series of pilot partnership programs were also developed to provide a co-ordinated program approach for youth in designated geographic areas. In these model schools, further education colleges and higher education institutes work together with local communities and employers to provide vocational programs under the VQ framework for post-16-year-old youth.

The *Learning to succeed* white paper reflected findings from the taskforces and pilots by recommending that a learning and skills council be formed to bring together into a single coherent system the current range of learning opportunities for individual and workforce development. The broad aim of this structural reform is to 'maximise the effectiveness of the total investment in skills and learning, not just public expenditure ... and [to] ensure more cohesion between national, regional and local organisations' (DfEE 1999b, p.8).

Proposed features of the learning and skills councils include:

- ❖ a focus on the co-ordination and delivery of post-16-year-old learning through the establishment of partnerships between key stakeholders, including local authorities, local learning partnerships, the employment service, new support service groups for young people, educational institutions, training providers, local economic partnerships and a newly formed Small Business Service Units of the Department of Trade and Industry. This will be achieved through 47 local LSCs and a national LSC
- ❖ an implementation plan for it to be fully operational by April 2001
- ❖ two statutory sub-committees, one for young people and the other for adult learning
- ❖ responsibility for planning, funding and improving the quality of post-16 learning up to university level and including the sixth form in school
- ❖ responsibility to assess and anticipate national, regional and local learning and skill needs
- ❖ building learning arrangements which make best use features from existing systems
- ❖ a role to reduce duplication in the provision of learning services
- ❖ learning opportunities funded by the LSC which will meet the needs of individuals, businesses and communities, but in the context of economic, social, welfare and equity considerations

In the past many of the entities and concepts of vocational provision in secondary schools in the UK have been similar to elements of the Australian training framework. There were also significant differences. The most recent and ongoing shift to an integrated post-16-year-old service provision determined by individual and local needs is of particular interest as it challenges many top-down policy and planning models of central agencies. The proposed structures also appear to embrace the integrations and outcomes of the model outlined in the first chapter of this part of the report.

United States of America

The long history of vocational education provision by schools in the USA since the early 1900s has two recurring themes. The first is the development of broad national initiatives and policy through the passing of congressional acts and provision of conditional grants to States, often occurring as a response to innovative practices in some States and school districts. This has established a leadership and intervention role for the federal government. The second recurring theme is a continuing debate about the meaning of 'vocational' education and its place within a 'general' model of secondary schooling. Less noticeable until the advent of the web (www) has been the continuing local level innovation and practice of vocationalism in a variety of forms by

schools and their communities. This extensive history from another federal nation touches many of the issues being discussed in the contemporary development of vocational education and training in Australia.

Prior to 1917 individual States initiated and maintained vocational programs associated with secondary schooling, although this was not a uniform movement. In 1914 a national advocacy group for vocational education, concerned about the inconsistency of State vocational programs, convinced President Wilson to appoint a Commission on National Aid for Vocational Education.

Recommendations from this Commission led to the establishment by Congress of the *Smith–Hughes act* in 1917 and the Federal Board of Vocational Education. Individual States maintained the right to shape and deliver vocational programs but the newly created Federal Board of Vocational Education acquired a supervisory role in the development of nationally consistent programs and policies, largely through the provision of conditional grants to them (Lazerson 1971). The act was directed at secondary schools and young people over the age of 14 with the intention of helping them to receive training for useful technical employment. Thompson (1973) comments that the *Smith–Hughes act* marked the beginning of federal government intervention in vocational education based on national interest in the allocative function of training people for occupations needed by society.

Another feature of this act was its differentiation of ‘vocational education’ from that of ‘general or academic education’ (Lazerson 1971; Urquiola et al. 1997). This debate continues today and often manifests itself through a variety of school, curriculum and funding structures. School structures are usually determined by local school boards which categorise their schools as either ‘academic’, comprehensive or specialist vocational. State Governments direct Federal and State funds to vocational programs in each school type but with most funds going to the latter categories.

In defining vocational education in a narrow occupational skills training way, the *Smith–Hughes act* maintained a separation between vocational and general education up until the *Carl D. Perkins applied technology and vocational education act* of 1990 (Urquiola et al. 1997). This separation emphasised the narrow instructional aspects of skill acquisition, and limited the experimentation by ‘academic’ educators of various ‘applied’ learning methodologies and thus limited the take-up of good and experimental educational practices by many vocational education providers (Rumpf 1971; Urquiola et al. 1997). In this and other ways the *Smith–Hughes act* influenced the shape of subsequent vocational education provision within secondary schools, and vocational acts passed by Congress up until the 1990s.

The 1946 *Vocational education act* (the *George–Barden act*) extended the occupational and industry coverage of the *Smith–Hughes act* to new areas such as distribution, marketing and fisheries, and provided a permanent authorisation of Federal funds for vocational education. The *Vocational education act* of 1963 further extended the range of ‘non professional’ occupations eligible for Federal vocational training support and extended the range of people eligible for support to those who had left school and those with special needs. Special needs provision is not yet a strong feature in the provision of Australian school-based vocational programs.

The *Vocational education amendments* of 1968 repealed the 1946 act and left as a core the funds authorised by the *Smith–Hughes act*. This maintained the Federal role in funding prescribed vocational education programs but re-interpreted the coverage to give greater emphasis to programs for disadvantaged youth, including those with disabilities.

A significant shift away from Smith–Hughes legacy occurred with the 1990 *Perkins act*. This act moved away from the narrowly defined and separated concept of vocational education of the Smith–Hughes legislation by requiring the integration of academic and technical skills into vocational programs, and the articulation and co-ordination between secondary and post-secondary educational institutions (NCRVE 1996; Urquiola et al. 1997).

This 1990 reform was a signal to State and local education authorities and comprehensive secondary colleges, vocational–technical high schools and area vocational education schools to move beyond the traditional arrangements of vocational provision. In addition to integrated

curricula, the *Perkins act* also promoted complementary concepts of 'tech prep' and education/industry consortiums. The tech prep experience was significant in shaping the subsequent Federal initiative, the *School-to-work opportunities act* of 1994.

Tech prep programs were designed to forge strong and comprehensive links between secondary schools and community colleges through consortium arrangements. Through these arrangements school students proceeding to college could optimise study effort by working towards an established vocational credential while still at school and therefore avoid duplication of study effort. However, the legislative focus of Perkins and tech prep was mainly on special targetted populations such as minorities, women, individuals with disabilities and of limited English proficiency, and the economically disadvantaged (Urquiola et al. 1997).

The *Perkins act* resurrected the general education and vocational education debate by restricting grants to the 'preparation of individuals in ... occupations requiring other than a baccalaureate or advanced degree' (1990 *Perkins act*, Public law 101-392; Section 521[41]). Stern (1999b) notes that this limitation was reaffirmed in the 1998 amendments to the act so, while encouraging integration of academic and vocational programs through coherent course sequences, it maintained a separation of access based on career intention.

Bragg, Layton and Hammons (1994), reporting from a national 1993 survey described an average tech prep consortium as consisting of 12 high schools, two post-secondary schools, and ten operating businesses. Findings with relevance to the current Australian experience include:

- ❖ overworked co-ordinators assigned on a part-time basis to facilitate the consortium
- ❖ broad and conflicting goals often mediated at the school level to serve the needs of middle academic ability students
- ❖ limited curriculum reform (such as provision of advanced skill courses, interdisciplinary courses and 'career academies') but widespread articulation of vocational education with academic courses
- ❖ limited implementation of work-based learning and apprenticeship

The *School-to-work opportunities act* of 1994 differed from previous acts by integrating and expanding the place of vocationalism in American schooling. It sits alongside the *Perkins act*, the *Job training partnership act*, and the *Goals 2000: Educate America act* (Riley & Reich 1996).

Distinguishing features of the *School-to-work opportunities act* include:

- ❖ use of the concept of 'school-to-work' to provide flexibility and to overcome the limitations of 'vocational education' as prescribed by Perkins
- ❖ joint administration by the Departments of Education and Labor
- ❖ make school-to-work opportunities available to all students, whether they intend to proceed to work, community college, technical college or four-year college or university
- ❖ provide funding on a temporary and supplementary, not continuing, basis. Federal funding will cease in 2001 and is set up to provide 'venture capital' or 'seed money' to create workable and well-developed State systems that will become self-sustaining. It is described not as a new federal program but 'a temporary effort using federal funds as venture capital to create a statewide system of school-to-work activities supported by public and private, local, State, and federal funding from existing programs' (Hudelson 1994, p.17)
- ❖ combining work-related learning with academic learning in course structures based on broad industry or occupational themes (career majors) to create pathways into higher and further education and work
- ❖ linking school-based learning and work-based learning through planned connecting activities such as:
 - matching students with work-based learning opportunities of employers
 - school-site mentors to act as liaisons among school, employer and community partners
 - technical assistance to small- and medium-sized firms and other parties

- assistance to schools and employers in integrating school-based and work-based learning
- encouraging active participation of employers in co-operation with local education officials
- assistance to participants in finding jobs, continuing their education, or entering additional training and linking them with other community services to assure a successful transition
- collecting and analysing post-program outcomes of participants
- linking youth development activities in this act with other employer and industry strategies

(National Conference of State Legislatures 1999; Riley & Herman 1998; Urquiola et al. 1997; Riley & Reich 1996)

Another major reform from the 1990s attributable to Federal legislation has been a new emphasis on performance standards for students. Urquiola et al. (1997) note that this trend has the potential to reduce the barriers between occupational and academic education, and at the same time deepen the division between the two types of education.

For the final period of implementation of the *School-to-work act* the 1998 report to Congress on its implementation set six goals to be achieved by 2000 (Riley & Herman 1998). These are:

- ❖ **Goal 1** Award implementation grants to all States
- ❖ **Goal 2** Ensure that the *School-to-work opportunities act* is sustainable in all States, with a particular emphasis on the first eight implementation States
- ❖ **Goal 3** Increase employer involvement and the creation of internships and work-based learning
- ❖ **Goal 4** Support development of career clusters, with career-related curricula, standards, and certificates in high-demand occupations
- ❖ **Goal 5** Ensure that *School-to-work* (STW) supports high academic achievement for all students
- ❖ **Goal 6** Increase participation of out-of-school youth through Job Corps and other alternative learning systems

In reviewing outcomes of the *School-to-work act* the National Conference of State Legislatures (1999) notes that:

- ❖ all States are receiving STW act grants
- ❖ almost half the States have passed laws supporting school-to-work in some form including:
 - tax credits to businesses involved with apprenticeships or in a school-to-work partnership
 - amended workers' compensation legislation and occupational safety laws for students in the workplace
 - linking of school-to-work policy to workforce development policies and State human resource investment councils

Most Australian States have also amended occupational health and safety laws and workers' compensation coverage to encourage school-industry programs. However support for industry participation in school-based vocational education and training through a tax credit approach has not yet been considered in Australia as part of the development of a social partnership model.

An independent progress evaluation of the STW-funded initiatives (Hershey et al. 1997) describes many of their different forms and notes that, as many programs and partnerships are relatively new, it may be too early to identify success factors. However these evaluators formulated five critical questions which they believe will inform long-term judgements on the success of the STW program. These questions are:

- ❖ Can States fit STW systems into a coherent education policy framework?
- ❖ Can structured workplace learning as envisioned by the act become commonplace?
- ❖ If not, then in what other ways might workplaces be creatively used for all or most students?

- ❖ Can school curriculum be organised consistently around career themes?
- ❖ Will school-to-work partnerships become important sustainable institutions?

In considering this last question Hershey et al. (1997) comment that:

One possible view is that local partnerships need exist only long enough to help develop and establish policies and practices within schools, and habits of collaboration between schools and employers. In that event, they might be expected to pass from the scene as seed money funding under STWOA declines and ends. Schools, employers, and other partners could still work together, of course, but in a less formalised way and probably on a more localised scale. An alternative view is that not only the creation but the ongoing existence of a STW system requires an entity as a 'hub' for efforts by schools, employers, and other community groups, with resources to do what those parties cannot do individually or in localised relationships.

(Hershey et al. 1997, pp.194-5)

With a long history of Federal and State provision of secondary school vocational learning it is significant that, within the USA, central government initiatives have been used to build and extend the concept of local partnerships to link vocationalism with improved social and economic outcomes for youth. As in the UK, this reform includes a shifting conceptualisation of vocationalism away from a narrowly defined occupational skills base towards a more inclusive one where general and vocational principles are merged. Implicit in the developments from the USA is the promotion and extension of the workplace as part of the education system. Without using the same words these developments within the USA appear to be promoting the concept of community and/or social partnerships between industry and education.

Other countries

It is not our purpose to provide a comprehensive global review of vocationalism in secondary schools, but rather to provide sufficient international examples of historical and contemporary trends relevant to Australia. Two trends noted in the USA and the UK (the embedding of vocationalism into broad social and economic policy constructs of transition, lifelong learning, employment and skilling; and central government lead shifts to co-ordinated regional provision of vocational learning within national guidelines) have also occurred in other countries such as France (Bel et al. 1999) and Norway (Heggen 1998). While identified as a common trend, each country has implemented changes to vocational and general education at the secondary school level within prevailing cultural and institutional frameworks.

The recent OECD review provides a classification of upper secondary pathways in 25 of the 29 member countries (OECD 1999a). It is significant that vocationalism and apprenticeship form the basis of three of the four categories used in table 2. In this analysis Australia is identified as a country providing secondary education mainly through a general education model where more than 50% of young people take general education programs. This is a useful reminder to policy-makers that the developments of the 1990s of vocationalism in Australian upper secondary schools took place in a general education context and suggests that we will continue as a general education country unless significant fundamental structural changes occur to shift us into a vocational, school-based framework.

Within the context of transition from education to work, the OECD lists common elements of pathways reform which occurred across countries during the 1990s. Significantly, many of these refer to vocational education. These common reform elements are:

- ❖ the broadening of vocational programs and qualifications
- ❖ the creation of linkages between general education and vocational education
- ❖ the development of combinations of school and work-based learning
- ❖ the establishment of bridges between secondary vocational education and training and tertiary education

- ❖ the development of flexible education and training pathways

Table 2: Upper secondary education pathways in OECD countries

Secondary pathway type	Criteria	Countries
Apprenticeship countries	More than 50% of young people participate in apprenticeship type arrangements.	Germany, Switzerland
Quasi apprenticeship countries	More than 20% but less than 50% of young people participate in apprenticeship type programs, and in which less than 50% are found in general education programs.	Austria, Denmark, The Netherlands and Norway
School-based vocational countries	More than 50% of young people participate in vocational programs but in which less than 20% are found in apprentice type situations.	Belgium, Czech Republic, Finland, France, Hungary, Italy, Poland, Sweden and the United Kingdom
General education countries	More than 50% of young people take part in general education programs.	Australia, Canada, Greece, Ireland, Japan, Korea, New Zealand, Portugal, Spain and the United States of America

Source: OECD 1999a, p.31

The recurring themes of broadening and linkage from this review are important for developments of school-based vocationalism in Australia. The OECD notes a consistent movement away from numerous occupationally defined vocational pathways to fewer broadly defined industry ones in countries such as Norway, Sweden, Finland, Denmark, Austria and Hungary. For many countries this means the provision of broad-based generic skills and broad-based industry skills sufficient to ensure that young people have a sound basis for continued learning. More successful linkage strategies (from school to work or to further education or to both) seem to be associated with double qualification processes and linked modules of study, work-based learning provision and formal processes of articulation from one qualification to the other.

During the 1980s many European countries maintained education and training systems with vocational education and training elements for upper secondary school age youth and so did not face the national level issues of re-creation or re-entry of this form of education and training provision. Germany maintained its dual education system, France maintained its lycees as the provider of school-based vocational training and the Scandinavian countries maintained vocational elements within secondary schools.

Recurring themes

Recurring themes from comparative and evaluative reviews on vocational education and training for post-compulsory school age youth are:

- ❖ the contextualisation of vocational policies and programs into broader concerns of youth transition from education to work and preparation for change through lifelong learning: behind this there is an even broader contextualisation which follows the argument that to improve economic and welfare outcomes, Australia must be able to sustain its place within the international market place. In this larger context education and training are seen as key policy elements of structural reform
- ❖ an increasing tendency to set national goals for youth in the context of an integrated service provision to enable all of a youth cohort to reach higher minimum education and skill and improved levels of successful transfer from education to work: in countries such as the UK

and the USA this type of provision allows young people at the compulsory age of school leaving to have choices about qualification, course type or institution to achieve school completion or its equivalent. In most Australian States the present focus is on the institution of school and one type of qualification or outcome. The equivalence of outcome implied by Finn (1991) and illustrated in the qualifications framework of the UK are not yet included in our youth education performance measures. The separation of service provision to youth in Australia based on traditional service sector structures such as secondary schooling, post-schooling VET, employment, health, welfare and justice encourages institutional performance measures rather than target group achievement measures

- ❖ an integrated provision of education and training services to overcome duplication and inefficiencies of small scale and to improve access and choice
- ❖ the apparent effectiveness of centrally initiated seed funds and pilot programs as a means of initiating reform to devolved or segmented education and training systems
- ❖ central government as the key change agent to ensure commonality of purpose, access, standards and outcomes: while individual schools, local government and state agencies often generate innovative programs, central agencies of national governments were more likely to mobilise and lead sustained reform within agreed parameters. The use of conditional grants linked to prescribed outcomes and accountability procedures is widely used as it allows local government, states or private enterprises a choice as to whether to participate, and allows for a variety of implementation approaches in a variety of market and non-market environments. In some instances, such as national qualification and standards frameworks, national governments might seek to impose near mandatory coverage
- ❖ a tendency to define, structure or locate vocational education within a broad paradigm of education rather than a narrow skills model. The emergence of the GNVQ and Foundation GNVQ in the UK, and the provisions of academic and vocational integration in the *School-to-work* and *Perkins acts* of the USA are indicators of this. In Australia some State boards of study are broadening the occupational skills base of competencies derived from the post-school VET sector by embedding them within general education courses and subjects. However, ongoing debate about the content, purpose and structuring of vocational education and training for 15–19-year-olds and how it might best serve the needs of the nation, the individual and the enterprise, has not been as evident in Australia as in the UK and the USA
- ❖ the use of vocational education as a connector concept for career education, enterprise education and contextualised learning to a range of year levels (to Year 7 and earlier) and as an intervention program for youth at risk of early school leaving
- ❖ the use of a variety of structural, policy and program arrangements across a range of countries for its provision with an emergence of co-operative clustering concepts between education and training institutions and private, public and voluntary sector enterprises for the provision of various forms of workplace learning: accompanying these partnership arrangements are new third party agencies not part of government who assist in the functioning and brokering of student work placements and employment. These third party agencies are formally recognised within the STW framework of the USA and in the proposed LSCs of the UK. As yet they do not have this status in Australian education systems
- ❖ an increasing requirement for education and training institutions in receipt of government funding to meet performance targets and to record individual competency outcomes of learning and transition to work or study outcomes

This selective overview of developments in vocational education and training tends to reaffirm the Bensonian constructs of the new vocationalism. Furthermore, we have provided a detailed insight into the changing mechanisms and processes used in two countries relevant to contemporary Australia. The following chapters will see how the implementation of vocational education and training in Australian secondary schools relates to these international developments.

3 Policy influences on the implementation of VET in Australian secondary schools

Introduction

Since Federation Australian vocational education and training has been subject to significant shifts in location and values which have been a consequence of changing policy positions adopted by State departments of education, and later by the intervention of federal government agencies. These policy shifts have relocated the focus of vocational education and training from an independent domain of each State to a co-ordinated national one led by federal government initiatives. Other shifts in government policy also resulted in vocational education and training oscillating between a shared provision with schools and specialist post-school institutes to a near exclusive post-school sector provision and back again. This shifting of delivery reflects the changing focus of vocational education and training as either a specific workforce skilling component of infrastructure or as part of a more complex array of policies and programs directed to multiple outcomes of skilling, youth employment, improved school attendance and reform of secondary schooling.

Four broad periods of policy shift can be associated with the provision of vocational education in Australian secondary schools. The first is that period when the States established and maintained their own secondary education and technical education systems from pre-Federation until the 1960s. In that period States developed their own post-school technical institutes and maintained technical elements within the secondary curriculum in the form of streamed specialist junior technical schools or a small range of technical subjects in an otherwise academic school model.

The second period commenced in 1964 with the shifting of the senior State technical institutes into a federal government-supported expansion of a national tertiary education sector (Martin 1964). This marked the beginning of federal intervention into vocational education systems and the further separation of policy-defined vocational learning from secondary schools and general education. Later, the creation of the Technical and Further Education Commission in 1974 transferred the 'junior' technical institutes and residual senior technical schools of the States into a fledgling national system.

The third period of policy change occurred between the late 1980s to 1992 when the federal government initiated another series of reviews which individually sought to identify particular goals and changes needed to overcome perceived deficiencies of Australian post-compulsory education and training. This period of review set the ground for convergence of social, educational and labour market goals using the preparation of young people for work as one of the linking concepts.

The fourth period, from 1992 to the present, is one of response to the observations and recommendations from the previous review period. The initial pursuit of structural change occurred during 1992 to 1995 in a fluid central policy environment that allowed two forms of vocationalism to emerge: a localised and State-based one where schools pursued mixed social and economic objectives; and a national TAFE/VET sector one directed towards developing a competitive training market using a competency-based labour market needs model. The development and implementation of vocational education and training in schools in the 1990s has

been a story about the development, convergence and accommodation of these two models at a number of levels.

So the policy environment for vocational learning in Australian secondary schools in the late 1990s is more complex than that of the post-school VET sector and has yet to work through the implications of convergence on traditional delivery and funding structures. In this chapter we will identify some of the influences on policy development for vocational education in Australian secondary schools.

I From Federation to 1960—State systems of technical education

Secondary school-based technical and vocational education and training has been present in Australia for some time. All Australian States have provided some form of junior technical school, and for some this was the principal form of post-primary education until after the Second World War. These institutions were the outcomes of deliberate policy and action on the part of the colonial and subsequent State governments. They had their rationale in industrial advancement and the rewards of working lives that could be achieved through skills training in a society undergoing industrialisation and urbanisation.⁴

Secondary technical education was part of a broader movement in technical education and training that included the technical institutes and agricultural colleges. They were associated with working people, the needs of industry, apprenticeships and the labour movement. Although governments typically took greater interest in technical education following periods of economic crisis (White 1995), a broader purpose managed to survive in junior technical education under the administration of the State education departments. But even then, with the location of technical and vocational education inside the secondary education sector, it was subject to different influences from those which shaped the formation of secondary schools.

To a considerable extent, secondary education in Australia has been formed through a relationship between the single university located in each of the State capital cities and mainly private secondary schools. This is a feature noted by overseas observers (for example, Butts 1955) with NSW as the only substantial exception to this pattern. Hence, secondary education has had a limited degree of State intervention. Where the intervention has occurred, as in the past two decades, the State intervention has been conservative and cautious.

By contrast, State intervention in vocational education and training has been more frequent and more radical. All State governments established junior technical schools, and the strength of these school ‘systems’ tended to be in inverse relationship to the strength of State secondary systems. The ‘tech’ traditions, therefore, have been associated with the institutional forms of the systems: the schools and the ‘tech’, divisions, together with the apprenticeship systems. By contrast, the high schools have been attached to the Year 12 certificates and their relationships with the universities.

⁴ Secondary technical education was predominantly an urban phenomenon, and this partially accounts for its relative strength in Victoria. Agricultural high schools were rejected by the non-urban population in Victoria, and technical education was never comfortable in the more regionalised NSW. Governments have typically invested in education and training in the cause of nation-building and in times of military and economic crisis (Green 1990). In relatively stable nations, such as Australia, secondary education did not gain significant government investment during the period of the formation of education systems (circa 1870s–1920s). Investment in technical and vocational education has been a history of private and corporate (unions and business) investment and pressure, and government response in times of economic crisis (White 1995). These patterns have been consistent and, apart from the compelling example of the national training reform agenda fuelled by the national debt crisis of the mid-1980s, other examples include the corporatist response to the Australian Vocational Training System pilots in 1993–4, NETTFORCE, and the recent investment by the Electrical Trades Union in school-based pre-apprenticeship programs.

These forms of vocational or technical education on the one hand, and general or high school education on the other, have evolved through their institutional and associated social (predominantly class) relations. Along the way, they have developed their own curriculum forms with regard to syllabi, pedagogy, abstraction, practice and assessment. The separation of post-primary education on predominantly class terms also had cultural implications (Teese 2000), but at a systemic level it also related to notions of purpose. The claimed liberalism of the secondary curriculum was related to the expectation of further scholarship. But the practical nature of the technical curriculum was related to the expectation of labour. As Murray-Smith (1966) lamented, the acceptance of a differentiated technical system was by a labour movement that 'relinquished the attempt to clutch the sun out of the sky and accepted a place in the sun instead' and allowed technical education to go down 'narrow paths'.

The general and vocational traditions of secondary and technical education, in Australia, therefore, are not intrinsic constructs. They are social and economic, with a heavy overlay of historical class relations (O'Donnell 1985). Indeed, it was the class and gender relations that were built into the high and technical school systems that contributed towards the demise of the 'techs', together with changes in the youth labour market. The emergence of common frameworks and certificates in almost all upper secondary systems in Australia in the 1980s and 1990s (Russell 1993) was also a reaction to the perceived perpetration of class and gender differentiation through the segregated high and technical schools (Teese 2000). The two constructs of 'general' and 'vocational' education in the secondary and VET systems, respectively, in Australia require further examination as a platform for the analysis of the phenomena of 'VET in schools' in the late 1990s.

These historically rooted issues of different purpose, class and values which underpinned the provision of secondary education are still evident in some of the structures and personnel engaged in the implementation and development of the post-1990s new vocationalism. Their presence partly explains the persistence of implicit values used to stream particular types of students into vocational studies and to maintain a separation of vocational studies within so-called integrated curriculum and certification structures.

The 1960s peak of school-based vocationalism

During the 1960s vocational learning provided by secondary schools played a significant role in preparing young people to shift at the end of Year 10 or 11 into full-time employment, apprenticeships or other skills training provided by the senior technical colleges. The issue of secondary school completion to Year 12 was not a policy priority, partly because youth unemployment for early school leavers at this time was relatively low and stable.

The extent of this school-based form of vocational learning can be gauged from the annual reports of various State education ministers. In 1965 South Australia had 11 boys technical high schools, 14 girls technical high schools and three co-educational technical high schools, in addition to 9 trade schools, one technical college, one school of art and other adult and migrant education centres. In the technical high schools were 15 831 full-time students (7546 females) studying either 'boys' craft subjects' such as art, woodwork, metalwork-fabrication, fitting and machining, welding and general metalwork, electronics, farm mechanics, heat engines, plastics and photography; or 'girls craft subjects' which included home management, home science, needlework and art (Education Department of South Australia 1965).

In Victoria for the year 1965–6 there were 43 747 students enrolled across 86 junior technical schools in grades 7 to 11. They undertook a vocational curriculum which included woodwork, metalwork, technical drawing, art, domestic science, commercial subjects such as shorthand and typing, mechanics and electricity (Department of Education Victoria 1967).

A ministerial report from New South Wales for 1966 notes that there were 17 591 candidates for the Year 10 examinations for the School Certificate in Manual Arts and 4284 sat for the school certificate examination in home science and needlework (Parliament of New South Wales 1968). Separate courses were also provided in farm mechanics. From 1949 NSW had a well-developed

network of technical colleges which were designed to provide vocational training closely aligned to specific occupational and industry needs for young people exiting school from Year 9 and onwards.

Variations between States and Territories meant that, in Victoria for example, secondary technical schools were also involved in the delivery of off-the-job training for apprentices as well as providing a general technical education curriculum up to Year 11. In New South Wales the technical college system provided the off-the-job training component for apprentices, with secondary schools playing an important pre-vocational preparation and feeder role.

Most Australian States maintained strong school-based vocational programs in separate institutions throughout the 1960s and early 1970s but the majority of them had withdrawn this type of learning from the senior school curriculum by the mid-1980s (Lamb et al. 1998; Malley 1999). Vocational education then became identified as a post-school activity associated with technical and further education (TAFE) colleges and institutes. What is significant for the re-emergence of vocational education in schools in the 1990s is the residual experience and values within these State systems towards vocational education, particularly those concerned with student welfare and teacher duty of care and broad educational principles associated with a general model of learning.

Many of the technical secondary schools, particularly those with workshop facilities, were also connected with State apprenticeship commissions. This contact with apprenticeship occurred through the provision of off-the-job training components of the curriculum and by forwarding individual apprentice welfare concerns to apprenticeship inspectorates. These secondary schools were therefore familiar with industrial training matters, but not always responsive to them.

Apprenticeship commissions administered the apprenticeship system in each State at this time through tripartite trade committee structures. Trade committee membership was drawn from the craft-based trade unions relevant to each trade area and employers, usually with a trade background. Supporting these apprenticeship commissions were trade inspectors and a legislative and industrial framework that specified curriculum and welfare requirements for each trade area. In this traditional model the State provided a high level of regulation and servicing for the benefit of employer and apprentice. Typically this style of apprenticeship was concentrated in the traditional craft trades associated with manufacturing and metals, with only small numbers in agriculture and service industries (mainly hairdressing and food preparation). The apprentice concept was therefore relatively static and burdened with cultural values about 'blue collar work'. It was these commissions which indirectly influenced the nature of technical training in secondary schools at this time, particularly in South Australia and Victoria.

II Federal government intervention and structural reforms— 1960 to late 1980

Creating post-school vocational training structures—the 1960s and 1970s

The second period of policy shift commenced during the 1960s and 1970s and was characterised by the entry of the federal government into technical education. The first entry occurred with the transformation of the senior technical institutes and colleges into degree-granting colleges of advanced education (Martin 1964). This had the long-term effect of setting the stage for the senior technical colleges with advanced skills training at the diploma, associate diploma and higher certificate levels to eventually become universities. For the time being these colleges and institutes continued to provide entry-level training for apprenticeship and commercial areas of office administration and accounting. However, the declaration of the State institutes of colleges with degree-granting status was conditional: they were approved to deliver only 'applied' degrees (to differentiate them from universities) and were denied access to providing higher-level

research degrees. The longer-term effect of creating these colleges of advanced education was to reinforce the important role of those secondary schools with technical (vocational) components in the preparation of young people for apprenticeships and work. Consequently over the ten-year period after the Martin report, those senior technical colleges not included in the institute of colleges framework and the larger technical secondary schools became the main providers of entry-level and middle-level vocational skills training.

By the early 1970s the federal government was questioning the effectiveness of these State training systems. Cochrane (1974) investigated the state of labour market training for apprentices with regard to issues of unemployment and the supply of industry demanded skills and observed that 'the traditional apprenticeship system is deeply imbedded in the legislative and administrative structures of our various States and it is not possible to propose any fundamental reforms without very careful and detailed investigation' (Cochrane 1974, p.32). His recommendations about the provision of Commonwealth subsidies to employers of apprentices were adopted and in various forms continue today.

Soon after this review of labour market training the federal government commissioned another inquiry to advise the Minister for Education on the development of technical and further education in Australia. This committee was directed to include advice on the provision of financial assistance to the States, and more importantly was given a definition of technical and further education which treated it exclusively as a post-school activity. The report of Kangan (1974) laid the groundwork for the longer-term separation of trade-based and general technical education from secondary schools and the consolidation of vocational learning into post-school TAFE colleges and institutes.

Enter the post-school TAFE sector—1976 to the late 1980s

The publication of the Kangan report in 1974 marked another intervention of the federal government into the post-war development of vocational education and training systems in Australia. From about 1976, vocational learning became sectorally defined as what the TAFE sector provided. In a short period of time those residual elements of the former senior technical institutes not included in the colleges of advanced education system, the dominant technical schools (particularly in Victoria), and the technical education branches of departments of education organised themselves to become the post-school vocational education sector. For the time being the separation between education departments responsible for technical education and apprenticeship commissions, located within departments of labour or employment was maintained. Trade committees of these apprenticeship commissions continued at this stage to determine trade curricula and standards and to be the main forum for employers and trade unions to exercise influence over these matters. Education departments commenced the formation of separate TAFE sections and maintained the role of administering and funding the recurrent provision of vocational programs (trade, technical and further education programs). With the formation of the TAFE Commission, the federal government took over strategic leadership of planning in this area by financing capital works expansion for TAFE colleges, but this was dependent on the submission of forward plans by each State.

During this time of structural change in the organisation of post-school education and training, indicators of youth transition were changing, and not always for the better. Indicators of this were:

- ❖ Youth unemployment (15 to 19-year-olds seeking full-time work) increased from 10% in 1976 to over 23% in 1983.
- ❖ Secondary school retention rates to Year 12 increased from 35% in 1976 to 60% in 1989. During this period female retention rates were consistently 5 to 6 percentage points above that for males.
- ❖ Total apprentices in training declined to 123 000 in 1976, climbed to a peak of 147 000 in 1982, fell away again to a low of 128 000 in 1985, and then steadily rose to another peak of 161 000 in 1990.

Partly in response to this volatile youth environment, and after having established a separated post-school structure for vocational training, another round of national reviews commenced from about the mid-1970s. Collectively, they edged towards suggestions about connecting secondary schooling with skills training and youth welfare and identified a common set of policy issues which would affect the future provision of vocational education and training. These were issues about:

- ❖ **the quality and organisation of the final years of schooling** and the limited range of options for continued formal learning of youth who did not proceed to university: an OECD review of Australian education highlighted the low levels of school retention and the absence, other than apprenticeship, of transitional pathways for youth into jobs which provided continuing structured training (OECD 1976, 1977). By the mid-1980s the federal government continued this line of development with inquiries into tertiary education provision (Williams 1979) and the quality of education (Karmel 1985). States such as Victoria followed with their own reviews (Blackburn 1985) on the structure and content of schooling in the post-compulsory years. While these reviews often contained visionary recommendations about the integration of applied learning into the curriculum, the response by secondary schooling systems was to revise their senior secondary curriculum structures to include a greater range of academic subjects and in the process remove most vocational elements.
- ❖ **improving national skill levels** in order to succeed in emerging technologies and global competition: reviews of labour market training (Kirby 1985), manufacturing (Crawford 1979) and technological change (Myers 1980) all emphasised the need to reform skills training in order to meet these international challenges. The federal Labor Government of the day, with support from the trade union movement, then proceeded in the later 1980s to establish a policy basis for change to the industrial award system, in part to accommodate a more flexible approach to training (ACTU/TDC 1987; Dawkins 1988, 1989). This theme of skills training for industry then became, and still is, the dominant driver of structural reform for vocational education and training policy of governments throughout Australia.

The major reform to skills training in this period was the creation of the traineeship concept by Kirby in 1986. Traineeships established a more flexible form of indentured training across a wider range of occupations, and provided the conceptual foundation for many future school-based new apprenticeships and VET-in-Schools programs of the later 1990s.

The organisational consequences of this demand for improved skills training was the consolidation of industry-controlled apprentice and industrial training commissions from departments of labour into the various State departments of TAFE and their attendant college-oriented values. Of the States, Queensland maintained elements of the old industrial training system the longest with the position of Commissioner of Training continuing until 1998. The maintenance of these industrial links to training contribute to understanding the high profile currently given to school-based new apprenticeships within Queensland.

- ❖ **welfare and equity issues for young people** also emerged during this second period: while maintaining a long-term policy presence, these issues were often shunted to a second order when labour market objectives prevailed. The relationship between the quality of participation and outcomes of schooling for students from different social backgrounds surfaced in the 1970s when recession and global markets created rising levels of youth unemployment. Karmel (1973) considered ways of assisting schools which did not meet acceptable standards and provide the diversity of curricula required to meet different attitudes and interests among students. His national review noted the issue of income inequality and proceeded to make the case for schooling to be a legitimate mechanism to compensate for unequal out-of-school situations. The Australian Government's Commission of Inquiry into Poverty (1977) explored the links between social background, school experience, early school leaving and vocational aspirations. It noted significant differences in vocational aspirations and expectations between various social, gender, ethnic and geographic groups and made recommendations about the need for schools to increase the provision of workplace learning as one means of expanding the vocational knowledge and skills base of disadvantaged youth. Wright and Headlam (1976) raised similar concerns about the relevance of traditional forms of senior secondary school curricula to early school leavers

and the subsequent cycle of low-skilled jobs and unemployment experienced by this group. This concern, expressed as an objective, for public authorities to structure the provision of education and training to improve the knowledge, skills and quality of life particularly for disadvantaged groups, is echoed much later in the ANTA national strategy for vocational education and training (ANTA 1994a, 1994c).

The reiterated hope of some commentators in the later 1970s and the 1980s that school-based vocational subjects should be given a place in the mainstream curriculum, in order to help to meet the diversified needs of an increasing, but still unacceptably low, proportion of youth staying on at school, was generally not realised (Commonwealth Schools Commission 1984; Karmel 1985; Blackburn 1985). Commonwealth-funded initiatives such as school-to-work transition and participation and equity (PEP) provided schools with funds to run vocational programs, but these were generally not integrated into the mainstream curriculum structures of State and Territory central education agencies. The issue of quality of secondary education therefore gradually became one concerned with the development of an academic curricula which was separated from issues of the PREPARATION of youth for transition to work.

III More reviews and the beginning of structural convergence: The late 1980s and early 1990s

As post-school training enrolments grew (a steady increase in the number of apprentices from 139 000 in 1986–7 to a peak in 1989–90 of 161 000), youth unemployment fell and school retention rates continued to rise. However, concern about the effectiveness of the learning outcomes from training and education systems to meet industry and work requirements continued.

Yet again these concerns emerged through another series of federal government-commissioned reviews that identified problems of:

- ❖ TAFE colleges becoming too distant from direct and responsive contact with industry (Deveson 1990)
- ❖ a lack of structured learning pathways for youth shifting from education to work and an absence of national targets for youth participation in education, training, and insufficient jobs with structured training pathways (Finn 1991)
- ❖ the need for secondary schooling systems to address issues of key competencies which would better prepare youth with generic skills for life and work (Mayer 1992)

Following on from these, Carmichael (1992) proposed a set of structural reforms for entry-level training, which included recommendations about part-time school and work pathways for traineeships and apprenticeships.

From these four reviews on training and education, and in anticipation of actual changes occurring, four national goals for Australian education and training systems were identified and pursued by the Commonwealth and States through the Australian Education Council (AEC):

- ❖ the setting of integrated national targets for youth with regard to participating in employment, training and education⁵
- ❖ the setting of six key competencies to be achieved by all young people before leaving school
- ❖ the creation of school-based pathways for vocational skills, including a mixed school and work option
- ❖ the creation of connected qualification pathways and activities for youth between the various sectors of education and training

A recurring set of enabling changes also began to materialise from these and later reviews. These enabling changes can be summarised as:

- ❖ achieving closer cross-sectoral co-operation in the provision of vocational education and training to youth in their final years of secondary education (Karmel 1985; Finn 1991; Deveson 1992; Carmichael 1992)
- ❖ integrating vocational and general education concepts and curricula, both at school and in post-school education and training (ACOTAFE 1974; OECD 1977; Mayer 1992; Carmichael 1992)
- ❖ secondary schools engaging more resources to prepare young people to enter the workforce and non-university further education and training (Karmel 1985; Mayer 1992; Carmichael 1992; Kemp 1996; McGaw 1997)

Concerns about issues of access and equity were also evident and it was noted that while expansion of vocational education and training should be encouraged, it should not be perceived as a de facto streaming option for non-academically inclined youth (Commonwealth Schools Commission 1984; Karmel 1985; Finn 1991; Deveson 1992; McGaw 1997; Lee Dow 1997).

The recurrence of these themes was a signal about the inability of education and training structures to provide co-ordinated learning outcomes to meet the needs of industry and of youth not proceeding directly to higher education. Consequently, changes to vocational learning structures and provision followed during the 1990s, sometimes in unexpected ways. By the late 1980s the presence of secondary schools and secondary school systems in the delivery of vocational education and training was minimal.

There was however, a commitment to convergence of youth, education and training policy through the goals of improved school participation, integrated curricula and improved youth transition to work. In the late 1980s and early 1990s these policy directions were similar to those occurring in other countries and fitted within the new vocationalism framework discussed in the first chapter of this part of the report. The implementation of these policies into an integrated framework became the fourth stage of vocational development in Australia.

IV New vocationalisms and the re-entry of secondary schools—1992 to 2000

The fourth major shift in vocational education and training policy began in late 1992 and is still continuing. It commenced as a series of responses to the critical reviews and reforming reports of the late 1980s and early 1990s. The responses to these national reports followed two loosely connected paths which encouraged their own forms of vocationalism, one determined by prescription and policy, the other drawn from local practice and need.

⁵ 'As a minimum at least a Level 1 traineeship or participation in Year 12 for all 18-year-olds by 1995' and 'by the year 2001, 95 per cent of 19 year olds should have completed Year 12 or an initial post-school qualification or be participating in formally recognised education or training' Finn 1991, pp.43, 48.

The orthodox VET pathway and the Australian National Training Authority

One path followed a formal bureaucratic process of extending existing processes and structures in the post-school TAFE/VET sector. It commenced when heads of government agreed to the formation of the Australian National Training Authority (ANTA) in 1992 and continued with the subsequent proclamation of a comprehensive National Training Framework (NTF) in 1996 and an Australian Recognition Framework (ARF) in 1997 (ANTA 1998).

The mission statement for ANTA at this time reflected the national policy interest in maintaining global competitiveness:

To help Australia to improve its international economic competitiveness by developing a national vocational education and training system which is responsive to the needs of industry and individuals.
(ANTA 1994b, p.6)

Within this context ANTA was charged with developing and implementing:

- ❖ *a national vocational education and training system with agreed goals and priorities,*
 - ❖ *close interaction between industry and vocational education and training providers,*
 - ❖ *an effective training market,*
 - ❖ *an efficient and productive network of publicly funded providers,*
 - ❖ *increased opportunities and outcomes, and improved cross-sectoral links between schools, higher education and vocational education and training.*
- (ANTA 1994b, p.2)

Under these guidelines the former TAFE sector became the post-school vocational education and training (VET) system; training provision became a competitive market not monopolised by TAFE institutes; a competency model of training and assessment became systematised through state training authorities (STAs) and industry training advisory boards (ITABs). In a short space of time the provision of VET was prescribed through a series of national standards, procedures and qualifications.

Key components in the development of this national training framework were:

- ❖ declaration of an Australian Qualifications Framework (AQF) in January 1995 which provided a detailed and scaled national ladder for VET sector qualifications (AQF certificates I to IV, end-of-school certificates and university sector qualifications). The scaling of qualifications provided a nationally consistent framework for translating demonstrated skill into an appropriate qualification and for establishing qualification pathways
- ❖ endorsement by ministers in 1996 of the national training framework which included the training package (TP) concept to provide a flexible approach to curriculum and competency construction and delivery and the adoption of recognition of prior learning (RPL) principles
- ❖ approval of the Australian Recognition Framework in 1997 to provide a comprehensive and co-ordinated approach to national recognition of VET between States and Territories, registered training organisations (RTOs) and industries

This paradigm of vocationalism became the dominant one for secondary school systems from the beginning of 1997 when the federal government committed \$20 million annually from ANTA funds for the development over the next four years of prescribed forms of VET in secondary schools. These conditional funds were made available to State schooling authorities through State training authorities which effectively ensured that the NTF was adopted by each State school system and school certification authority. This meant that as schools and school systems received ANTA funding they moved away from the relative freedoms provided by the Australian Vocational Certificate Training System (AVCTS) and early ASTF funds provided between 1992 and 1996. In December 1997 the State and Territory boards of study (the ACACA group) met with the National Training Framework Committee of ANTA to consider ways of including NTF requirements into end-of-school certification systems. This resulted in the ministers of education

declaring that 'Boards of Studies, in agreement with State/Territory recognition authorities, will recognise as VET in schools only that which delivers national industry and/or enterprise competency standards' (MCEETYA 1998a).

The second path of grounded vocationalism—the AVCTS and the ASTF

The other path of vocational development came from pilot programs funded initially through implementation of the Australian Vocational Certificate Training System. At about the same time ministers agreed to the formation of ANTA, the Employment Skills Formation Council (ESFC 1992) reported on a national scheme to restructure vocational training. Following on from the national reviews by Finn (1991) and Mayer (1992), it proposed an integrated national framework called the AVCTS for skills training made up of:

- ❖ key competencies
- ❖ vocational competencies
- ❖ flexible pathways of learning which promoted structured workplace training and work experience, and co-operative delivery by school, TAFE institutes, industry and enterprises and other providers
- ❖ national vocational credentials based on competency models of training and assessment

One of the proposed pathways was a mix of nationally recognised vocational and general skills to be provided by secondary schools for students seeking entry to the workforce.

Federal and State ministers for education and training met in June 1992 and agreed to the adoption of the AVCTS as a national training system.⁶ However, while the importance of a national approach to a multi-pathway model of vocational education and training was agreed to in principle, specific national arrangements regarding schools were deferred. Eventually Tasmania became the only State to endorse and implement the principles of the AVCTS at the senior secondary school level.

The main focus of the AVCTS pilot funds was not schools but employers who sought to formally upgrade the skills of employees within the lower skill ranges. By providing funds for enterprises to design structured training to meet requirements for national skill recognition, it was hoped that enterprises would develop in-house training capabilities and be in a position to influence training provided by TAFE institutes. Kirby's 'traineeship' would then become the main mechanism for credentialing worker skill acquisition. As with apprenticeships, the federal government provided employers with incentive subsidies for each net additional employee taken on and trained under the traineeship scheme.

The effect of the AVCTS pilot funding was to encourage a variety of school-based State and regional vocational programs not yet constrained by prescribed national vocational training standards and procedures. In this period (1992–95) AVCTS funds were used to extend and develop school-based vocational programs such as:

- ❖ INSTEP by the Western Australian Department of Education which provided senior secondary school students with a flexible means of participating in structured work experience and work-based learning within the Western Australian Certificate of Education
- ❖ industry studies courses within New South Wales secondary schools
- ❖ the establishment of senior vocational secondary schools in New South Wales, such as the one at Bradfield, to provide flexible work and further education pathways to retain youth
- ❖ the Engineering Pathways Project of South Australia where a collective of employer and union interests within the manufacturing sector worked with the South Australian

⁶ Australian Education Council, June 1992. At this meeting Western Australia deferred its position and the implementation of the AVCTS into secondary schools was held over.

Government to extend a structured work-based learning program for engineering in eight government schools

- ❖ the TRAC program in the Hunter Valley of New South Wales which provided a co-operative work-based learning program in retail and clerical skills designed to meet the needs of local employers
- ❖ the Australian Newsprint Mill project in Tasmania where a number of employers worked with Claremont Senior Secondary College and Hobart Institute of TAFE to develop co-operative school-based employment pathways in trade technologies and processing
- ❖ the Mackay Region School Industry Links Scheme of Queensland where community and business interests worked with a government and non-government school to provide a locally oriented work-based learning program for senior students not immediately proceeding to tertiary education
- ❖ the Alcoa project in Victoria which pioneered the concept of mixing school completion with participation in a wage and contract-based Engineering Traineeship (a fore-runner of school-based new apprenticeship)
- ❖ the group training company and school clusters model of Victoria which experimented with a number of regionally co-ordinated approaches to employers for work experience and structured workplace learning

(NCVER 1994)

Many of the school-based pilot programs of the AVCTS contained the elements of an extended vocationalism which linked general and vocational learning, school and communities (including employers and a range of brokers) and training providers. By embracing the Finn targets concept of equally valid education, training and employment outcomes for youth, a small but significant number of school-based programs became regional or industry providers of co-ordinated programs for youth. These pilots established a grounded form of vocationalism different from that provided by TAFE institute courses working to centrally provided guidelines.

Despite the acceptance of vocationalism by the participating pilot school groups and their agency supporters, all of the school-based pilot programs struggled to survive. Reasons for this included:

- ❖ limited once-off trigger funding which did not provide follow up resources to ensure internal sustainability of projects
- ❖ marginalisation of vocational learning within schooling systems and schools in terms of status, resource allocations and certification and a reliance by schooling systems on additional federal funds for implementation
- ❖ hierarchical models of systematised schooling and public administration which made few allowances for the inclusion of community engagement in models of integrated education, training and employment service provision for post-compulsory age youth
- ❖ an absence of strategic plans and visions about future alternative models of education, training and employment provision for youth which also critically considered the efficacy of prevailing organisational structures and processes

While some of these school-based pilots were not entirely successful, they provided a style of learning program which was missing from the standard school curriculum. The demand for the continuation of this style of program to meet both local employer needs for entry-level jobs and school service goals to youth was overwhelming and had been underestimated by central agencies. By early 1994 this demand for continuation of the program created bilateral tensions when many States did not follow up the exhausted federal pilot funds with funds and programs of their own.

The power of locally initiated change through schools and its positive effects on school retention and youth transition to work or further training was however noted by the *Working nation* white paper (Australia 1994).

Alongside this a continuing frustration by the federal government with the administration of the training reform agenda⁷ contributed to the white paper to recommend the establishment of two agencies to lie outside the traditional administrative framework. These agencies were to be responsible for the expansion of traineeships within industry (NETTFORCE) for young school leavers, and the promotion of structured workplace learning for secondary school students through school industry partnerships (the Australian Student Traineeship Foundation). The activities of these two agencies continued the message that the federal government, employers and labour expected education and training to be linked to vocational outcomes and labour market activities, without necessarily diminishing general education values. The activities of these two agencies also signalled that the workplace had a role in the delivery of education and training.

The creation of the ASTF in 1994 expanded the Carmichael change model of localised experimentation and partnership building by seed funding co-operative school–industry programs with work-based learning components. This grounded model of vocationalism developed sets of practice and expectations more broadly focussed than the later ANTA model. Regional values, work-based learning, integration into general education, resource sharing, careers advice and the welfare of the student in the workplace tended to identify school-based vocationalism as somewhat different from the vocational programs generally offered by the TAFE/VET sector. From a limited pilot program base in 1994, the ASTF reported that, by 1996, 62% of Australian secondary schools were providing school–industry programs, with 59% providing some form of work-based learning (Ainley & Fleming 1997).

While these two forms of vocationalism were encouraged by federal policy initiatives, the policy starting point for each was the same, that is, the desire to reform education and training systems to provide the skilled workforce considered necessary for Australia to successfully compete in the global economy. What differed was that one pathway was developed and implemented through traditional top-down bureaucratic processes and structures, while the other engaged in localised experimentation where much of the defining activity was determined by local circumstances within flexible national guidelines. By 1996 another unexpected layer now emerged to influence the policy debate on vocational education. In addition to the traditional federal and State agencies, a practitioner policy base now emerged. Unfortunately the network of practitioners established by the ASTF did not have a right of entry into the traditional top-down policy procedures of central agencies. They were initially marginalised by being seen as either the operational part of larger education and training system, or as once-off local occurrences with limited capacity for generalisation (Malley et al. 1999).

Convergence and accommodations—post 1996

After 1996 a formal convergence of these two vocational paradigms occurred through the negotiated acceptance by the States and Territories of the new federal government initiative of ‘new apprenticeships’⁸ and its continuation of school-based VET through ANTA funding and ASTF activities (Kemp 1996). The convergence occurred around the acceptance of a dominant form of vocationalism based on two types of programs. VET-in-Schools referred to any vocational course/subject/module or competency provided through schools which complied with the NTF and was not a contracted form of training. VET-in-Schools subsumed the structured workplace learning concepts of the ASTF, but also allowed classroom and simulated workplace instruction as long as learning outcomes complied with NTF standards. VET-in-Schools also assumed that learning outcomes would contribute to a vocational qualification under the AQF. The other vocational program type was school-based new apprenticeships or traineeships which required a

⁷ In March 1994 Minister Free declared that ‘the agenda (i.e. the Training Reform Agenda) will ossify while the bureaucratic carriage designed for its transport drags remorselessly and futilely on’ and went on to liken his position to that of the main character in Kafka’s *The Castle* where he is continually confronted by mind-numbing adherence to protocol by officialdom. (*Financial Review* March 29 1994)

⁸ The new apprenticeship program of the Liberal/National Party Federal Government was initially called the Modern Australian Apprentice and Traineeship System (MAATS).

contract of training with an employer and attendance at school on either a part-time or full-time basis. In both types of school VET it was further assumed that the vocational components would be an integral part of the standard end-of-school certificate awarded by State and Territory school credential authorities (the ACACA group) usually covering Years 11 and 12. Other types of vocational programs offered in these years that did not meet the above requirements were not considered as part of the VET agenda.

The new federal Liberal/National Party Government reforms to vocational education and training were negotiated with the States and Territories within conventional bilateral forums such as MCEETYA and ANTA MINCO. In this arrangement the grounded vocationalism of school communities became secondary to the systematised priorities of the Commonwealth Government and State governments. By 1996 most of the innovation in design and delivery of school-based vocational education had occurred. What was now required by the systems was the adjustment of these programs so that they would fit into the national frameworks and procedures of the VET sector.

Key events in the development of this formal national framework for vocational education and training in schools were:

- ❖ the declaration of the MAATS policy by the incoming federal government in 1996 to reform former apprentice and trainee programs (Liberal Party of Australia 1996)
- ❖ the extension of the ASTF by the new government, including a continuation of grants to schools for structured workplace learning programs, but within NTF guidelines (1996–7) and an extended downwards brief to include Years 9 and 10
- ❖ the provision of ANTA funds from 1997 to 2000 to support the take-up of MAATS/new apprenticeships in secondary schools (1996), particularly for programs of part-time schooling and work
- ❖ changes to the federal *Industrial relations act* (1996) to enable more flexible approaches to contract-based employment and training
- ❖ the declaration of the National Training Framework by ANTA in 1996
- ❖ the agreement by ministers in June 1997 of a framework and set of principles for the introduction of new apprenticeships for school students
- ❖ the adoption by ministers in April 1998 of an agreed set of principles for the consistent application of the NTF within secondary schools
- ❖ the circulation within the MCEETYA VET in Schools Taskforce in April 1998 of a discussion paper on vocational learning in Years 9 and 10
- ❖ the release by DEETYA in April 1998 of a commissioned paper on overcoming obstacles to school-based arrangements for apprenticeships and traineeships (John Ray and Associates, 1998)
- ❖ the release in April 1999 by the ministers of education of the *Adelaide declaration on national goals for schooling in the twenty-first century* which presented a general education model for schools with vocational learning embedded within it and which evoked Finn's concept of vocational pathways equivalent to Year 12 completion (MCEETYA 1999b)
- ❖ the publication in April 1999 of internal reports from the MCEETYA VET in Schools Taskforce on the growth in VET-in-Schools participation (MCEETYA 1999a) and estimated costs of providing VET in schools (Ernst & Young 1999)

Collectively these recommendations and agreements maintained a centralised system of policy development and negotiation based on existing State and federal agencies. In this system State agencies carried forward many of the concerns of individual programs as State concerns, but generally did not recognise the direct participation of local vocational practitioners into the national policy formation process.

As the NTF model of vocationalism became accepted by schools and school systems, it was usually implemented on the basis of being additional to the existing curriculum. This, combined

with the costs of workplace learning administration, led to a common experience that this form of vocationalism would cost more to provide. From 1996 to 2000 the ongoing implementation issue between States/Territories and the federal government, and between schools and departments of education, state training authorities and TAFE institutes has been the provision of funds to sustain these VET-in-Schools and school-based new apprenticeship programs. The cost of providing vocational education and training programs is considered later in this report.

While State and Territory governments proceeded to absorb the NTF competency model into their senior schooling and certification structures, they also connected this with other forms of vocational learning in schools. Many systems realised that the former status of vocational learning as a path for the not so able student into 'blue collared' work had created cultural blocks to its acceptance. To overcome this and to promote vocational learning within a broader paradigm of applied learning, States and Territories began to connect existing programs in Years 7 to 10 into a general model of education that included a major vocational education component (MCEETYA 1999a). This involved the linking of careers advice, entrepreneur training, work experience and other forms of situated learning in Years 7 to 10 with vocational programs in Years 11 and 12, as well as pushing the provision of these senior vocational programs into Year 10. While the Adelaide Declaration promoted concepts of integration between school and work, post-school and school, and theoretical and applied learning, the arrangements for VET-in-Schools and school-based new apprenticeships maintained a policy and funding separation between this model of vocationalism and the post-school ANTA one.

Throughout the 1990s a new vocationalism has been, and continues to be, shaped by the features from these two models. While ANTA and the state training authorities have asserted the dominance of the NTF as the prescribed model of vocationalism, State and Territory school authorities with assistance from the ASTF and other agencies have continued to maintain a flexible, broad-based and locally responsive approach. The implementation of vocational education and training in Australian secondary schools during the 1990s is about the ongoing tensions and accommodations between these two groups as they struggle to find common ground.

The current federal minister alluded to this struggle when outlining the role of his government in promoting social partnerships:

I should say in this context that I am concerned that there is still not an adequate degree of ownership at the State and Territory level of the agenda for vocational education and training in schools at those senior years and in the middle years.

The Commonwealth can act as a catalyst, but ultimately, it's the responsibility of those running the school systems, running individual schools, to take up full ownership of this agenda. It's not a Commonwealth add-on. This is something which is absolutely integral to the effective provision of education and training in Australia as we move into the next century ... We've got to work very hard, those of us in government, to remove rigidities which impede relations between the sectors, between the schools and the TAFE sectors.

We've got to make sure that the rules that are there are not just survivals from some previous bureaucratic era, but are actually serving a purpose. We've got to try, as far as possible, not to be participants in the turf wars, but to actually have clearly in our mind the goal what we all want to achieve as Australians, which is to give those opportunities equally to every young person, and work very hard to overcome the bureaucratic impediments. (Kemp 1999c, p.8)

Policy directions and lessons

From this policy overview the following threads can be drawn about the implementation of vocational education and training in Australian schools:

- ❖ Federalism and its constant process of negotiation has been the major influence on the formation of a national approach to vocational education and training in secondary schools.

This meant that States and Territories individually interpreted implementation guidelines, but collectively negotiated to maximise federal funding contributions.

- ❖ The trigger for change to State and Territory education systems has often been associated with a targeted intervention by the Commonwealth Government through selective funding and pilot programs targeted directly at the user level.
- ❖ Secondary schools have maintained a long but broken engagement with vocational education provision and have more recently evolved a grounded form of vocational education that incorporates structured workplace learning, resource sharing with other schools and providers, on-the-job support for students and employers, and sometimes post-school job placement.
- ❖ Despite repeated policy exhortations, the post-school sector of vocational education and training maintained a practice and language base which separated it from the activities of secondary schools and universities.
- ❖ A traditional hierarchy of policy formulation has been maintained by government agencies to encourage a dominant form of vocational education (the competency-based form of the NTF and ARF) and this has excluded regional and school-based practitioners from the policy formation process.
- ❖ A national system of school-based vocational education and training is rapidly evolving, but will need to accommodate a more flexible approach to regionalism and to the reconceptualisation of entry-level training within the NTF.

4 Statistical description of VET provision in Australian senior secondary schools

Introduction

Two forms of data are used in this chapter to give a dimension to the recent implementation of vocational education in schools. The first is aggregated snapshot data which describe national, State and school type characteristics of vocational education provision. This is complemented by national longitudinal data on youth participation in vocational education while at secondary school. The longitudinal data refer only to the beginning of the growth period in VET-in-School enrolments. However, it is important because it provides a benchmark to evaluate later vocational programs and their student socioeconomic profiles and post-school pathways into the labour market and tertiary education.

Use of the term ‘vocational education and training in schools’ becomes a practical issue when trying to construct a statistical description of the field. As indicated in the previous chapter, the recent growth of vocational courses in schools has not been even and has resulted in a range of program types and outcomes. Case-study evidence suggests that not all vocational programs conducted by schools are captured in central data systems (Spark 1998; Malley et al. 1999). This means that an unknown number of vocational programs designed at the community level to equip young people to move from school before the end of Year 12 into a job may not be counted in centrally available data.

Three types of vocational programs in schools

As a result of a series of agreements between federal and State/Territory governments since 1995, three broad types of school vocational programs have become evident.

The first, *VET-in-Schools programs*, has become the dominant field of activity and classification. By agreement VET-in-Schools refers to vocational programs which comply with the National Training Framework initiated by ANTA. It incorporates the training package concept where progression and assessment is based on a competency-based model of learning, and outcome standards that are industry derived. VET-in-Schools also appears to be confined to those non-wage-based, or training-contract-free programs offered by schools, usually to students in Years 11 and 12. Typically these VET-in-Schools programs are also included in the end-of-school certification process approved by the boards of study or curriculum councils. Many of these programs have built-in components of workplace learning with the responsibility for organisation and student assessment remaining with the school.

The role of schools as providers of vocationally based instruction varies between schools and between States and Territories. In some cases schools provide all instruction and assessment as individually registered ‘providers’ or else become de facto providers through agreements between training and education authorities which give provider status to the Board of Studies (BOS). In other cases schools have to enter the training market and purchase components of instruction and assessment. In still other cases schools are encouraged to form memoranda of

understanding with other schools and registered providers such as a TAFE institute. This allows them to operate as a collective provider.

A second type of vocational program separately identified from VET-in-Schools is that referred to as a *school-based new apprenticeship*. In this type a young person attends school to do off-the-job skills training and studies subjects associated with the end-of-school certificate, and then goes to work as an employee engaged under a new apprenticeship (sometimes called traineeships) contract. The configuration of school and work differs from State to State and between industry areas, but takes the form of a young person studying for their end-of-school certificate at the same time as being indentured to an employer. In some instances school attendance will be part-time, with Years 11 and 12 being completed over three years. The contract of training may extend beyond the period of school attendance and cover the equivalent of a full 'trade certificate III' or may only parallel the school attendance period and result in a certificate I or II outcome. Frequently the content of the VET modules studied by the school-based new apprentice will be the same as those studied by the non-indentured VET-in-School students at the same school. In this form of school-based vocationalism, the time spent on the job with the employer is not counted as school time as the supervision of on-the-job learning is a contractual employer responsibility.

The third type, *other vocational learning programs*, are those not included in the above categories. These programs include:

- ❖ work-based learning for so-called traditional subjects such as accounting, agriculture, food sciences and physics
- ❖ mainstream Year 11 and 12 programs approved by boards of study with significant vocational orientation but not considered to be part of the NTF
- ❖ various forms of exposure to workplaces through concepts such as work shadowing, work sampling, and work experience (refer to the Queensland example below)
- ❖ work-based enterprise and entrepreneurial learning through programs using E Teams and Mind Shop Excellence formats
- ❖ skills training programs designed by schools in conjunction with local employers to assist the successful transfer of early school leaving youth into jobs
- ❖ school-based programs designed to promote key competencies through a mix of classroom, workshop, simulated and real work environments

Consistent national data are not available on this third category. However, partial indicators are available at State or school level. For example, using various forms of 'work experience' as an indicator of vocational learning, Queensland provides a statewide insight into a wider range of vocational offerings provided by schools. Table 3 identifies the year-level range and number of enrolments in vocational learning through some form of workplace contact.

Within this wide array of different forms of student contact with workplaces, only the categories of structured work experience and industry placement fall within the nationally agreed definition of VET-in-Schools. This Queensland example illustrates that students through Years 9 to 12 are participating in some form of vocational work-based learning not included in national statistics bounded by prescriptive definition. State reporting of this type illustrates that there are two overlapping forms of vocational education and training in Australia not yet integrated into a seamless framework.

Examples of school-initiated vocational programs which do not necessarily comply with central agency prescriptions are also described by Spark (1998) and Malley et al. (1999) but the extent of their provision throughout Australian schools is unknown.

As an aid to discussion it might be useful to refer to the general overall provision of vocational education through schools as 'vocational education and training in schools', and associate 'VET-in-Schools' only with programs meeting MCEETYA specifications.

Table 3: Work placements by type in Queensland Government schools, 1998

Type of work experience	Number of <i>students</i> who participated in work experience in 1998		Total number of <i>days</i> spent on work experience
	Year	Total	
Structured work experience*	Year 9	140	
	Year 10	1958	
	Year 11	8979	
	Year 12	4825	
<i>Sub-totals</i>		15 902	116 662
Work shadowing	Year 9	88	
	Year 10	860	
	Year 11	1339	
	Year 12	1016	
<i>Sub-totals</i>		3303	14 468
Research work experience	Year 9	31	
	Year 10	59	
	Year 11	149	
	Year 12	26	
<i>Sub-totals</i>		265	1178
Work sampling	Year 9	367	
	Year 10	2938	
	Year 11	5143	
	Year 12	2455	
<i>Sub-totals</i>		10 903	66 961
Totals: work experience		30 373	199 263
Industry placement	Number of <i>students</i> who participated in industry placement in 1998		Total number of <i>hours</i> spent on industry placement
	Year	Total	
Industry placement*	Year 9	15	
	Year 10	423	
	Year 11	1 569	
	Year 12	1 603	
Totals: industry placement		3 610	132 422

Note: *These categories fall within the nationally agreed definition of VET in Schools (MCEETYA 1998a).

Source: Unpublished data from Education Queensland

Measuring a moving object

Another consequence of evolving definitions of school-based vocational education and training is that of how to use and compare different data from different points in time. For example the school-industry program measures used by Ainley and Fleming (1995, 1997) while incorporating VET-in-Schools criteria predate the later VET-in-Schools measures used by the MCEETYA

Taskforce (1999a) and reported by Spring (1999). In working to an ASTF specification, Ainley and Fleming reported on the provision of and participation in school–industry programs in Years 11 and 12. Many of these programs commenced with funding associated with the Carmichael pilots, early ASTF grants and Dusseldorp TRAC initiatives but shared the common characteristic of having work-based learning in a real industry environment as their defining feature. It was not until the entry of ANTA into this field, by way of grants to the States in 1996, that the current national level concept of VET-in-Schools began to form and was eventually agreed to by Ministers (MCEETYA 1998a). When this occurred, nearly all of the programs identified by Ainley and Fleming were reconfigured to meet the new criteria for VET-in-Schools. However, the VET-in-Schools definition permitted a wider field of vocational activity by tacitly including school-based vocational programs which did not have work-based learning or school–industry partnership components.

For the purposes of this report we will trace the development of vocational education and training in schools using the nomenclature of ‘VET-in-Schools’, ‘school-based new apprenticeship’ and ‘other vocational learning’. In some cases data from pre-1996 which does not readily fit into these categories will be used. The complexities of consistently counting vocational enrolments at a national level have not yet been resolved. It is likely that, in some States, figures for VET-in-Schools enrolments will be overestimated due to the multiple counting of school students enrolled in more than one TAFE-based course. All reported data should therefore be treated as estimates indicative of broad trends.

VET-in-Schools

Aggregate national growth of VET-in-Schools enrolments

Since 1995 there has been a steady increase in the number of students enrolling in VET-in-School programs. For 1999 an estimated 130 000 Year 11 and 12 students from all school types were enrolled in a VET program (figure 2), a 116% increase from the 60 000 enrolments of 1996. Ainley and Fleming (1995) estimated that there were 26 300 Year 11 and 12 students enrolled in school–industry programs in 1995. This measure predates the adoption of the current VET-in-Schools definition, but provides an indicator of early provision.

In annual growth terms, the take-up of VET-in-Schools enrolments is diminishing (figure 3). Large initial annual increments, 128% from 1995 to 1996 and 57 % from 1996 to 1997, reduced to 10% for the 1998–99 period. This trend suggests that enrolment growth will continue to fall unless there are significant changes to the current structural and program arrangements surrounding youth access to school-based skills training. Assuming no changes, then VET-in-Schools will stabilise at some 36% to 40% of Year 11 and 12 enrolments.

An enrolment growth of this size occurring over a four years is significant. However, an enrolment is not a measure of uniform intensity or effort. In some States/Territories (such as WA) it includes students who ‘taste’ vocationalism by studying one or two modules from a level 1 certificate, whereas in other States (such as Victoria) students undertake a full level II certificate requiring at least 260 hours of structured learning.

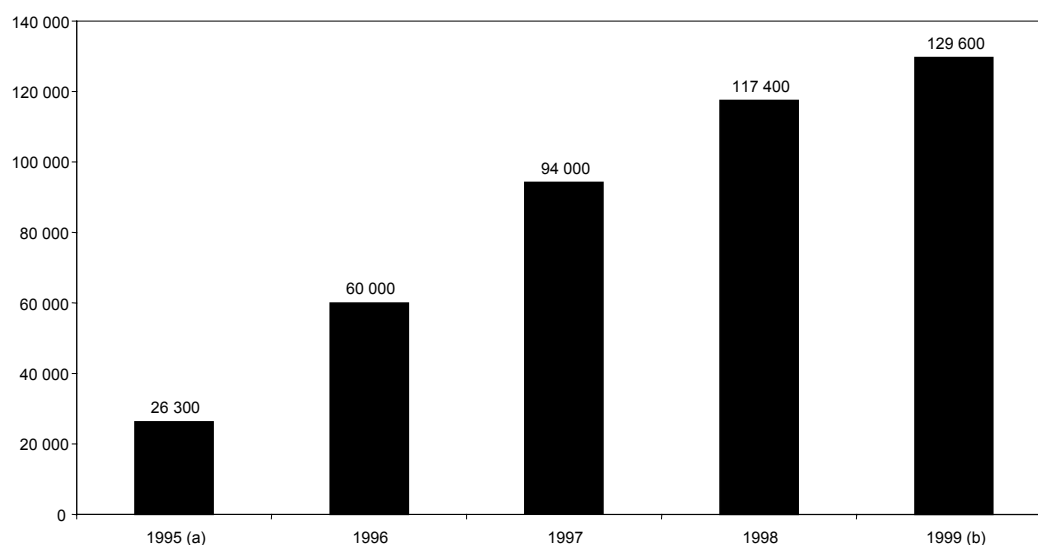
Participation of secondary schools in VET

The number of secondary schools providing VET programs increased from 1440 in 1997 (70% of secondary schools) to an estimated 1840 (87%) in 1999 (table 4).

Independent school participation grew by 70 percentage points over this period from 143 schools providing VET programs in 1997 to 244 in 1999. While the number of government schools providing VET increased over this period (from 960 to 1219), as a proportion of all schools offering VET courses, they remained steady at 66%. Independent school representation grew over

this 1997–99 period from 10% to 13% of all secondary schools. The growth in school provision of VET suggests that enrolment growth has been more about the entry of new schools into VET provision than an expanding enrolment base from within already participating schools. It is already evident that, as the limit of secondary school participation in VET is approached, enrolment growth will diminish, and focus questions on the distribution of enrolments between schools and study areas.

Figure 2: Estimated number of secondary school students participating in VET-in-Schools programs, Australia



Notes: (a) Ainley and Fleming estimates for students in school–industry programs in 1995
(b) MCEETYA estimates reported by Spring (1999) for 1996–99

Figure 3: Annual percentage rate of growth in VET in schools enrolments, Australia, 1995–99

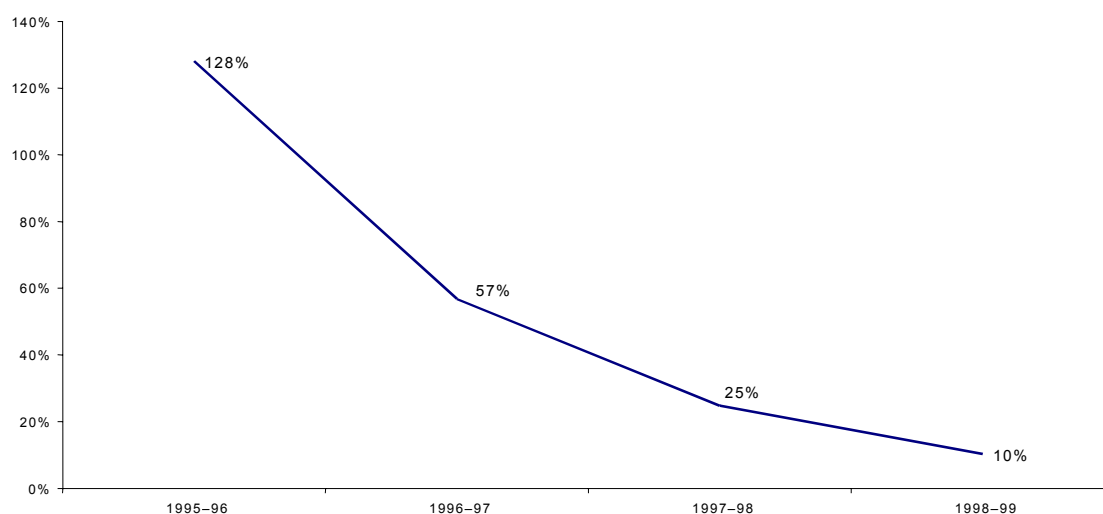


Table 4A: Number of schools with and students in VET programs by sector, Australia, 1997, 1998 and 1999

	1997			1998			1999		
	Students	Schools	Students/ schools	Students	Schools	Students/ schools	Students	Schools	Students/ schools
Government	76 858	960	80.1	90 866	1148	79.2	100 125	1219	82.1
Catholic	12 165	338	36.0	17 783	371	47.9	19 186	382	50.2
Independent	5043	143	35.3	8757	206	42.5	10 271	244	42.1
Overall VET	94 066	1441	65.3	117 406	1725	68.1	129 582	1845	70.2

Source: MCEETYA 1999a

Table 4B: Proportion of all secondary schools with VET programs, Australia, 1997, 1998 and 1999

	1997	1998	1999
Total number of secondary schools*	2050	2088	2110
Percentage of schools providing VET	70	84	87

Note: *The total number of schools refers to all schools with a designated senior secondary program in Years 11 and 12 and is based on the 1997–98 National School Statistics Collection (NSSC), MCEETYA.

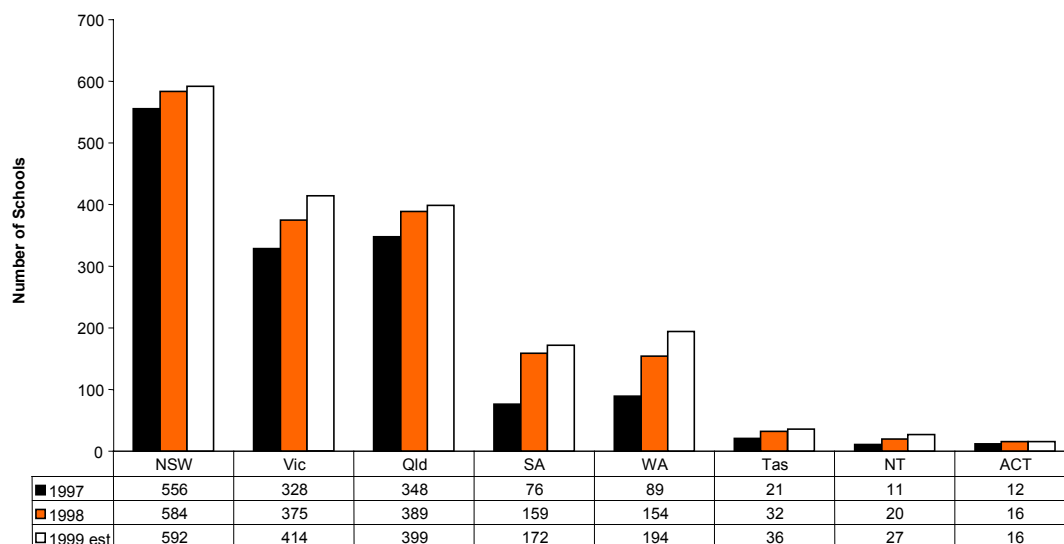
Source: MCEETYA 1999a

State and Territory comparisons (figure 4) indicate that all systems have had new schools entering the VET field each year. However, as expected, there has been a slowdown in the rate of growth of participating schools as the limit of all schools is approached.

Another insight into provision of VET is given by Robinson and Malley (in press) when they compare school participation in industry-based programs for 1996 and 1999 (table 5). Over this four-year period proportionately more country town and provincial city secondary schools (91% and 88%) have continued to provide VET programs with industry contact components than have schools in capital cities. By 1999 more remote rural area schools (81%) were offering this type of vocational program than capital city schools (73%). For 1999 more co-educational schools (83%) and boys' schools (72%) were providing school–industry programs than all girls' schools (68%), and fewer smaller schools (76%) provided this type of program than larger schools (80%). However, by 1999 these comparative differences were not large and occurred between relatively high overall levels of participation in some form of vocational education. Even with these considerations in mind, issues of location, single-gender schools and size of school appear to be related to provision of VET.

Another valuable feature of this ASTF survey is the distinction identified by schools between a broad specification of workplace learning which includes vocational elements outside the national frameworks (1999a in table 5) and the narrower national specification derived from the post-school VET sector (1999b). This is probably the only national data, albeit incomplete, indicating the presence of two forms of vocational learning in senior secondary schools. Larger rather than smaller schools are more likely to run this extended form of vocational program, as are schools in country areas.

Figure 4: Number of schools with VET-in-Schools programs by State and Territory, 1997–99



Source: MCEETYA 1999a

Table 5: Percentage of schools providing school–industry programs, by selected school characteristics, 1996 and 1999

School characteristic	Category	% of schools providing programs		
		1996	1999a	1999b
Location	Capital city	56	82	73
	Provincial city (> 25 000)	67	92	88
	Country town (1000–25 000)	67	93	91
	Rural area	45	83	81
Gender composition	Co-educational	63	87	83
	All girls	53	78	68
	All boys	43	85	72
Yr 11–12 cohort size	Smallest quartile	49	80	76
	Second quartile	60	82	78
	Third quartile	67	93	84
	Largest quartile	67	88	80
Australia		62	86	80

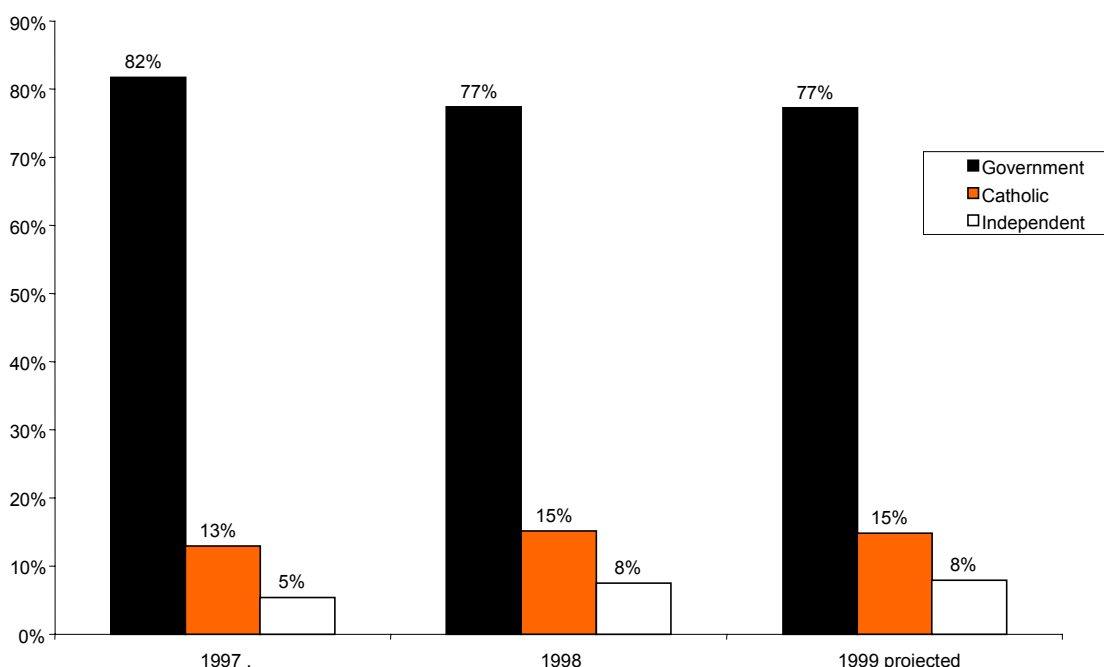
- Notes:
- Definitions of school–industry programs:
1996 included all programs that involved time in the workplace.
1999a includes all programs that involve time in workplace: school-based new apprenticeships, VET-in-Schools, any other programs (i.e. work experience, externally initiated business partnerships, transition programs).
1999b includes only school-based new apprenticeships, VET-in-Schools, other programs (excludes work experience, externally initiated business partnerships, transition programs).
 - Size of Year 11 and 12 cohort:
In 1996: Smallest: <99; Second: 99–183; Third: 184–270; Largest: >270.
In 1999: Smallest: <74; Second: 75–174; Third: 175–261; Largest: >261.

Source: Malley et al. (2001 forthcoming)

National VET-in-Schools aggregates by school sector

While the overall numbers of VET enrolments are increasing and the annual growth is slowing, the distribution of enrolments between school sectors has been changing. A decline in the proportion of government school VET enrolments (figure 5), from just under 82% in 1997 to an estimated 77% in 1999, has been accompanied by a rise from non-government schools (18% in 1997 to a projected 23% in 1999). This increasing proportion of VET enrolments from non-government schools is partly explained by relatively lower levels of enrolments to begin with, particularly amongst independent schools. The significance of non-government school VET enrolment growth can be gauged from the situation where government sector enrolment share between 1998 to 1999 remained stable at (77%) even though more non-government schools (figure 5) were providing VET.

Figure 5: Proportional distribution of all Australian VET-in-School enrolments by sector, 1997 to 1999

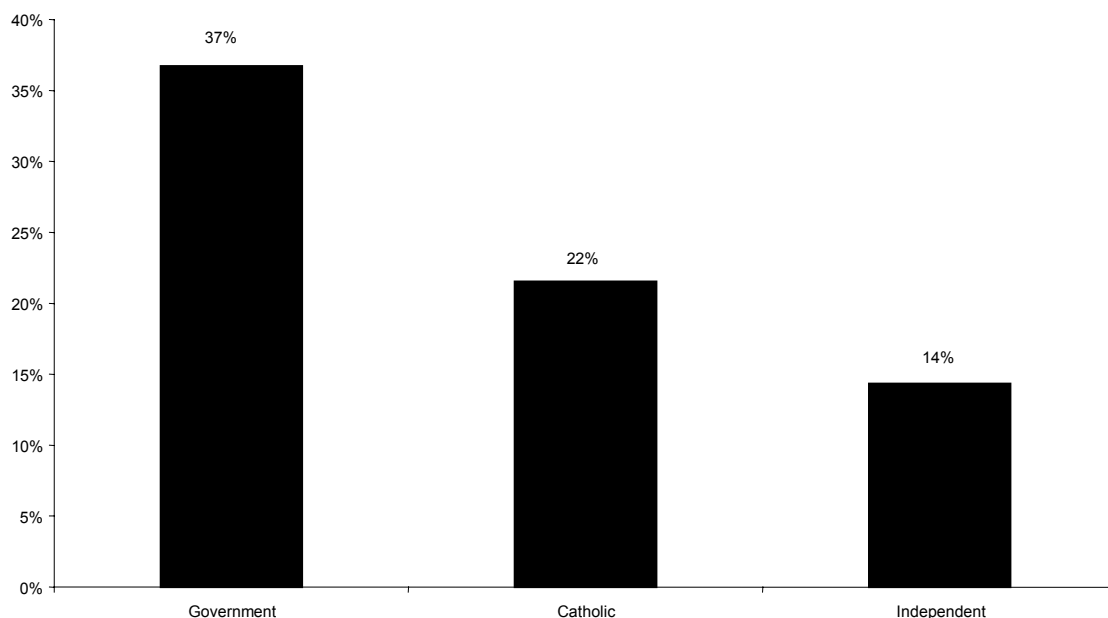


Source: Spring (1999)

Given the annual rate of growth in VET enrolments (figure 2), and the prevailing frameworks of post-compulsory schooling, it is likely that the proportion of students in government schools who participate in VET programs will stabilise at about 40% of Year 11 and 12 enrolments in that sector.

Figure 6 indicates that 1998 enrolments approached this level with 37% of Year 11 and 12 students in government schools participating in a VET program. With only 22% of Catholic and 14 % of independent students participating, it might be expected that more students in these sectors will engage in VET as the programs become more established. However, given issues identified by Lamb et al. (1998) about who participates in VET based on issues of social class and values, it is reasonable to assume that the proportion of independent school students undertaking VET studies will remain significantly below that for the Catholic and government sectors. Participation rates for vocational programs by socioeconomic status and school achievement are considered later in this chapter.

Figure 6: Percentage of all Year 11 and 12 students in each sector undertaking a VET program, Australia, 1998



Sources: ABS (1998b); Spring (1999)

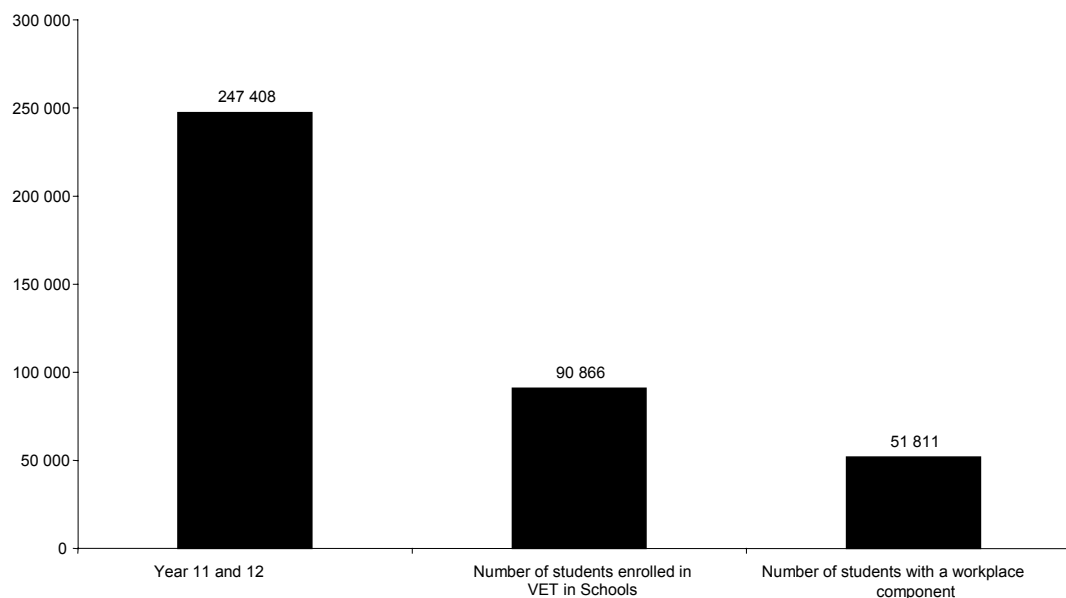
VET and workplace learning provision

It is important to contextualise these broad aggregate estimates of VET-in-Schools enrolments against overall enrolment levels in Years 11 and 12, and the subgroup of VET enrolments engaging in workplace learning. Since Carmichael's (1992) proposal for a 'mixed' pathway for secondary school, the ASTF has been successful in promoting work-based learning as a key component of the post-compulsory curriculum. By 1998, estimates (figure 7) indicate that of the 247 400 students in government schools in Years 11 and 12, some 90 900 (37%) were enrolled in VET-in-Schools programs, and of those some 51 800 (57%) had a workplace learning component.

The obverse of having 57% (51 811) of VET-in-Schools students engaged in workplace learning is that 43% (39 055) were in vocational programs with no work placement. This occurs for a variety of reasons. There are insufficient numbers of accessible employers (particularly for regional and remote schools), the program does not require employer participation, or, simulated and workshop environments are provided by TAFE institutes and the school. Case-study evidence suggests that vocational programs in office and clerical skills, information technology and hospitality often use TAFE institute or school facilities as a substitute for workplaces (Spark 1998; Malley et al. 1999). The Joint Secondary Schools TAFE (JSST) programs offered across New South Wales, and the memorandum of agreement process between schools and TAFE institutes in South Australia are mechanisms which provide attractive and efficient alternatives to work-based learning.

After four years of program growth and promotion it is likely that, unless other underlying factors change, there are likely to be only marginal increases in the number of workplaces providing structured work placements for VET-in-Schools programs.

Figure 7: Australian government school enrolments in Years 11 and 12, VET-in-Schools programs and VET-in-Schools programs with workplace learning, 1998



Source: Spring (1999)

Participating workplaces

The identification of the number (and turnover) of workplaces participating in VET work placement is important for two reasons. Schools that run extensive work-based learning programs will have varying resource requirements depending on the number, size, type and location of workplaces they have to service. From a central policy perspective, if workplace learning is to be further promoted as an essential feature of VET-in-Schools courses then an understanding of the extent of participation by workplaces is required. For the moment⁹ there are no reliable national estimates of employer or workplace participation in school-based vocational education and training provision. For example the Australian Bureau of Statistics survey of employer training practices in Australia (ABS 1998a) includes contracted employee training (new apprenticeships) but does not identify training provision for non-employees such as VET-in-Schools students.

The preceding estimate of students with a workplace learning component in their VET program allows us to infer a range for how many workplaces¹⁰ have actively participated in this type of program. An upper range level of 52 000 workplaces is derived if it is assumed that in 1998 each

⁹ A forthcoming ASTF national survey of school-industry programs identifies the type of activity (management committee, student selection, work placement provision etc.) that employers engage in when they participate in a school-industry program. It does not, however, estimate the overall participation of employers in VET or school-industry programs (Malley et al. 2001 forthcoming).

¹⁰ Note that the number of workplaces is not necessarily the same as the number of employers or enterprises. Workplaces are individual work sites. Large employers and enterprises (such as supermarket chains and fast food outlets) often have many workplaces operating under a common name.

student went to one workplace for work placement. As many workplaces are likely to have more than one student in a year, a bottom range of 26 000 participating workplaces might be established by assuming that each one supported two students in a year. This is a crudely estimated range and excludes consideration of workplaces providing other forms of workplace learning for VET-in-Schools. No data are available as to the lifespan of participation of employers in these VET-in-Schools and industry partnership arrangements. Case study evidence suggests that a high rate of employer turnover is an ongoing issue for many school industry programs.

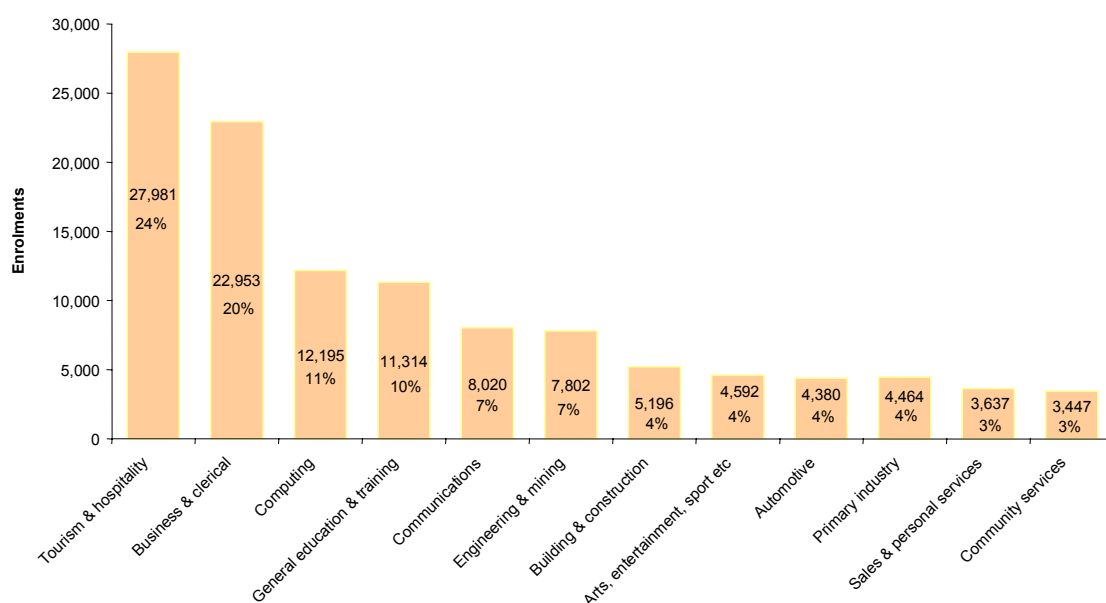
There are also no available reliable indicators as to who are the participating employers or work sites. Are they new additional participants to these partnership arrangements with schools? If they are not new participants, then are they traditional participants in apprenticeship/traineeship provision, adding these school-initiated programs to their existing training arrangements? Or are they employers who might be substituting some forms of traditional employment, particularly apprentices, with non-wage based structured work-based learning students from nearby schools? For the moment these questions remain unanswered.

VET-in-Schools enrolments by industry

Two broadly defined industry areas appear to account for 44% of government school sector enrolments in VET: tourism and hospitality account for 24%, and business and clerical for 20% (see figure 8).

Large enrolments can be accommodated in these two industry areas because they are extensions of pre-existing school-based and TAFE institute programs not tied to the provision of workplaces. Facilities such as kitchens, dining rooms and simulated offices are readily available in most schools and TAFE institutes. Informal advice from State education agencies also suggests that the areas of communication and computing also have large enrolments not undertaking work placements. Courses in these four industry areas make up 62% of the VET-in-Schools enrolment base and are not dependent on access to workplaces. Other courses more dependent on access to specialist equipment and expertise, such as automotive, engineering, and building and construction, are more likely to have proportionately more enrolments engaged in work-based learning. Notwithstanding earlier comments, the broad fields of tourism and hospitality and business/clerical will also have large numbers of students undertaking workplace learning.

Figure 8: 1998 VET-in-Schools enrolments by industry classification



Source: Spring (1999)

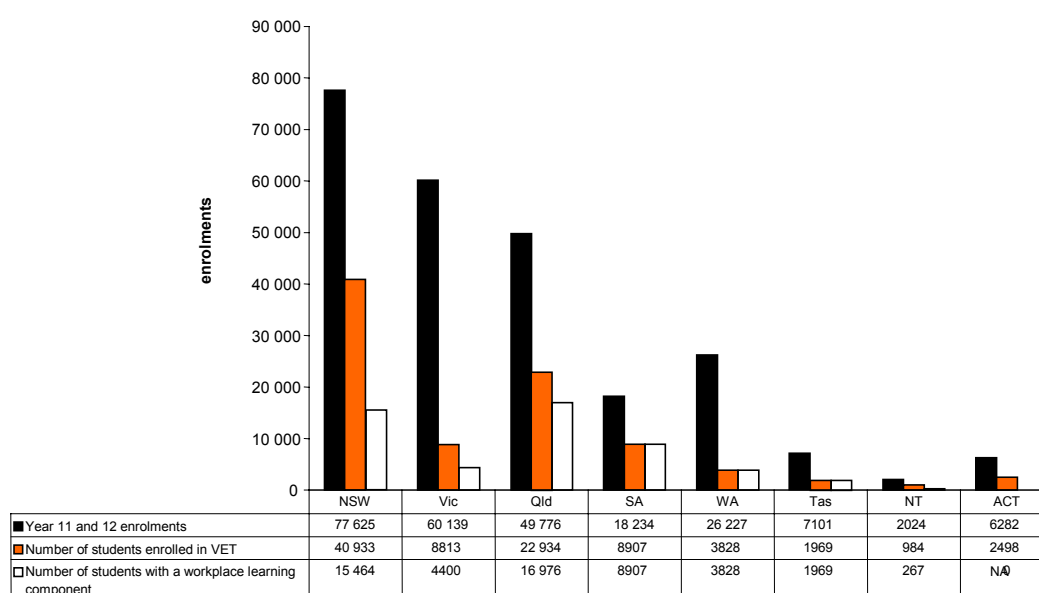
Whether these levels of enrolment are related to industry demand is problematic. If schools and TAFE institutes provide places on the basis of availability of internal facilities rather than external workplaces, then a significant component of VET-in-Schools is supply-driven by the institutions and not necessarily related to industry demand for entry-level skills. Student demand for these subjects might be another factor accounting for high enrolment levels, but it is difficult to completely detach student demand from the curriculum offered by schools. This however might not be an issue if the policy goal is to provide vocational programs designed to equip students with general vocational skills and to increase their participation in school to the end of Year 12 by offering a wider subject base.

VET-in-Schools enrolments by State and Territory

National aggregates of government school provision disguise the varying levels between States and Territories of Year 11 and 12 student participation in VET-in-School programs. One source of variation relates to the different arrangements for VET within each State and Territory curriculum and certification framework, which in turn reflects other factors such as different industry profiles. Figure 9 illustrates this variation between States of participation in VET by comparing enrolments in VET (with and without structured workplace learning) for government schools with all government school enrolments in Years 11 and 12.

For 1998 of all the States, New South Wales had the largest number (40 933) and proportion (53%) of Year 11 and 12 government school students enrolled in VET-in-Schools programs, but had the lowest level of VET student participation in work-based learning (38%). This can be largely explained by the Joint Secondary School and TAFE (JSST) component of the NSW curriculum which allows school students to undertake VET programs in TAFE institutes and their associated workshops and simulated work environments.

Figure 9: Years 11 and 12 enrolments in government schools by State and Territory, by VET enrolments and VET enrolments involving workplace learning, 1998



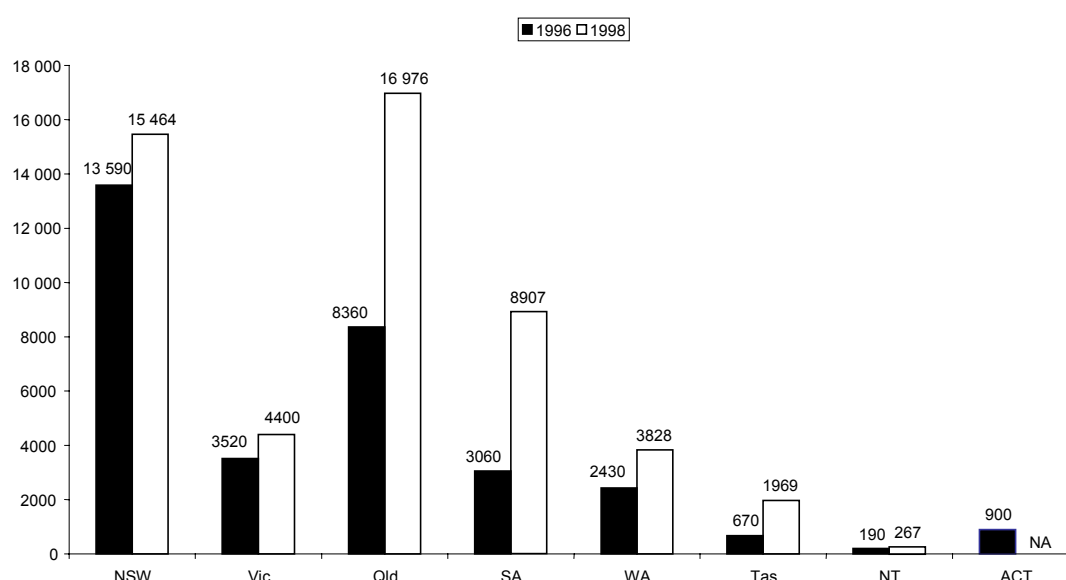
Sources: ABS (1998b); Spring (1999); MCEETYA (1999a)

Victoria and Western Australia had the lowest proportions of Year 11 and 12 government school students participating in VET programs (15% respectively) but differed with regard to work

placement. Western Australia had all VET students in government schools participating in work-based learning, whereas in Victoria only 50% of students were doing this. South Australia and Tasmania also indicate that all VET students in government schools undertake workplace learning as part of their course.

The 1996 to 1998 differences between the States in the growth of students doing work-based learning (figure 10) suggest that some States might be approaching another ceiling or plateau effect. The two largest States in terms of overall population and number of workplaces (NSW and Vic) have the lowest levels of growth in the numbers of students undertaking work-based learning as part of their VET-in-Schools program (14% for NSW and 25% for Victoria). The smaller States of Tasmania, South Australia, and Western Australia record quite high rates of growth of students doing VET through workplace learning with respective increases between 1996 and 1998 of 194%, 191% and 58%.

Figure 10: Government VET-in-Schools students with a workplace learning component in the program, 1996 and 1998



Sources: Ainley and Fleming (1997); Spring (1999); unpublished data from Education Queensland (1999)

What are the sources of enrolment growth?

From a policy perspective it is important to know the composition of growth in VET-in-Schools enrolments. How much comes from students who may not have otherwise continued through Years 11 and 12, and how much comes from students who are likely to have stayed on at school anyway, but shifted their curriculum preference to that of VET-in-Schools?

In the absence of direct findings we can only speculate on the sources of enrolment growth for VET-in-Schools. The evidence suggests that it has been sustained mainly by students who would have stayed on at school, particularly from schools entering the VET arena for the first time. As age-specific participation and retention rates have marginally oscillated over the 1996 to 1998 period it could be inferred that the VET-in-Schools program has not attracted large numbers of net additional students to continue through Years 11 and 12. Of course, it is equally reasonable to suggest that the provision of VET-in-Schools programs prevented further declines in participation and retention, particularly given the decline in Year 10 to 12 participation rates since 1993.

Table 6 shows that nationally, school participation rates for 16-year-olds increased by 1.1 percentage points between 1995 and 1996, by 0.2 of a percentage point between 1996 and 1997 and by 0.5% from 1997 to 1998. For 17-year-olds the respective percentage point increases were 0.6, 1.1 and 0.6. Throughout Australia 16-year-olds are the dominant age group in Year 11 and 17-year-olds in Year 12 (ABS 1998b¹¹). These three years were the period of growth in VET-in-Schools enrolments (refer to figure 2) where enrolments were estimated at 60 000 in 1996 and some 129 000 in 1999.

A one percentage point increase in school participation rates of either 16 or 17-year-olds in this 1996 to 1998 period represents approximately 2600 persons for either age group. By combining the two age group percentage point increases in school participation rates between any two years, and extrapolating from the age-specific populations, an estimate can be derived which translates percentage point increases into enrolments. For the period 1995 to 1996 it is estimated that approximately 4400 enrolments represent the percentage point increases in participation rates for 16 and 17-year-olds in full-time schooling. This is relatively crude arithmetic but it allows us to suggest that even if all of these 'additional' 16 and 17-year-olds enrolled in VET-in-Schools programs they would form a very small proportion of the recorded growth of 60 000 enrolments.

The most obvious source of enrolment in VET-in-Schools is, therefore, not from early school leavers who stayed on to do VET, but from those who continued on in the secondary school system anyway.

Table 6: Age participation rates of full-time students in schooling, Australia, 1998 (percentage of relevant population)

Year	16-year-old persons	17-year-old persons
1994	80.0	59.7
1995	78.8	58.5
1996	79.9	59.1
1997	80.1	60.2
1998	80.6	60.8

Source: ABS 1998b

Gender issues

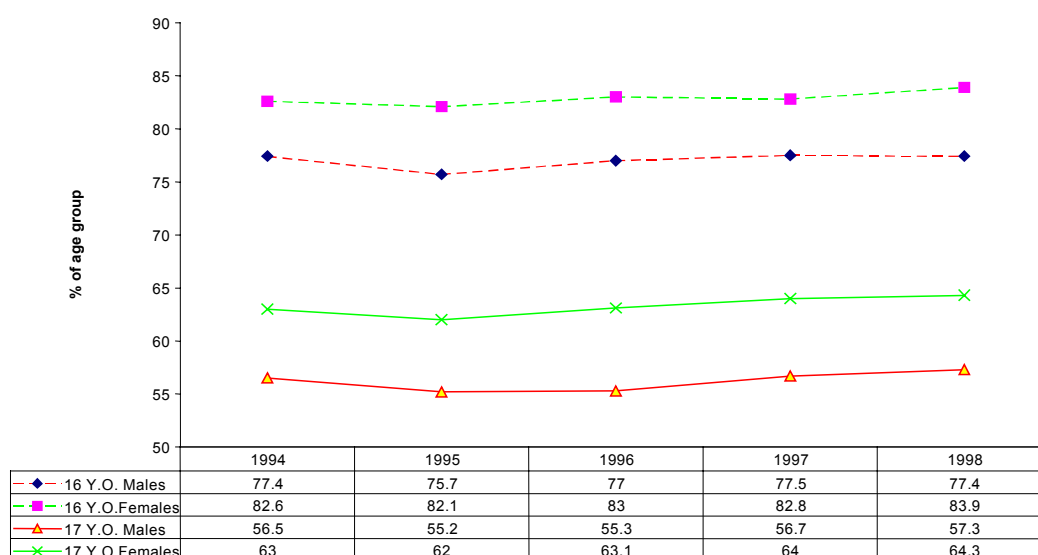
An emerging concern is differences between males and females in school participation and retention. Over the 1994 to 1998 period, school participation for 16 and 17-year-old males is consistently lower than that for females, and for both there are very small margins of improvement (figure 11). The 16-year-old male participation rate in full-time schooling has hovered at about 77%, consistently some 6 percentage points below that for 16-year-old females. A similar pattern is apparent for 17-year-old males with a participation rate oscillating between 55% and 57%, some 6% to 7% below that for females.

The small but continuing increases since 1996 in participation rates for 17-year-old males and females might lead to a suggestion of possible positive influences of a VET-type program, but even if this were so, the numbers resulting from this are relatively small.

Unfortunately no national data on the distribution of VET-in-Schools enrolments by gender are currently available.

¹¹ In Queensland and WA the age/Year level pattern is a little different with proportionately more 16-year-olds in Year 12 (33 % and 40 % respectively) than the other States (with less than 23 % of Year 12 students as 16-year-olds) (ABS 1998b).

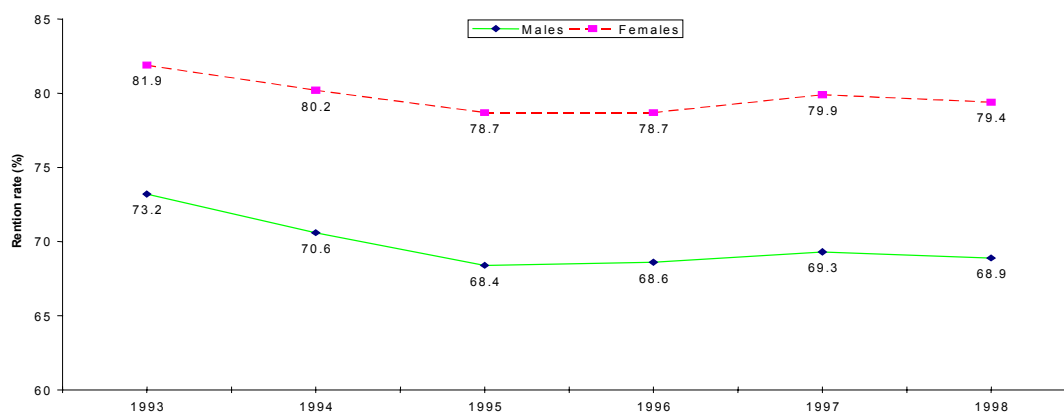
Figure 11: Participation rates of 16 and 17-year-olds in schooling, Australia, 1994 to 1998



Sources: ABS (1998b), MCEETYA (1997)

A similar low incremental and sometimes oscillating growth pattern is apparent in school retention rate data (figure 12). Retention rates from Years 10 to 12 (the dominant VET-in-Schools years) for males and females over the 1995 to 1998 period oscillated within a very small range (78.7% to 79.9% for females and 68.4% to 69.3% for males) well below the 1993 rates for females (81.9%) and males (73.2%). It is therefore tempting to infer that VET-in-Schools programs have not yet significantly changed the retention patterns for a significant group of young people who continue schooling from Year 10 but do not complete Year 12, particularly males.

Figure 12: Apparent retention rates of secondary students from Year 10 to Year 12, Australia, 1998



Sources: ABS (1998b), MCEETYA (1997)

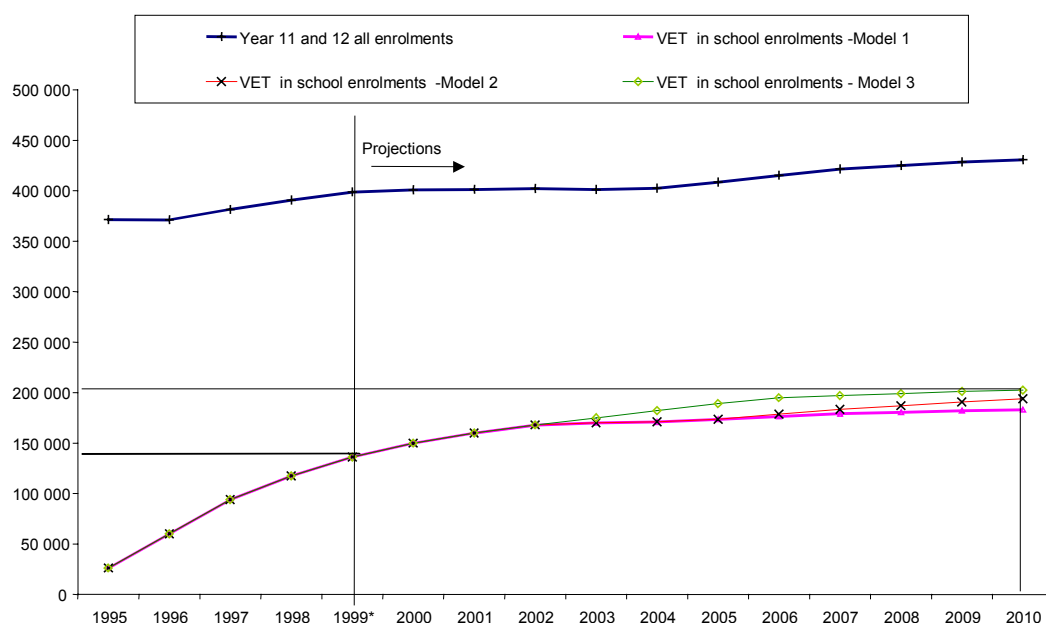
Projecting into the future

The stable nature of student participation and retention rates in Years 11 and 12 suggests that within each State and Territory, VET-in-Schools is being absorbed into existing schooling structures in a way that will not create a sudden upsurge in demand. Similarly, the growth trend of VET-in-Schools enrolments now appears to be asymptotic, so unless there are significant changes to the current delivery arrangements enrolment proportions will most likely stabilise. This stability provides a basis for modelling future enrolment growth in school-based VET (figure 13).

As a pessimistic assumption model 1 assumes that the annual enrolment growth rate in VET will move towards zero (refer to figure 12) and support a near constant proportion of Year 11 and 12 students. An optimistic assumption maintains a small but positive annual growth rate (model 3). Model 2 mirrors the overall growth in student enrolments and applies that growth rate to VET-in-Schools.

Using these broad assumptions, figure 13 builds upon Department of Employment, Education, Training and Youth Affairs national enrolment projections for Years 11 and 12 to determine a likely range of future enrolments for VET-in-Schools. On a basis of no significant change occurring to education systems and values it is projected that there will be 150 000 to 200 000 VET-in-Schools enrolments throughout Australia over the 2000 to 2010 period. If a policy intent is to have a higher level of participation in VET-in-Schools, then significant shifts need to occur in either the structure of schooling, the design and classification of elements of curriculum or the values of teachers, parents, students and employers towards vocational skills and applied learning.

Figure 13: Three projections of VET-in-Schools enrolments from 1999 to 2010



This type of projection is a crude measure of student participation and therefore masks differences such as depth and rate of student participation in VET between States and industry fields. As indicated in other chapters student participation in VET can range from a semester or half-year course through to a full AQF certificate 2 or 3 requiring two full years of study. Measurement of VET-in-Schools participation is therefore a headcount not reflecting the depth of study.

School-based new apprenticeships

The new Liberal/National Government of 1996 introduced the new apprenticeship concept as a means of structurally reforming the provision of skills training in Australia (Kemp 1996; Liberal Party of Australia 1996). One key feature of this policy platform was to create a pathway into senior secondary schools for this restructured form of apprenticeship. Federal and State/Territory Ministers, by endorsing an agreed 'Principles and framework for new apprentices for school students' at the June 1997 meeting of MCEETYA, cleared the way for the take up of this initiative by schools in the following year.

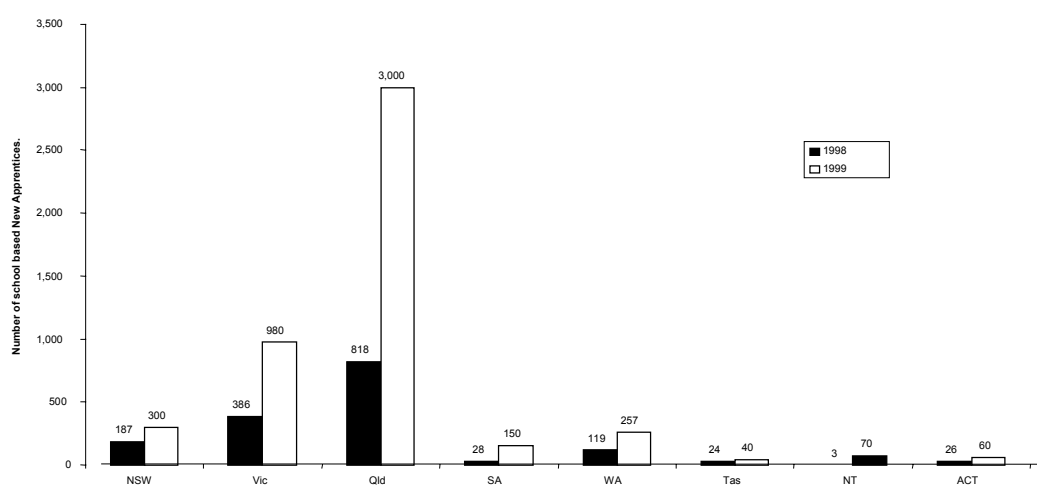
Under this framework agreed characteristics of school-based new apprenticeships included:

- ❖ a registered training agreement linked to an industrial award signed by an employer and a trainee which is validated by a State/Territory Training Authority
- ❖ the trainee being enrolled under a relevant education act and working towards the attainment of a senior secondary school certificate and thus attending both school and work
- ❖ a formal structured training component which may be given credit within the senior secondary certificate or within the training program, but which can only be delivered through a registered training organisation that meets nationally endorsed standards

By the end of the first year of implementation (1998) there were 1591 registered school-based new apprentices (figure 14) with an estimated 4850 expected by the end of 1999 (Spring 1999).

Queensland, through arrangements made between its education and industrial training agencies, has embedded this part work and part school concept into schools in a way that is attracting relatively large enrolments. Victoria, through widespread coalitions of school clusters with group training companies, relies more on growth through locally negotiated arrangements.

Figure 14: School-based new apprentices by State and Territory, 1998 and 1999 estimates



Source: Spring 1999

The variations between State and Territory partly reflect different administrative arrangements but also probably a distribution factor related to employer location and density.

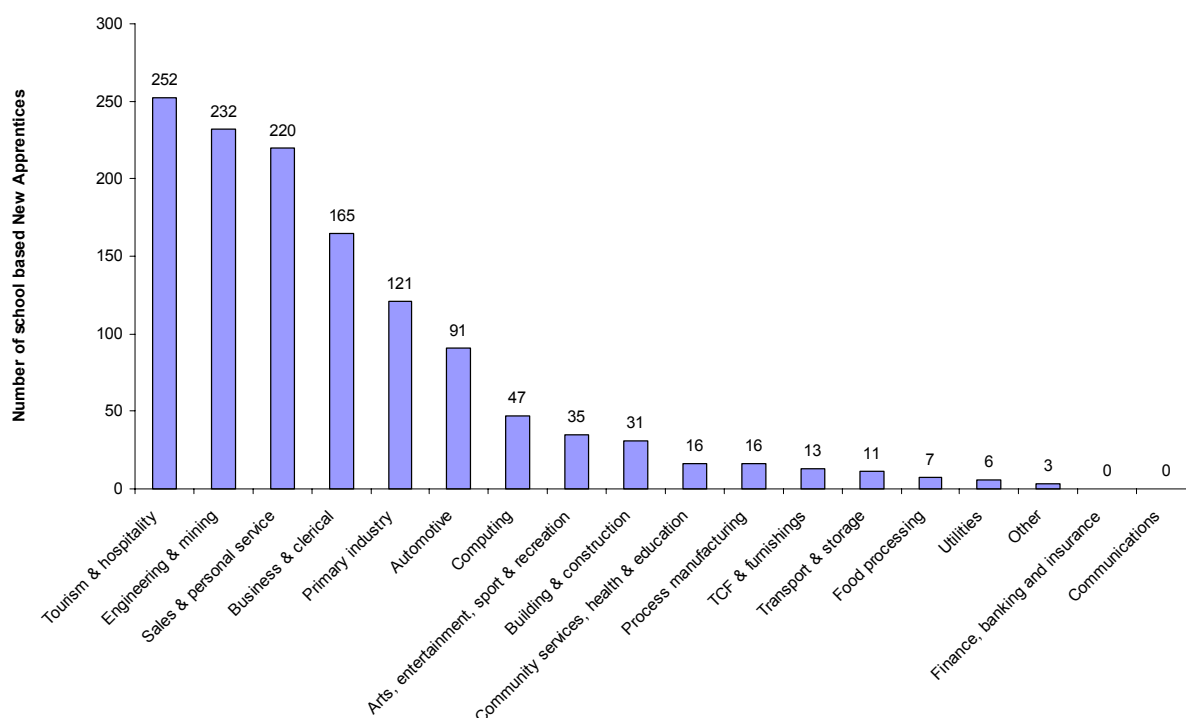
For 1998 these 1591 school-based new apprentices represented just 0.64% of Year 11 and enrolments or 0.8% of all apprentices and trainees.

A breakdown of the new apprentices by ANTA industry codes (figure 15) reveals a different profile from that for VET-in-Schools students (figure 8). Just over two-thirds (68%) of school-based new apprentices are concentrated in four industry areas—tourism and hospitality (20%), engineering and mining (18%), sales and personal service (17%) and business and clerical (13%).

This pattern is significant in that other than engineering and cooking components in hospitality, these represent employers using the apprenticeship concept in new occupational areas.

What is of future interest is whether these employers are creating new positions to accommodate school-based new apprentices or are they converting existing jobs (part- and full-time) or apprenticeships to the new format? If there is a significant element of conversion of pre-existing jobs and apprenticeships to school-based new apprenticeships, then this might be seen as shifting some of the provision of 'end on' school leaver entry-level training away from TAFE institutes to concurrent models within schools.

Figure 15: School-based new apprentices by ANTA industry code, Australia, 1998



Source: Spring 1999

There is clearly a need to monitor the growth and associated effects of school-based new apprenticeships as the system proceeds from its current fledgling program status.

Profiles and outcomes of participants in school-based vocational education

Data sources

Data to map student background characteristics with post-school destinations are more often than not collected and analysed by research agencies outside government. For Australia the main source of information about the socioeconomic backgrounds of students in schools who have pursued particular fields of study (such as vocational education) and their subsequent post-school pathways comes from the Longitudinal Survey of Australian Youth (LSAY).

LSAY is managed jointly by the Australian Council for Educational Research and DETYA with funding provided by the federal government and State/Territory governments. It is a national longitudinal sample survey that, for the past 20 years, has been conducting annual surveys of selected 16-year-old cohorts as they move through school to work and further education.

Other national data collections such as those from the Australian Bureau of Statistics (ABS) and the Ministerial Council on Education, Employment, Training and Youth Affairs provide aggregated data on students and schools (ABS 1998b; MCEETYA 1997), transition from school to work (ABS 1997) and labour force participation (ABS 1998a). Analysts such as Misko (1999) and the OECD (1999c) sift through these sources to provide a focussed and coherent story line, but do so in broad policy contexts such as youth transition from education to work and the development of lifelong learning skills. This is perhaps a reminder that vocational education and training provision is only one program means amongst many which contribute to a wider set of policy goals about youth.

Other researchers such as Polesel et al. (1998a, 1998b) investigate experiences and characteristics of vocational education and training participants but not on an ongoing national longitudinal basis. They also provide insight into interactions between student characteristics, learning environments and outcomes but are presented within the particular administrative and curriculum settings of Victoria.

Student profiles

At a national level, a series of analyses based on the LSAY data sets identify recurring socioeconomic profiles for those most likely to undertake vocational studies at school (Lamb et al. 1998; Fullarton 1999; Lamb & Ball 1999).

Lamb's 1998 study provides a threshold picture of youth who participate in vocational programs at senior secondary school immediately prior to the commencement of growth in school-based VET in 1995–96. It therefore establishes a useful benchmark to compare with later VET-in-Schools participant profiles. Participation is measured for the period 1991 to 1993 and covers enrolment in a vocational studies unit or subject in either Year 11 or Year 12.

As the study predates the declaration of a VET-in-Schools definition, Lamb used the following subject array to define vocational education:

Work studies	Secretarial/office studies
Materials and technology	Catering
Industrial technology	Tourism studies/travel agency practice
Farm practice/farm mechanics	Automotive mechanics
Business studies	Manual arts:
Industry studies	Woodwork/carpentry/furniture studies
	Metalwork/metal constructions

A similar but more structured framework is used in Lamb and Ball (1999). In this later analysis they divide the broadly defined 'vocational education and technology' stream into four subject sub-groups based on actual enrolment patterns:

- ❖ technical drawing, technology, general maths, computing
- ❖ agriculture, craft, technology, general maths, health, general science
- ❖ typing, secretarial studies, general maths, home economics, applied computing
- ❖ maths, industrial arts, industrial technology, technical drawing

Lamb et al. (1998) report that Year 11 and 12 students participating in vocational programs were more likely to have attended government schools and come from home backgrounds where parents worked in skilled or unskilled manual occupations. Females undertaking vocational programs were more likely to have mothers who were Australian-born English speakers (table 7).

Of those students enrolled in vocational subjects, over 70% came from families where the wage earner was classified as being in a skilled or unskilled manual occupation (males 75%, females 70%). Over 80% attended government schools (males 89%, females 84%) and over 70% came from Australian-born English-speaking mothers (males 72%, females 76%).

Table 7: Participation in VET at secondary school by gender and other selected background characteristics,* early 1990s

	(A) Rates of VET participation for all Year 11 & 12 students**		(B) Characteristics of Year 11 & 12 students doing VET		(C) Characteristics of Year 11 & 12 students not doing VET***	
	Males	Females	Males	Females	Males	Females
Parents' occupation						
Professional	9.6	8.9	8.6	11.3	12.5	15.7
Clerical	11.0	9.8	16.2	19.0	20.2	23.9
Skilled manual	14.1	14.7	42.6	45.1	39.8	35.9
Unskilled manual	15.4	12.1	32.5	24.6	27.5	24.5
			100.0	100.0	100.0	100.0
School type						
Government	15.5	13.7	88.8	84.2	79.1	73.0
Catholic	8.5	8.2	10.8	13.0	19.0	19.0
Non-Catholic private	3.4	5.2	0.4	2.8	1.9	7.2
			100.0	100.0	100.0	100.0
Mother's country of birth						
Australia	14.1	13.4	71.5	75.8	71.2	66.8
Other English	15.8	12.4	9.9	12.6	8.6	12.1
Non-English	13.1	7.2	18.5	11.6	20.2	20.4
			100.0	100.0	100.0	100.0
Rural or urban						
Rural	12.9	13.3	29.7	33.7	30.0	32.8
Urban	15.0	11.6	70.3	66.3	68.9	65.1
			100.0	100.0	100.0	100.0
All	14.1	12.1	51.9	48.1	47.4	52.6
N	1651.0	1781.0	232.0	215.0	1419.0	1576.0

Notes: * Participation is based on enrolment in at least one subject, course or unit of vocational studies in Years 11 or 12

** Each cell=100

*** As reported by Misko (1999)

Source: Lamb et al. (1998)

Fullarton (1999) used 1996 and 1997 data from LSAY to explore the characteristics of students who undertook either work experience or work placement in Years 11 and 12. Using students undertaking workplace learning programs in Year 11 as an approximation to VET-in-Schools, she found similar socioeconomic status profiles to those identified by Lamb. Using participation rate measures Fullarton found that students doing workplace learning were more likely to come from parents with skilled and unskilled occupational groups who had not proceeded beyond secondary education, and who lived in regional or rural/remote locations. Students doing workplace learning programs were also more likely to come from government schools and be in the lowest quartile of achievement in maths and reading.

Ainley and Fleming (1997) also found that school-industry programs were more extensively provided by schools in provincial cities and country towns than in capital cities or rural areas. Malley et al. (2001 forthcoming) found that this pattern had been maintained in 1999 (table 5). A postcode analysis by Ainley & Fleming (1997) also found that the two lowest-ranked areas on socioeconomic status had the most frequent provision of school industry programs in Years 11 and 12.

Lamb and Ball (1999) investigated the links for Year 12 students between socioeconomic status, school achievement and subject choice using 1990 and 1994 data sets from LSAY. With regard to socioeconomic status, they found that generally (but not all) ‘... students from lower SES origins tend to have the highest levels of enrolment in courses combining the lowest level of maths with health sciences and physical education, or business studies and humanities, or vocational education and technology’ (p.10).

When comparing Year 12 participation rates in vocational education and technology across school sectors, Lamb and Ball also found that low achieving students in Year 12 tended to favour vocational education and technology options. Approximately 19% of students from the bottom two quartiles of achievement enrolled in these types of courses.

They also report a continuing difference between government and non-government schools. In their study 14% of Year 12 government school students were enrolled in vocational and technology subjects compared to 8% in the Catholic sector and 4% in independent schools. Four years later (1998) these relativities are maintained, but as Spring (1999) reports, the Year 11 and 12 vocational enrolment proportions by 1998 were 37% for government schools, 22% for Catholic and 14% for independent.

These analyses suggest that there has been a relatively stable profile of students undertaking vocational pathways in senior secondary schools since at least the early 1990s. This profile is one where vocational students are more likely to come from non-metropolitan lower socioeconomic English-speaking backgrounds, and to be in the lower quartiles of achievement within government schools.

The suggestion that this profile has not significantly changed from the early to the mid-1990s should raise questions about the way subjects and curricula are designed and offered to students.

Case study evidence (Malley et al. 1999) suggests that schools offering vocational programs address this issue in different ways. In those schools offering streamed vocational options they are seen as one way of providing a viable and relevant pathway for students who might otherwise leave early, or just choose not to continue with tertiary studies. The dilemma with this approach, however, is that while many students self-select into these options, many teachers, students, parents and employers attach a status to the vocational stream below that of the academic stream. Other schools provide vocational options on a whole-of-school approach, arguing that all students need some degree of exposure to applied learning models and workplace values. Not many schools in Australia pursue this model in Years 11 and 12.

The socioeconomic profiles described above are therefore likely to be maintained as long as schooling systems offer vocational learning as an optional stream. Those States and Territories which provide a variety of engagement levels in vocational programs, or a unified curriculum which includes vocational elements, are less likely to experience overt downwards status shuffling of vocational students and their programs.

Transitions, aspirations and outcomes

Outcomes of participation in vocational education and training, as measured by post-school destinations and intentions, are also important when evaluating this type of program.

Lamb et al. (1998) again provide a benchmark for the early 1990s by following up at age 19, the destinations of former Year 11 and 12 students who participated in vocational programs and comparing them with those who did not (table 8), and with those who left school in Year 10 (table 9).

A comparison of post-school destinations between the vocational studies group and the non-vocational group suggests differences in terms of future participation in education and training. Both males and females who studied vocational subjects at school were more likely to proceed into the post-school VET sector (53% of males and 51% of females) than those who did not study

vocational subjects (43% of males and 35% of females). But another group of former vocational studies students were more likely by the age of 19 not to have engaged in further education or training (38% of males and 36% of females) when compared with students who did not undertake vocational studies at school (28% for males and females).

Differences in outcomes between males and females who studied vocational school subjects might reflect the traditional male bias at that time of traditional apprenticeships and some TAFE courses. Males were more likely to go into apprenticeships (22% compared with 2% of females) and females were more likely to study at the diploma or certificate levels within post-school VET (27%) or else proceed to higher education (21%). The difference of further participation in higher education for females doing vocational subjects (21% compared to 9% for males) is of interest and requires further explanation.

Table 8: Post-school education and training activities of school VET participants to age 19, early 1990s (%)

	Males		Females	
	VET at school	No VET at school	VET at school	No VET at school
Total VET	53.0	42.7	51.3	35.4
Apprenticeship	22.4	13.2	1.9	1.9
Traineeship	8.2	4.3	12.6	6.0
Other TAFE	22.4	25.2	36.8	27.5
Higher education	9.3	34.1	21.2	43.2
No further education or training	38.4	28.4	35.8	27.7

Source: Lamb et al. (1998)

Comparisons of post-school outcomes for vocational students and early school leavers are also provided by Lamb et al. (1998) in table 9. That more early-school-leaving males continued on to post-school VET studies (70%) than either males who stayed at school doing a vocational stream (53%), early leaving females (44%) and vocational studies females (51%) is a surprise finding, explained by their movement into traditional apprenticeships and certificate studies in TAFE. This is why the proportion of early school leavers not engaging in further education and training is lower for this group than for those male students who stay and study vocational subjects (31% compared to 38%).

Of interest to the current policy debate is whether this group of early school leavers now stay on to engage in VET-in-Schools or school-based new apprentice programs. As discussed earlier, retention and age participation data covering this and later periods suggest that nationally, transfers from Year 10 to 11 and 12 have not substantially changed from the early-to-mid-1990s and up to 1998. If retention and participation rates for schooling have not substantially changed, what is happening in the labour market for these early school leavers? Are apprentice destinations from the 1996 to 1998 period still available to early school leavers or have they been absorbed into VET-in-Schools work-based learning places and school-based new apprenticeships? To know whether employers are engaging to some degree of switching or substitution between provision of traditional apprenticeship, structured workplace learning or different forms of new apprenticeship is important as it will impact on the job prospects for early school leavers and VET-in-Schools participants.

Table 9: Post-school education and training activities of school VET participants to age 19 (%)

	Males		Females	
	VET at school	Year 10 leavers	VET at school	Year 10 leavers
Total VET	53.0	70.6	51.3	43.8
Apprenticeship	22.4	38.4	1.9	6.6
Traineeship	8.2	5.4	12.6	6.6
Other TAFE	22.4	26.8	36.8	30.6
Higher education	9.3	0.0	21.2	0.0
No further education or training	38.4	30.6	35.8	56.6

Source: Lamb et al. (1998)

By comparing outcomes for Year 10 leavers with VET students in Years 11 and 12, table 9 hints at the limitations of attempting to confine analyses only to participants in vocational programs. Broader questions about transition to further education, training and or work of the 15 to 19-age-group, and particularly of early school leavers, imply that issues of connection and inclusion are important for the age cohort, not just those doing VET. The implication that vocational studies at school should provide both incentive and advantage to access particular jobs and courses requires comparative analyses with non-vocational and early schooling youth.

Lamb and Ball's (1999) later sample of only Year 12 students provides more comparative outcome information which illustrates broad and inter-related, but not absolute trends. They found that more than one-third of students undertaking any of the defined health sciences, physical education or vocational education courses not involving university qualifying mathematics had not entered into any form of further education or training by age 19. They also found that over a third of all students doing a vocational course in Year 12 had obtained an apprenticeship, traineeship or studied at TAFE by age 19. But finer analysis led them to a more differentiated conclusion:

... that while the study of vocational education and technology subjects in school is related to high rates of post-school VET participation, the participation is, relatively speaking, achieved through access to apprenticeships and traineeships rather than other TAFE courses. By comparison, entry to non-apprenticeship TAFE courses is much stronger among those studying 'arts and humanities' and 'sciences and humanities' subjects ...
(Lamb & Ball 1999, p.28)

Lamb and Ball (1999) examined the association of labour market outcomes for youth at age 19 with their participation in particular curriculum 'streams' during Year 12. They found that work status is associated with particular combinations of subjects taken in Year 12, and that students studying 'vocational education and technology' courses were more likely to seek entry into the workforce immediately after completing school than proceed to further education.

Detailed findings on labour market outcomes for 19-year-old youth who studied Year 12 vocational and technology subjects include:

- ❖ Other than those who undertook secretarial studies, they were under-represented in the 'sales persons and personal services' occupational sector of the labour market (less than 25% compared with between 33 to 50% for students from health science, physical education, arts and science subject combinations).
- ❖ The dominant occupational category for those who studied the 'technical drawing, technology, general maths and computing' stream was skilled trades (40%).
- ❖ The dominant occupational category for those who studied the 'maths, industrial arts, industrial technology and technical drawing' stream was labourer and related worker (30%).

- ❖ One in four students who studied a combination of 'technical drawing, technology, general maths and computing' experienced three or more spells of unemployment by age 19. This contrasts with the one in 20 students from more traditionally academic subject combinations.
- ❖ Since leaving school those who had studied arts and humanities courses and the combinations of vocational education and technology (excluding those doing agriculture and craft sub group) spent more than 50% of their time unemployed.

Lamb and Ball also reconfirmed the earlier finding (Lamb et al. 1998) that early school leavers were more likely (26%) to engage in further education (most likely because of apprenticeships) than were Year 12 completers (less than 20%) who studied vocational and technology subjects.

A Victorian study of post-school destinations of VET-in-Schools students (Polesel et al. 1998a) presents a more optimistic picture than that presented by Lamb et al. (1998) and Lamb and Ball (1999). They report that for the 1997 graduates of VET-in-Schools programs, 58% were continuing in some form of further education and training (including 21% in university, 31% in the post-school VET sector), 17% were in apprenticeships or traineeships, 14% were in full-time work, 5% were in part-time work and 6% were unemployed. One explanation for the differences in outcome between this study and the LSAY-based studies of Lamb is the particular context of VET-in-Schools in Victoria. At that time Victoria only had 15% of its Year 11 and 12 enrolments in VET programs where most programs required a two-year commitment to complete a full AQF certificate of study within the VCE framework. Another is that the Victorian data report on Year 12 completers whereas the Lamb et al. (1998) data report outcomes for a youth cohort, some of whom did not enter or complete Year 12.

Issues and directions

The above data on vocational education and training in senior secondary schools are incomplete and partial, illustrating both positive and negative features. On the positive side there can be no doubt that, at a national level, a remarkable change has occurred in Australian secondary education with the inclusion of a nationally agreed vocational framework into the school systems of each State and Territory. Given the history of Federation and State prerogatives in school education, the agreement by ministers to follow a national framework for VET-in-Schools is significant (MCEETYA 1998a). However, the reality of federalism is that while national agreements are reached, their implementation resides with the various State agencies and structures responsible for schooling, school certification and curriculum, and post-school training. This issue is conveyed in the data in that while nationally there has been a remarkable growth of enrolments in VET-in-Schools, a disaggregated analysis indicates that it has been uneven across States, vocational areas and locations. It is this unevenness of student and school participation that leads to questions about the directions and intentions within each State for including vocational programs within the senior school curriculum. This unevenness also leads to questions about the capacity of systemic data systems to assist in the evaluation of policy intentions and the efficacy of structural and procedural arrangements for VET-in-Schools and other forms of vocationalism.

National level data are largely shaped by bilateral agreements about the implementation of a post-school sector definition of VET. We have presented some data on school-based concepts of vocational education centred on the activity of work-based experiences to illustrate that there are other vocational forms not included in the national enumeration of VET-in-Schools participation. The focus on VET-in-Schools and the rigidity of data definition and reporting suggests that, while policy intentions refer to cross-sectoral integration, the reality is that it tends to be about the integration of only one program type. Being program and systems focussed, little data are available on the longitudinal pathways of students, forms of delivery, and employer participation. The descriptive nature of much of the available data, while numerically indicating achievement of national policy goals, does little to provide insight into structural and procedural issues at the school or community level. Thus national policy and data on VET-in-Schools remains

largely descriptive and responsive and not evaluative or analytic in a way that continually advises and shapes.

Further examination of the available data on the profile of vocational programs in secondary schools suggests that very few of the State systemic data processes are set up to measure the outcomes or pathways of students. Yet this is a declared policy goal (improved pathways into jobs or further education). Answers to student profile and pathway-type questions come from other sources (for example, LSAY).

The data frameworks for reporting VET-in-Schools are however subject to ongoing development as each State attempts to bring traditional reporting mechanisms into line with requirements for new national concepts and funding mechanisms and more flexible approaches to policy development. The quest for appropriate and meaningful quantitative data inevitably leads to fundamental questions about the intent and future directions of vocational learning in senior secondary schools.

What is the purpose of school-based vocational education? Is it about students acquiring occupationally specific skills and competencies to a particular standard currently demanded by industry? Or is it about achieving a number of equally valid objectives such as achieving competency in a set of generic core skills, acquiring first-hand experiences to aid in career selection, maintaining engagement with education and training systems, as well as acquiring specific industry or occupational skills? Is the successful transfer to a full-time job with a training component before completing 12 years of continuous schooling a valid outcome? The variability of VET-in-Schools enrolments and the suggestion that schools are offering other vocational programs outside the NTF prompt this question of purpose.

Of course the available data cannot answer these questions but serve a useful purpose by identifying them. Through closer analysis of how vocational programs are implemented at the school and systems level we can gain insight into them. Analyses of this sort occur in the following chapters.

This youth and workforce agenda promoted a new policy environment couched in terms of convergence between general and vocational education, school and post-school frameworks, education, work, training and welfare, and focussed on the secondary school and the post-compulsory age group. To some extent convergence of structures and processes occurred (and continues) but its administrative manifestations suggest that this has not been an easy task and will continue to change. Convergence of course does not mean equal standing of areas of inquiry or access to policy formation. Integration of policy domains in vocational education has been characterised by the gradual dominance of a macro economic paradigm about international competitiveness and depth and flexibility of skill in the Australian workforce over other educational and welfare paradigms concerned with improved youth outcomes and the general quality of secondary education.

One reason for this is that there has been little concept or experience of co-ordinated and convergent policies of 'post-16 education and training' or 'education and training for 16–18-year-olds', as is common in European discourses (OECD 1990, for instance). Nearly all of the reviews of upper secondary education that took place in Australia during the 1980s ignored the non-school (mainly TAFE) programs for the school age cohort, and the potential vocational aspects of upper secondary education.¹²

Those that have been completed in the 1990s have tended to follow or reflect developments that have already taken place within the schools or the systems. During the most dynamic stage of post-compulsory education—the late 1980s, when retention rates were rising rapidly—institutional separation was reinforced in a number of States through a clear demarcation of post-

¹² The Blackburn report (1984) in Victoria was a partial exception, with its interest in the world of work and broad vocational specialists.

compulsory Territory.¹³ Consequently, senior secondary certificate reforms took place in the virtual absence of VET agendas, and the VET system progressed towards national competency-based arrangements in the complete absence of school participation. This separation partly explains the emergence of the two models of vocationalism when convergent policy responses to youth and labour market issues commenced in the early 1990s. The later 1990s were then characterised by a continual process of accommodation from each model for the other, but with a clear dominance of the post-school model over the schools model. This has meant that schools have accommodated the values of the labour market and the post-school VET sector within their traditional concerns of general education provision and duty of care for the student. On the other hand, TAFE institutes have been slow to accommodate the curriculum, resourcing and timetable issues of schools and the extended care, job placement and community partnership models developed by them and their communities.

¹³ There is evidence to suggest that this response was essentially managerial, and was not necessarily supported by governments and their ministers. Victoria provides an example of this. Vocationalism and the role of the VET sector was addressed in the original Blackburn Report (1984), and this agenda for greater integration was supported by the then Education Minister (Cathie 1989). Yet an 'agreement' was structured between the Victorian Education Department and the Office of the State Training Board to divide up the post-compulsory territory and to maintain strong institutional separation. It took several years before minimal and ineffective one-way credit transfer arrangements were agreed by the State Training Board and the Victorian Curriculum and Assessment Board.

5 The implementation of VET policy for Australian secondary schools

Introduction

The 1992 entry of the federal government into the field of senior secondary school vocational education set in train a complex set of interactions between federal and State agencies, and between them, schools and their communities. In this environment the implementation of vocational education became an ongoing process of adjustment between the policy directions of the federal government and its agents, interests of State and Territory education and training authorities, and the practical requirements of schools, students and communities of interest. In this chapter these three planes are used to identify the changing and related policy, program and organisational influences on the implementation of vocational education in Australian secondary schools.

Using this model two periods of implementation are described. The first, from 1992 to the end of 1995, is characterised by a different style of federal intervention into school-based vocational education and a small group of creative program designs that provided models of practice for the subsequent period. Initially this intervention occurred through the AVCTS and then the ASTF, each with limited objectives about reform of training systems and the creation of skilled job pathways for youth. The second period from 1996 to 1999–2000 is associated with a new federal government and its complex set of nested policies designed to change the nature of post-compulsory secondary education in Australia. This wide set of objectives expanded the role of vocational education from narrowly defined training and employment outcomes to broad ones about reform of secondary education, youth welfare and integrated service provision. The key elements in this plan were:

- ❖ the promotion of vocational education and training into secondary school systems to change the balance of the curriculum towards the 60 to 70% of Year 11 and 12 students who did not proceed directly to university
- ❖ alignment of that vocational education with the National Training Framework developed by the post-school VET sector and co-ordinated through ANTA, and presented as either a VET-in-Schools or new apprenticeship initiative
- ❖ the provision of limited-term funding to the States and Territories

This second period is drawing to a close and a review of it conveys mixed and incomplete signals of acceptance and reluctant compliance from the States and schools. Implementation at this stage does not mean uniform acceptance and provision of vocational education as specified by the NTF across all State and Territory schooling systems. It means that, while an in-principle agreement has been given by ministers to its implementation, selected elements are being tested, modified and absorbed into the curriculum and accreditation structures of each State and school.

In developing policies and procedures about the implementation of vocational education in schools within a four-year time frame, little attention has been paid to evaluating the effectiveness of provision on students and schools, and how programs might be better designed and

implemented. Without this type of understanding, policy and resource development by central agencies tends to be prescriptive and free from the influence of local experience or context.

Consequently initial information has focussed on defining and counting engagement in designated vocational programs (MCEETYA 1999b; Spring 1999). This has been supplemented by occasional snapshot surveys describing other aggregated elements of school provision (Ainley & Fleming 1995, 1997) and school case studies reporting on processes, structures and program evolution (Cumming & Carbines 1997; Spark 1998; Malley et al. 1999). Longitudinal studies on student profiles and outcomes are few (Lamb et al. 1998; Lamb & Ball 1999; Fullarton 1999; Polesel et al. 1998a, 1998b), as are either longitudinal or comparative studies on organisations engaged in the provision of school-based vocational programs (Carlin & Leger 1998; Willett 1998). With this information profile there has been a tendency to present implementation as increases in numbers over time.

Stern (1999a) and Stasz (1999) draw attention to the difficulties of systemic evaluation of vocational programs and explain that if structural change is to be guided by outcomes, then there is a need to progress beyond aggregated counts of participation and enrolment. Brewer and Gray (1999) suggest that if workplace learning is a vital component of vocational education, then the type and quality of formal and informal links between schools and workplaces are also important to the success of a program. An evaluation of implementation therefore requires measures of participation, learning outcomes and organisational linkages, structures and processes. Such evaluation data at federal, State, regional, individual school and community level requires a long-term commitment to an integrated research program not yet in place. For the moment the judgement of success of vocational programs in schools is derived from aggregate measures of enrolment and participation, with some partial and fragmented data on pathways and outcomes.

There is a need to progress the evaluation and development of vocational education beyond traditional school-based constructs and performance measures and to perhaps focus on the transition pathways and outcomes of youth. Vocational education could then be considered in terms of education, training and employment outcomes over an extended period of time rather than on more immediate measures of retention to Year 12, enrolment levels, ENTER scores and direct transfer to TAFE institute or university.

Conditional funds and creative solutions—from 1992 to 1995

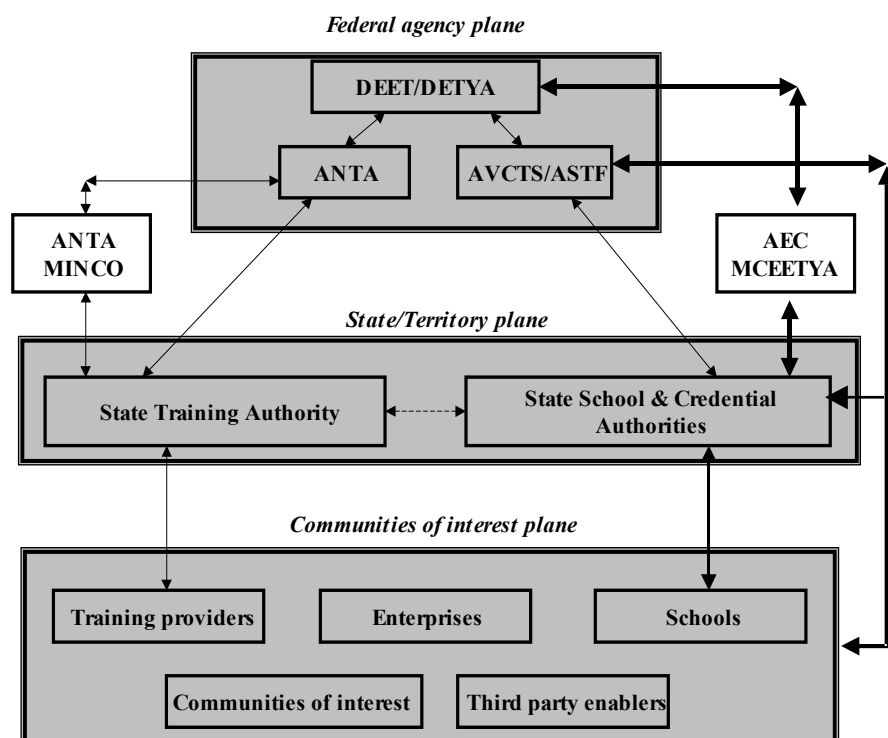
This first period of change established the use of targetted pilot funds with 'sunset' periods and expected contributions from participants as the ongoing form of federal intervention into this area. While this process initially appeared successful in developing systemic and school-based examples of change, an ambiguous specification of transfer mechanisms and ongoing responsibilities meant that projects were tenuously absorbed into State systems of general secondary education. The ongoing use of this procedure by successive federal governments created some confusion with States and Territories. On the one hand, a leadership and change agent role is claimed by the Commonwealth on the basis of a national priority; on the other, this is presented as temporary and conditional. While this might be a standard response to federalism in a traditional area of State sovereignty, it has encouraged the States and Territories to maximise federal government input on the strength of the argument that it is a federal initiative anyway. This form of policy implementation often leaves ambiguous spaces at the end of sunset periods for practitioners whose responsibility it is to continue the program and its funding.

The Australian Vocational Certificate Training System

The impetus for change to school vocational education provision came from the federal to the State plane when State Ministers accepted the AVCTS report and its federally funded pilot program (AEC 1992). The AVCTS was a culmination of activities of the federal government during the late 1980s when it was intent on reforming the Australian TAFE training system by making it more responsive to industry (Ryan 1999). Given this background, the AVCTS was

intended as ‘... a medium to long term response to structural adjustment and concomitant training needs ...’ and was not designed to be ‘... a response to youth unemployment in the current recession ...’ (ESFC 1992). In seeking to trial various components of the AVCTS, a small proportion of pilot funds were directed to schools through State agencies to allow experiments with mixed pathways of academic and workplace learning and to develop programs to assist youth to transfer to post-school apprenticeships and traineeships.

Figure 16: Map of the interactions between entities engaged in the implementation of VET in the senior secondary years of schooling, Australia, from 1992 to 1995 inclusive



To initiate change, joint federal and State committees allocated limited funds to school and systemic proposals that met AVCTS guideline specifications. This selection mechanism was critical to achieving the federal purpose of testing particular elements of the new national system of training and laid the foundation for future grant procedures used by the ASTF. It provided federal agencies with a means of dealing directly with schools as grant recipients, while at the same time working alongside State education agencies on systemic issues. This dual path of federal influence is illustrated in figure 16 by the equally weighted lines connecting the AVCTS/ASTF with State authorities and schools. These AVCTS pilot funds to schools and school systems generated an unexpected response to extend the pilots and an accompanying demand for more funds.

By the end of 1993 most State and Territory school authorities had some form of credit transfer or articulation arrangement in place to allow for recognition of school-acquired vocational outcomes when students later enrolled in TAFE courses. While these arrangements varied from State to State, and often between TAFE institutes in the same State, their existence meant that the AVCTS did not enter an empty vocational space in secondary school systems. Kennedy et al. (1993) noted that while a range of vocational programs were part of most school systems at that time they ‘... were not co-ordinated at the school level and not integrated into the mainstream curriculum’. Schools and school systems therefore tended to use existing vocational curriculum and certification structures to marginally locate AVCTS initiatives rather than create new ones (Curriculum Corporation 1994).

Two major themes dominated the school-based AVCTS pilots: the design of appropriate vocational curricula and credentials for Years 11 and 12, and exploring appropriate

administrative and resource arrangements to enable the integration of school, TAFE and industry activities. In 1999 these themes continue to be the basis of discussion between federal, State and school entities.

A general vocational theme

In the 1993 to 1995 period several States and pilot projects were developing both general and skills-specific vocational courses. Enrolments in general vocational qualifications such as the Work Education Certificate as used in some Queensland and Tasmanian schools, stage 1 of INSTEP in WA and industry studies in NSW suggest that they were meeting the needs of particular students and employers for broad-based, work-related education (NCVER 1994). At that time the preferred interest of federal agencies and industry training boards for industry and occupational skills associated with national industry standards left the development of general vocational skills to each State curriculum authority and individual schools. This two-pathway approach to vocational learning seems to have been left out of the post-1996 specification of the National Training Framework.

Co-operative approaches to vocational provision

The other repeated theme from the AVCTS school-based pilots was that co-operative vocational programs between enterprises, clusters of schools, TAFE colleges and other third parties could be developed and managed locally. These projects were accommodated within State curriculum and credential frameworks but required different levels of resourcing and organisation if they were to become established as part of the mainstream offering of schools. From this period most of the operational models and principles for the yet-to-come VET-in-Schools and school-based new apprenticeships were trialled. Co-operative inter-sectoral and cross-sectoral clusters, school provision of advanced level national vocational courses using competency-based assessments, specialist vocational senior secondary schools, industry-sponsored clusters, schools as job brokers and trainers, and provision of a mixed contract training with schooling all appeared during 1993 and 1994. (NCVER 1994; Malley 1994; Malley et al. 1999). The success of these pilot programs left a groundswell of raised expectations with schools and State agencies asking how these new programs would proceed once the federal pilot funds were consumed.

How lessons and models were to be transferred from federal pilot funds to State education systems was not fully explored during the AVCTS period. While funding conditions imposed on pilot programs by the Department of Employment, Education and Training required contributions from program participants, and implied that at completion they would become responsible for funding the continuation of the program, this was never made explicit. For many of the school-based pilots this meant that, by the beginning of 1994, there were no additional funds to continue the pilot vocational programs. This condition became a source of contention between State and federal agencies in that States considered such a short-term, kick-start funding mechanism was inconsistent with other federal funding approaches to national reform at a time of rising youth unemployment and loss of full-time jobs to the youth labour market.

The AVCTS and ANTA

By late 1994 ANTA had completed a review and consultation exercise on the implementation of the training reform agenda and the AVCTS (ANTA 1994a). In considering the AVCTS it proposed that it become an overarching concept to be absorbed into the Australian Qualifications Framework. With regard to schools ANTA then proposed that the AVCTS should cover ‘... school students who should be able to access the National Qualifications Framework by undertaking vocational subjects, including work experience, while remaining at school’ (ANTA 1994a, p.25) but at the same time noted there was uncertainty about the process for implementing the AVCTS. ANTA did not identify delivery or resourcing issues for schools as contributing to this uncertainty, implying that this was the responsibility of States and Territories. The preoccupation of ANTA with the training reform agenda and the post-school TAFE agencies

meant that during the formative stages of the NTF, secondary schooling experiences with, and approaches to vocational education were not considered.

The Australian Student Traineeship Foundation and the promotion of work-based learning

State and Territory concerns about vocational program resourcing were partly relieved when in 1994 the federal government through its *Working nation* white paper announced the creation of the ASTF. The intent of the ASTF was to extend the concept of co-operative school–industry programs established under the AVCTS and in doing so become ‘... a national industry body, at arms length from government, responsible for developing and supporting school–industry programs through a network of local and regional training brokers’ (Australia 1994, p.93). In ASTF-supported projects ‘student trainees’ in Years 11 and 12 would be able to combine school-based studies with work experience and off-the-job training and provide the opportunity for apprenticeship and traineeship qualifications to be achieved in a shorter period after leaving school. The ASTF was initially designed to have a four-year lifespan, during which it would seed-fund co-operative school–industry programs throughout Australia. By the end of this four-year period it was expected that individual schools or schooling systems would be able to sustain programs without federal grant funds. How this would occur was not made explicit but schools were encouraged to meet this goal through a combination of reduced curriculum offerings, reassigned budgets, student fees, employer levies and in-kind contributions, and additional resources from State governments.

During 1995 the ASTF quickly established field officers who visited most States and Territories and negotiated simultaneously with central school agencies and individual schools. Direct funding of local school–industry proposals that satisfied their guidelines commenced late in 1994 and became widespread throughout 1995. Building upon successful AVCTS pilot programs and approaching new schools directly, the ASTF was able to claim that, by the end of 1995, some 46% of Australian secondary schools were running school–industry programs (Ainley & Fleming 1995).

School–industry programs as initially defined by the ASTF became a subset of vocational education in that they:

- ❖ involved Year 11 and/or Year 12 students
- ❖ reflected industry and local community requirements
- ❖ required students to spend time learning in the workplace as part of the program

At this time ASTF-supported school–industry programs did not necessarily:

- ❖ specify the type of learning provided in the workplace
- ❖ set minimum workplace attendance times
- ❖ have to be approved by the training sector or a school curriculum authority

These relaxed conditions provided scope for many schools to experiment with custom-made vocational programs for local enterprises. These relaxed conditions later changed when ANTA, the NTF and MCEETYA agreements constrained support to ‘approved’ vocational courses.

From late 1995 State school agencies and ANTA gradually exerted pressure to ensure that ASTF-funded programs conformed with national and State requirements for school and vocational certification. At this time the chance was lost for a national agency to pick up the demonstrations of need from the pilot projects for a general vocational qualification and to carry them into the formation of the National Training Framework. However, after accommodating the NTF, the ASTF continued its focus on work-based learning and co-operative arrangements for learning. With this focus and continual feedback from schools through web-based networks (<http://www.veco.ash.org.au>), field officers and subsidised conferences and staff development,

the ASTF maintained a set of priorities different from State and federal education and training authorities.

The ASTF focus on workplace learning and school–industry links created new pressures within schools for resources. While ASTF grants initially covered most costs for workplace co-ordinators, they presented schools with other problems:

- ❖ They were limited in duration.
- ❖ They required contributing inputs from the school and its partners.
- ❖ They required the establishment and servicing of management committees with industry representation.
- ❖ They required development of forward plans to demonstrate longer-term program sustainability in the absence of grant funding.

For most schools, whether they were in clustered co-operative arrangements with others or stood alone, these requirements added to the existing curriculum and workload of schools and individual teachers. Many government schools could not meet the overall costs of the ASTF-style work-based vocational course, from grants and donations so either charged fees for instruction (often disguised as materials costs), diverted funds from the overall school budget or made representations to State and regional agencies for more resources.

By the end of 1995 State and Territory governments were aware that the ASTF-style of vocational program with extensive work-based learning could not be supported within the existing curriculum, organisation and budget configurations for schools without additional resources.

Inconsistencies with the TAFE sector

Another source of tension emerged when some schools seeking access to TAFE facilities for their students were charged tuition fees. Some States and TAFE colleges, in following the profile agreements with ANTA, charged a higher rate for school students than for TAFE students enrolled in the same course. The separation between school and post-school organisations meant that in States such as Victoria, school students undertaking vocational courses were being charged either fees (directly or indirectly) to complete what otherwise should have been a free and secular secondary education.

The role of the Ministerial Council on Education, Employment, Training and Youth Affairs

In response to the emerging demands on schools and systems for additional resources to support this vocational education expansion, States and Territories began to use MCEETYA and its committee structures to discuss and develop strategic responses to the Commonwealth. The MCEETYA VET in Schools Taskforce then became a major clearinghouse and provider of consolidated advice to ministers on the implications of Commonwealth policy.

The expansion and systematisation of school-based vocational education and training, 1996–99

In the lead-up to the 1996 federal election the Liberal and National Party policy statement on schools and TAFE declared that a Coalition Government would recognise the constitutional and statutory responsibilities of the States and Territories to conduct education and training at the local level. It also stated that ‘... we (the Coalition) believe that the Commonwealth has an important role in the guiding of national directions and priorities and the provision of funding support’ and proceeded to pledge \$20 million annually of ANTA funds to the States and Territories ‘... to support accredited vocational education and training for school students at the

senior secondary level' (Liberal Party of Australia 1996, p.4). This set the Commonwealth agenda for the next four years and was a clear message to the States that it was going to intervene to promote a national approach to vocational education in senior secondary schools.

After the 1996 election the government pursued its vocational agenda for schools through four major policy elements:

- ❖ establishment of a national system of industry-determined training standards (the NTF) to complement the already approved AQF
- ❖ reform of the apprenticeship system (new apprenticeships) to allow more flexibility for more young people and employers to train under a contract, on either a part-time or full-time basis. For schools and students the attraction was the promise of pursuing a part-time new apprenticeship while at the same time completing an end-of-school certificate
- ❖ a national competition policy for vocational training to ensure choice of training by employers and students
- ❖ continuation and extension of the ASTF program of funding school-industry initiatives and work placement co-ordinators

A selective chronology from 1996 identifying Commonwealth policy initiatives that shaped vocational education in schools, and some collective State responses to them, is presented in table 10.

The changes achieved by the end of this four-year period (1996 to 1999 inclusive) are significant:

- ❖ all State and Territory governments have endorsed the Commonwealth principles for implementing vocational courses in secondary schools
- ❖ most secondary schools provide approved VET courses (at least 80%)
- ❖ at least 34% of Year 11 and 12 students are enrolled in them

While the Commonwealth principles have been accepted by State and Territory ministers, subsequent reviews on practice and implementation suggest that implementation has slowed due to technical, administrative and financial difficulties. There is a suggestion that some States and other stakeholders want to negotiate a restructuring of elements of the original framework to accommodate emerging practices and experiences from the field (ACACA 1999; MCEETYA 1999a; ASTF 2000; Business Council of Australia 2000). In these reports vocational education has become fused into broader concepts of general education, lifelong learning and youth service and thus has a different context and orientation from the vocational education specified in some training packages. The general tenor of these reports is to support national concepts of certification but to design mechanisms that allow local and co-ordinated responses.

Underpinning Commonwealth objectives

Two objectives underpin the Commonwealth reforms identified in table 10. One is the development of a competitive Australia through the promotion of a high-quality skilled and efficient workforce. The other is a desire to improve school retention and post-school transfer rates and reform upper secondary school curricula through vocational education. The federal minister explained the rationale behind this expanded vocational intent in early 1997:

A decrease in the national school retention rate highlighted the need for the Federal government's expansion of vocational education in secondary schools ... A significant proportion of students are dropping out of school because the curriculum is not relevant to their needs and interests ... vocational education reforms would make the curriculum more relevant to the needs of students seeking employment or quality training after Year 12, encouraging them to complete secondary school ...

About 65% of students do not go on to full-time tertiary study. Many of them are seeking an education which emphasises skills training that will lead to a job. That emphasis has been missing

until now. If schools are to retain these students, they must accommodate a wider range of abilities and interests in the curriculum than is currently the case.
(Kemp 1997)

Table 10: Selected chronology of Commonwealth and State/Territory policy events related to the implementation of VET in schools

Year	Event	Comment/summary
March 1996	Federal Coalition Government elected.	Platform of reform for school and post-school VET through NTF, user choice and new apprenticeships (formerly MAATS); VET-in-Schools to be a centre piece of secondary school reform and to receive increased funding for a four-year period from ANTA and ASTF. Budget announced for a school-to-work package of \$187 million for the 1997 to 2000 period consisting of: \$80 million of ANTA funds \$23 million of VET-in-Schools funds from the School to Work Program \$40 million for the ASTF \$38 million for workplace co-ordinators, via the ASTF \$6 million for the Jobs Pathway Program
November 1996	National Training Framework endorsed by Ministers of VET.	In-principle endorsement by ministers to the major features of the NTF including training package concept and associated industry competency standards and assessment guidelines. NTF links qualifications to the Australian Qualifications Framework.
July 1996	MCEETYA endorses commitment from Ministers of VET to provide \$20 million annually for VET-in-Schools from 1997 to 2000	Sets 1996 as baseline year for measuring VET growth in schools. Also sets guidelines for use of ANTA funds by schools and school authorities.
May 1997	Australian Recognition Framework as part of the NTF agreed to by Ministers of VET to be in place by Jan 1998	The ARF sets requirements for the registration of registered training organisations for the delivery, assessment and certification of training packages.
June 1997	Principles and framework for new apprentices for school students document endorsed by Ministers at MCEETYA.	Proposes that there should be no difference in funding and administrative arrangements between school-based and non-school-based new apprenticeships, as each requires a training contract and an employer. Overlooks some logical issues where a school delivers the same additional curriculum to new apprentices and VET-in-Schools.
December 1997	ASTF charter extended.	ASTF to also extend school–industry programs to Years 9 and 10, encourage greater industry leadership in programs, and provide greater support to small & medium enterprises.
April 1998	1. MCEETYA Ministers endorse six principles to underpin the implementation of VET-in-Schools. 2. Discussion paper on proposed common and agreed goals for schooling for the 21st century released for comment. 3. Vocational learning in Years 9 and 10. Discussion paper from VET-in-Schools Taskforce of MCEETYA.	1. Commits State and Territory school authorities to NTF, ARF and training package standards and procedures. 2. Proposes a set of national goals for schools with vocational education having an integral role in all levels of school curriculum. 3. Provides a basis for distinguishing between VET-in-Schools at Years 11 and 12 and broader based vocational learning in earlier years, but at the same time providing connecting activities
May 1998	Commissioned papers received by MCEETYA on overcoming	Useful reviews of Commonwealth and State legislative barriers. Both studies identify areas requiring attention but

Year	Event	Comment/summary
	obstacles to school-based apprenticeships and industrial relations issues of implementation	conclude there are no insurmountable barriers.
April 1999	<p>1. 'Partnerships for growth' paper from VET in Schools Taskforce.</p> <p>2. Report from the Australian Curriculum, Assessment and Certification Authorities on curriculum, assessment and certification of VET-in-Schools.</p> <p>3. Ministers endorsed a new set of national goals for schooling in the twenty-first century. The new goals were released in April 1999 as <i>The Adelaide declaration (1999) on national goals for schooling in the twenty-first century</i>.</p>	<p>1. Provides comprehensive overview of VET-in-Schools growth and presents a series of recommendations for future directions, including cost estimates and suggestions for extended Commonwealth funding. Essentially a State and Territory document.</p> <p>2. A review by State and Territory agencies, using Commonwealth School-to-Work funds, which documents implementation status of VET-in-Schools. Raises various State and Territory concerns about training packages and their impact on design and accessibility of VET courses. Also identifies impact of AVETMISS data requirements on ACACA members.</p> <p>3. Establishes agreed national goals which identify schools as learning communities where teachers, students and their families work in partnership with business, industry and the wider community; promotes vocational education and employment skills as part of the curriculum and sets a goal of participation in vocational education for all students in the compulsory years.</p>
November 1999	VET in Schools Taskforce of MCEETYA, paper on vision statement and principles for VET-in-Schools	Important paper as it brings forward State perceptions on differences between VET as defined by NTF/ANTA and school-based concept of vocational learning. First policy level discussion about integration concepts in secondary schooling.
January 2000	Bright Futures for Young Australians submission from the ASTF to the Commonwealth Minister	Brings together the many agendas of structured workplace learning and identifies the development of community through learning partnerships as a primary objective. Shifts SWPL emphasis from a marginal school exercise to an inclusive community activity to ensure integration of a range of economic, social and cultural activities for youth.
April 2000	'New directions, pathways to work: tackling long term unemployment', a discussion paper from the Business Council of Australia to the Prime Minister's Youth Taskforce.	In a different way also proposes a model for integrated provision of youth services at a local or regional level. As part of a proposed regional youth futures co-ordinating group, secondary schools play a key role in the provision of VET for post-compulsory youth and linkages to employment outcomes.

By 1999 the federal minister declared that the time for using vocational education as a lever of reform for senior secondary schooling had commenced and proceeded to identify the range of programs used to pursue this objective.

The redefinition and expansion of the role of schooling to cater for the 70% has begun. The focus of our efforts in vocational education and training has been on increasing the flexibility and choice, and ensuring effective outcomes measurement to lift standards. A key aspect to this change has been to break down barriers between work and business, and create an 'overlap' of knowledge and skills. Partnerships which benefit schools, businesses and the community are an essential element in the solution. We have:

- ❖ *encouraged the establishment of school-based New Apprenticeships in industries where strong employment growth is occurring as well as in traditional trades;*

- ❖ *with the co-operation of all States and Territories, established a framework for nationally recognised qualifications and providers of vocational education and training, based on industry-agreed national competencies;*
- ❖ *funded school to work co-ordinators to foster partnerships between schools and local businesses to deliver New Apprenticeships and other vocational qualifications through the Australian Student Traineeship Foundation;*
- ❖ *encouraged school systems to recognise in their senior certificates industry-recognised training delivered by enterprises in the workplace;*
- ❖ *improved the range of enterprise education initiatives through the Enterprise Education programme;*
- ❖ *established a network of brokers encouraging schools to take a pro-active role in job placement of school leavers through the Jobs Pathway Programme. This initiative is promoting significant cultural change within schools in the form of a greatly broadened sense of the responsibility of schools to their students; and*
- ❖ *these initiatives are beginning to increase school retention rates again and to expand the number of students engaged in vocational education courses in school.*

Still, more needs to be done to secure quality opportunities and pathways for the 70%.

(Kemp 1999b)

This policy framework goes beyond that given to the AVCTS in 1992 and the ASTF in 1994 and indicates a significant shift in the intentions of the Commonwealth regarding youth and post-compulsory secondary education. Vocational education includes the industry skills focus of the NTF but in this policy context is also placed within a broader general education framework that now has a considerable general vocational component.

To pursue these outcomes the Commonwealth continued to use conditional grants to the States (ANTA and ASTF funds were linked to supporting nationally accredited training which was NTF-compliant) and consultative processes through ANTA MINCO and MCEETYA on new apprenticeships and the application of the National Training Framework to schools. It also extended the life and charter of the ASTF to include Years 9 and 10.

The Commonwealth agenda worked at several levels. ANTA funds for vocational education in schools were tied to the adoption of the NTF conditions. Acceptance meant that States had to exercise more control over the flow of Commonwealth funds to schools and activities within schools. This is indicated in figure 17 by the stronger lines connecting State and Commonwealth agencies and with weaker lines going directly from Commonwealth agencies to schools. While the ASTF continued to support school-industry programs, this was now achieved through collaboration with State and systemic agencies first, and subsequently through schools. In this tightening-up of systems, control of many of the flexible conditions that promoted earlier local experimentation was lost. The adoption of the NTF and the ARF by State governments also meant secondary schooling curriculum and accreditation agencies had to respond to them after their key principles had been established.

The intention of ANTA towards the States and their pre-1998 provision of vocational education courses became evident in the consultation paper on the consistent application of the NTF within secondary schools. In this paper ANTA noted the growing vocational activity in secondary schools and declared that:

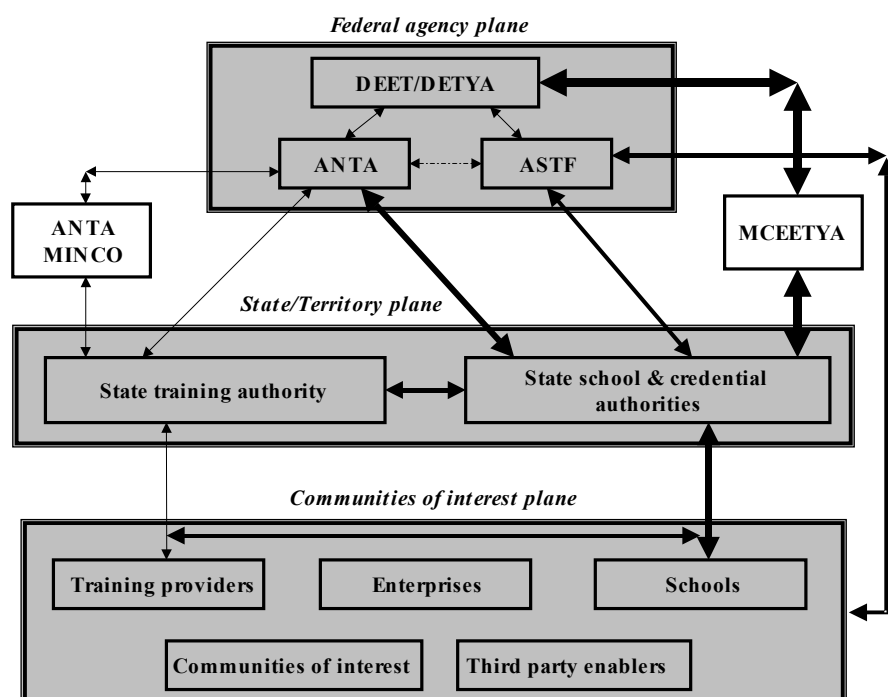
The major issue in relation to the implementation of the NTF within secondary schools is how to transform current VET activity into purposeful recognised training, including training through New Apprenticeships.

(ANTA 1998, p.1)

This consultation paper led to the later endorsement by MCEETYA (April 1998) of six principles to underpin the implementation of VET in schools which then committed each State and Territory to the incorporation of the NTF into senior secondary schooling as the *only* form of vocational

training. This agreement will have far-reaching effects as its implementation requires the phasing-out of vocational programs which do not comply with NTF requirements, which in turn will require more changes from schools and curriculum and accreditation authorities. The ACACA recommendation: 'That, State and Territory boards of studies need to be more formally recognised by ANTA in the monitoring and review of Training Package development and implementation' (ACACA 1999, p.38) suggests that NTF developments may not have been sufficiently consultative with State school agencies and schools about pre-existing vocational programs and procedures.

Figure 17: Map of the interactions between entities engaged in the implementation of vocational education and training in the senior secondary years of schooling, Australia late 1990s



During this period the ASTF expanded its interests from promoting school–industry programs to a broader vision of youth transitions and learning communities. By 1998 the ASTF, through a number of research, conference and electronic network initiatives, had accumulated sufficient experience and evidence to deliberately engage in a wider brief than the promotion of work-based learning for secondary schools. By degrees the ASTF became an advocate and change agent for integrated service provision to youth using the co-operative models of school–industry programs as a starting point. This broader purpose is reflected in their submission to the federal minister on community partnerships for future successful transition of youth to employment or further education or both (ASTF 2000).

However, the ASTF is precariously placed in that, being the principal agent in promoting structured workplace learning to senior secondary schooling, it is also the principal cause of additional costs to schools through the demand for workplace co-ordinators. This additional demand is a substantial component of the additional funds sought by States from the Commonwealth for vocational education and is identified by schools as the major cost factor to overcome if ‘sustainability’ of vocational programs is to be achieved. Funding sustainability was a goal raised by the ASTF for each school–industry program to solve, but remains problematic for most of them. The cost problem of SWPL will not necessarily disappear through the adoption of community learning models unless an additional ongoing funding source is found.

State and Territory plane

The States and Territories, while accepting Commonwealth leadership and short-term funds to establish a national framework for vocational education in schools, were cautious about the longer-term implications. This caution was expressed through MCEETYA and ACACA in the form of collective positions and research presented to the Commonwealth (Ernst & Young 1999; ACACA 1999; MCEETYA 1999a). To the States and Territories, limited and conditional sunset Commonwealth funding posed the possibility that, in the long run, they would be expected to assume full responsibility for the costs of new initiatives as well as maintaining existing programs and policies. The expectation that schools could resource these initiatives from a restructuring of budgets through curriculum reform and subject replacement has not yet been realised.

One reason for this is that the Commonwealth-initiated vocational education agenda over the last four years has been treated as an add-on to existing school arrangements. This is reflected in various case studies which illustrate that vocational subjects have been absorbed into the curriculum and certification frameworks of schools without significant alteration to the range of subjects offered and the funding base. Where subject conversion and substitution has occurred, it usually has not released sufficient staff time to cover all of the administrative tasks necessary to maintain the SWPL component of a vocational program. The broader possibility that vocational education could be a general reform to existing pedagogy, curriculum and schooling structures is not reflected in practice because vocational education in most schools is viewed as a subject and not a principle of teaching and organisation. At a policy level this ideal is considered in the 1999 Adelaide Agreement (MCEETYA 1999b) and in a discussion paper on vocational learning for students in Years 9 and 10 (MCEETYA 1998b).

The acceptance of the NTF and its six conditions for secondary schools has not meant a uniform and consistent implementation by the States and Territories. ACACA (1999) has clearly documented the differences between curriculum and accreditation arrangements for vocational education in each State and Territory and asserted their constitutional prerogative to do this. Implementation of the NTF requirements has therefore occurred through accommodation into existing certification and curriculum systems rather than by fundamental change. Curriculum arrangements for vocational education vary between the States from a vocational unit embedded within a board of study subject, to a specialised vocational stream with a sequence of subjects taken over two or three years leading to an AQF and a school completion certificate. In some States and Territories schools offer VET courses through delegations from boards of studies (Queensland, WA and the ACT), while in others a school seeking to offer approved vocational courses will either become an RTO and meet requirements set by the State Training Authority (Victoria and South Australia), or enter into agreements with RTOs or TAFE institutes to deliver vocational instruction under their supervision (all States).

State and Territory responses to the federal funding arrangements about the implementation of the NTF to secondary schools indicate that tensions have occurred between the three planes of federal, State and school agencies. Part of this tension relates to the imposition of policy frameworks which were not sensitive to vocational practices at schools, did not address long-standing issues of program viability and sensitive to prevailing State legislative and administrative frameworks. So in 1999 ACACA comments that '... each State and Territory has a unique approach to accreditation, integration and certification of VET undertaken as part of the senior secondary curriculum..' and that 'implementation issues relating to the application of the NTF within the secondary school sector are just beginning to emerge and will continue to emerge for some time to come, as systems progress through the various implementation stages' (1999, p.37). So as the end of the second four-year period draws to a close, the collective State and Territory curriculum and accreditation agencies are indicating that the process of implementation is only just beginning and will take some time as various issues arise.

One area of concern to the States and Territories is that of the training package and associated requirements for work placement and workplace assessments. ACACA draws attention to the tensions inherent in the rigid adoption of a post-school model of industry-driven competence

standards into a general education system, and by doing so implicitly make a case for a general vocational standard to sit within the NTF. ACACA notes that:

... there is a perception by some industry bodies that VET in Schools is not an appropriate context for delivery of competency-based training, and that employment is the only suitable context for assessment of competence ... they hold the view that prolonged structured work placement is not an adequate context for the achievement of competence ... as a result ... in some industry areas students will be deemed to be capable of gaining underpinning knowledge and skills only, even where extensive work placements have been included ... There is a concern that in these industry areas secondary school students will only be able to access State accredited, curriculum-based courses which could come to be regarded by the training sector and industry as second class qualifications.
(ACACA 1999, p.32)

This concern identifies the inflexibility of some elements of the competency and assessment regime encapsulated within the training package and NTF model of vocational education and training.

The report from the VET in Schools Taskforce of MCEETYA (1999a) to Ministers on the future growth of VET-in-Schools also indicates a need for adjustment between the Commonwealth Government and State and Territory governments regarding the continued implementation of the agreed national agenda for VET in schools. It presents a review of activity demonstrating growth in vocational participation by schools and students but also issues a caution that unless Commonwealth funding is maintained, current efforts may falter and decline. In this review a broad forward look is taken about the role of vocational education in schools, and its expansion within the school curriculum. While many programs and initiatives are identified as requiring development and resourcing, there appears to be no attempt to establish an ongoing framework of responsibility for these activities. Consequently, traditional roles of State-provided teaching, learning, curriculum development, assessment and certification are not separated from new functions derived from Commonwealth initiatives, such as the provision of structured workplace learning and the co-ordination of vocational education services with youth employment and welfare. Such a separation and specification of responsibilities might provide a basis for seeking ongoing Commonwealth support for particular components of its reform agenda associated with the promotion of vocational education in schools. Details about costs of separate functions and activities associated with VET in schools are considered in the following chapter.

A framework of enduring responsibilities

From the studies and reviews reported through MCEETYA a possible division of responsibility and resourcing for school-based vocational education might be as follows:

- ❖ school-based off-the-job instruction, based on the conversion of existing general education courses, to be a school responsibility funded from existing budget structures
- ❖ school-based off-the-job instruction additional to the prevailing curriculum and justified in terms of local need and enrolments, and cannot be resourced from within a school or cluster to receive assistance by application from State school and training authorities
- ❖ off-the-job training that has to be purchased from an RTO to be covered by State and Territory profile funds from the training sector
- ❖ development of vocational courses and curriculum materials by curriculum and accreditation agencies to NTF and training package (TP) standards to be shared between school and training authorities, and supplemented with a once-off Commonwealth establishment grant for the next four years
- ❖ the costs of adjustment to ACACA member data and certification systems to accommodate NTF and TP requirements to be equally shared between the States and Commonwealth for the next four years; thereafter the States and Territories to assume full responsibility.
- ❖ structured workplace learning to become a joint management responsibility between community groups, State governments and the Commonwealth Government, but with the

Commonwealth through an agency similar to the ASTF taking the ongoing responsibility for funding SWPL co-ordinators serving clustered schools and co-operative community groups

- ❖ the establishment and maintenance of community-based learning and support groups for post-compulsory youth to be funded by the Commonwealth from a rationalisation of existing youth service provisions. The Commonwealth might provide funding for the co-ordination of services through a common location, States and Territories, and perhaps local government could contribute specialist staff and a proportion of other recurrent costs. Such groups would include SWPL co-ordinators, be managed by local committees and build upon existing entities and relationships

A general framework of responsibility such as this would be more enduring than one tied to specific programs.

6 School-level implementation of vocational education

This chapter seeks to describe key features of recent and contemporary vocational education and training as practised by secondary schools. Since 1995 there has been an emerging picture that the implementation and provision of vocational education and training in secondary schools is quite variable. While there appears to be a common policy core at the national level, practice at the school level reveals a variety of vocational programs and variety in the way they are organised.

Two types of information are used to identify and describe school-level practice. At a national level the ASTF has maintained a series of snapshot national school-based surveys that identify growth and change in vocational programs with structured workplace learning (Ainley & Fleming 1995, 1997; Malley et al. 2001 forthcoming). Case studies and reviews of schools providing vocational programs are another source and collectively report a diversity of practice that has been maintained over time (Kennedy et al. 1993; Curriculum Corporation 1994; Cumming & Carbines 1997; Spark 1998; Malley et al. 1999; Schelks 1999).

Behind this diversity of practice is a variety of purpose and meaning given by schools to the general term 'vocational education and training'. In table 3 data from Queensland illustrated that workplace learning was associated with a wide variety of vocational program types. This variety of purpose was also identified by the most recent 1999 ASTF survey of school-industry partnerships. When schools were asked to associate work placement activities with particular types of program, responses indicated that:

- ❖ 75% of secondary schools had VET-in-Schools programs with work placement.
 - ❖ 28% had school-based new apprenticeships.
 - ❖ 58% of secondary schools used work placement for work experience.
 - ❖ 29% of schools used work placement in business partnerships programs such as E Teams and Mindshop Excellence.
 - ❖ 27% of schools used work placement in transition programs.
 - ❖ 19% of schools used work placements for other learning programs.
- (Malley et al. 2001 forthcoming)

These findings suggest that most secondary schools throughout Australia are maintaining work placement programs that comply with national agreements about VET-in Schools and school-based apprenticeships, as well as other programs that comply with state curriculum and accreditation agencies. Within this mainstream provision a smaller group of schools also provides workplace learning programs designed and maintained by the school. In other words schools are maintaining a variety of mainstream and local workplace learning programs.

Apart from this glimpse there is no recent analysis of the range of vocational of vocational programs offered by secondary schools within Australia. Contemporary research in this area is usually of a contract type where the parameters of investigation are linked to prevailing policy positions. Consequently there are national data on VET-in-Schools and school-based new apprenticeships (Spring 1999) and data on the provision of school-industry partnerships and structured workplace learning (Malley et al. 2001 forthcoming), and in some States accounting of

other types of vocational programs. However, there are no systematic national data on the provision of all types of vocational programs.

Yet from these partial sources it is apparent that there is a diversity of type and provision that becomes more evident as focus shifts from nationally agreed policy, to individual State and Territory curriculum and accreditation structures and then to the operations of individual schools.

The school practice context—a national overview

The ASTF, through a series of national surveys, provides the only ongoing basis of identifying structures and processes used by individual schools when providing vocational programs with structured workplace learning components (Ainley & Fleming 1995, 1997; Malley et al. 2001 forthcoming). While the ASTF studies analyse a different but overlapping population from that of Spring (1999)¹⁴, common trends are evident. These are mainly to do with the identification of differences in enrolment levels within vocational programs between States, and the concentration of vocational enrolments into a few subject areas.

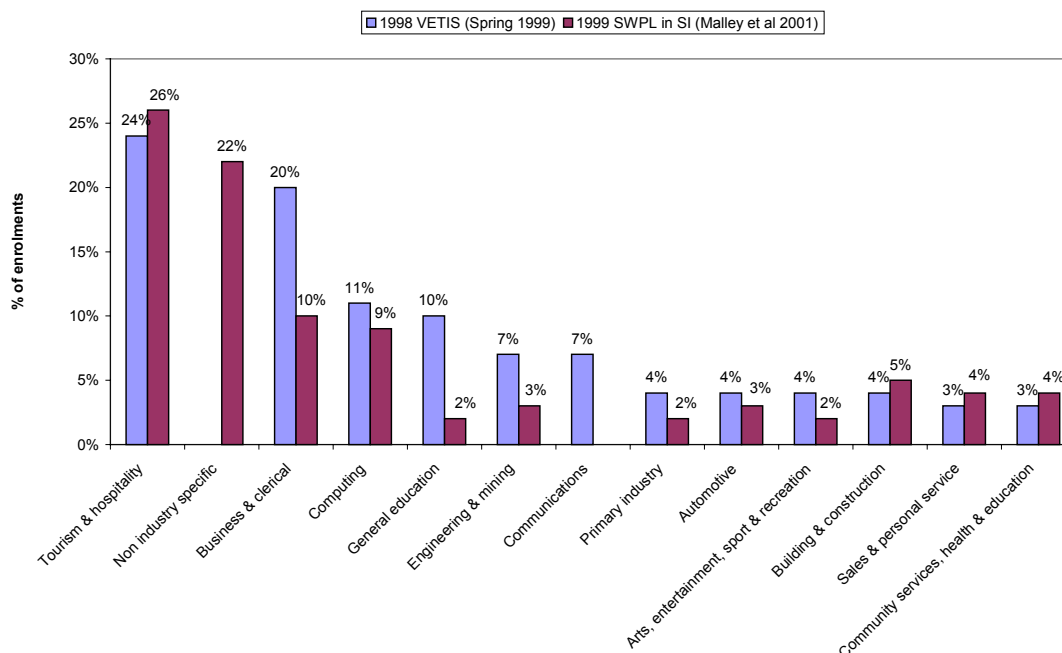
The Spring and Malley data both identify differences in the level of enrolments in vocational programs between States and Territories. These findings suggest that a major factor influencing school provision of vocational programs is the kind of curriculum and administrative guidelines prevailing within each State. The 1998 differences between States for VET-in-Schools enrolments illustrated in figure 9 are maintained in the 1999 ASTF data for school–industry programs. Together they indicate that New South Wales, Queensland and South Australia have proportionately at least twice as many students participating in vocational programs than Victoria or Western Australia. The reason for this is the different provision for vocational education programs within the curriculum and certification guidelines of each State. So, while most secondary schools throughout Australia (at least 84% in 1999) offer vocational programs of some sort, the student participation varies considerably between States—due largely to differences in how they are included within curriculum and certification structures administered by State central agencies.

In terms of industry areas there is a similarity between the VET-in-Schools and structured workplace learning enrolment profiles. Figure 18 combines the Spring and Malley industry enrolment data for each year to show that at least 60% of vocational enrolments were located in the industry areas of tourism and hospitality, business and clerical and computing, and in non-specific or general vocational programs. The enrolment popularity of these areas might be related to the fact that they are the most common vocational programs offered by schools because they have a prior basis of provision in similar school-based subjects. Consequently these vocational subjects are often not derived from a direct demand by local employers or students.

The initial entry of schools into vocational education is therefore more likely to occur through the extension of pre-existing school subjects. This makes sense for most schools as they will already have a staffing and physical resource base in areas such as hospitality (food technology), business and clerical (business studies) and computing (business studies, science and mathematics).

¹⁴ Spring (1999) reports data from MCEETYA on the growth of enrolments in VET-in-Schools as per the agreed bilateral definition of VET, whereas the ASTF reports on the provision of structured workplace learning programs through industry partnerships, associated with a broad range of vocational subjects. The ASTF surveys also ask questions at the school level about structure and process, whereas the Spring data are enrolment focussed. Spring estimates that for Australian government schools providing VET-in-Schools programs, approximately 57 % of students enrolled in these programs undertake structured workplace learning.

Figure 18: Year 11 and 12 enrolment distributions for VET-in-Schools (1998) and school–industry programs (1999) by broad industry areas



Sources: Spring (1999); Malley et al. (2001 forthcoming)

Many schools will also have general technology or industry programs such as INSTEP in Western Australia, Materials and Technology in Victoria and Certificates of Work Education in Tasmania and Queensland. The provision of these types of vocational programs can therefore often proceed without external characteristics such as work placements, employer-based management committees, and support from external providers such as TAFE institutes and group training companies.

The variation between 1996 and 1999 ASTF survey profiles suggests that, for many schools, there are developmental pathways of engagement. By 1999 an estimated 86% of Australian secondary schools maintained some form of school–industry program. In this developing system some schools moved from a limited school-alone provision of work placement to a co-operative and complex engagement with other schools. When this occurred, the school could provide students with extended vocational subject choice and extended time in the workplace, post-school job placement and career services, and engage external partners in the management of the program. Other schools however only proceeded to form limited co-operative arrangements with schools concerning the organisation of work placements without extending the program and service range, or engaging other community elements in the planning and implementation of an extended program.

By 1999 an estimated 31% of schools were providing school–industry programs requiring more than 20 days per year in the workplace compared to 24% in 1996. In 1999 some 62% of schools maintained joint management committees with employer representation, 58% participated in co-operative clusters with other schools, 56% involved TAFE institutes in the planning of school–industry programs and 42% involved TAFE institutes in implementation. Some 52% of school–industry programs were also able to place students in two or more workplaces during a year (Malley et al. 2001 forthcoming). From case studies there is a strong suggestion that schools with extended programs have often been those with a history, from the early-to-mid-1990s, of experimenting with industry partnerships and vocational education (Cumming & Carbines 1997; Sparks 1999; Malley et al. 1999).

An analysis of other school–industry characteristics suggests the presence of a more conservative group of schools and programs which are probably relatively new entrants to school–industry partnerships. In this group 48% of programs placed students in only one work location during a year, 42% of schools did not participate in co-operative clusters and 38% of schools did not engage joint management committees with employer membership. Forty-four per cent of schools providing school–industry programs did so on the basis of a work placement no longer than ten days during the year (Malley et al. 2001 forthcoming).

This style of periodic snapshot survey provides information on school and vocational program characteristics, and suggests a growth pathway from a novice stand-alone school to a participant in co-operative cluster with other schools, vocational providers and employers. However, how schools manage this growth and change lies outside the scope of these surveys.

Widespread characteristics of school–industry vocational programs were that:

- ❖ Most required students to miss normal timetabled classes (56% of programs).
- ❖ Most did not have nominated workplace supervisors at all work sites (52%).
- ❖ More females (53%) than males enrolled and at least twice as many females than males enrolled in the two dominant industry areas of tourism and hospitality, and business and clerical.
- ❖ Most were more likely to be accredited board of study subjects (54%) than stand-alone TAFE modules.

Furthermore, by 1999, 50% of school–industry programs operated with no more than 10 students, compared to 42% in 1996, and provided on average two programs with work placements per school. This suggests that program expansion has led, on average, to fewer students per vocational subject with the possible consequence of increasing the workload of providing work placements. The work placement component of an estimated 64% of these programs was co-ordinated by teachers at the school providing the program, further reinforcing the image of a school-determined vocational program.

With regard to learning and assessment, 20% of programs used work placements for work experience purposes, but 80% used them for structured learning. For 57% of program, school teachers were involved in assessment, but 76% indicated that TAFE institutes were also involved. Only 20% of programs involved workplace supervisors in assessment.

Two other key findings from the ASTF survey are:

- ❖ differences in program design and administration between contract-based school apprenticeship and non-apprentice school–industry programs. While small in numbers, a higher percentage of apprentice programs than non-apprentice ones were subject to formal procedures of selection, employer-based management committees, formal reporting and assessment techniques within the workplace and the application of structured learning principles for specific skills and generic competencies. This difference should be subject to further investigation to determine whether it is ongoing, and if so to consider the carry-over effects into the provision of non-apprentice-based vocational programs by schools.
- ❖ complex and often separate arrangements for vocational programs that occur within schools. The ASTF survey data clearly show that vocational profiles differ when data are analysed at a school and program level. This occurs because a typical school will offer between two and three vocational programs, but each program will have different structural characteristics. So when the ASTF reports that 38% of school–industry vocational programs are subject to cluster arrangements with other schools, and that 58% of schools are involved in cluster arrangements, there is a clear message that not all programs within a school are subject to external sharing. This occurs because of the different histories and needs of particular vocational programs. For example a business and clerical vocational course in a school will most likely have its origins with pre-existing courses, will have large enrolments and might use in-school, simulated practice office facilities. It will thus not have a need to establish work placements and employer-based management committees. On the other hand, the school might have a small enrolment demand for automotive and have no

facilities. For this program it will enter a cluster arrangement, possibly with a TAFE institute, to ensure access to work placements and employer support. So, at one level of measurement the school is involved in a cluster and does engage in work placements with an employer-based management committee, but only for some of its vocational programs. A contributing factor to this practice is identified from case studies; that is, the engagement of external activities such as the provision of work placement, the purchase of external training and the support of clusters, are complex and expensive activities, not well provided for within the conventional organisation and resource frameworks of schools.

While providing detail on the descriptive elements of particular vocational programs provided by secondary schools, the survey data do not provide insight into how individual schools actually manage over time the implementation and development of such programs. Case studies are required to fill in these gaps. Nevertheless, the ASTF surveys do suggest that extensive change is occurring within Australian secondary schools as most of them now provide a range of vocational programs that require some time in the workplace. This occurs as either work experience, structured workplace learning or as part of an employment and training contract under the new apprenticeship conditions.

Implementation through school-centred histories and case studies

To provide insight into the process of implementation, a set of school-based histories are presented below. These histories do not present complete arrays of data or analysis of program processes, structures and outcomes (refer to Stern 1999a and Stasz 1999) but go some way to illustrate some of the critical decisions encountered by schools and resulting structures when implementing such programs. The four histories are composites drawn from twenty case studies of schools or clusters and other unpublished case histories documented by the authors as they travelled to schools throughout Australia between 1996 and 1999. They reveal issues not directly encountered by peak agencies and not readily identified by surveys and audits. The case studies are in part reported by the ASTF (Malley et al. 1999).

The variety of provision in school-based vocational education is indicated by these histories. An analysis of vocational program implementation through case histories suggests that a life cycle approach which identifies critical incidents and developmental pathways sheds more light on the connections between policy and practice than do abstract benchmarks and aggregated snapshot statistics.

Case 1: School alone—the starting point for many

School or provider description

Inner city or provincial city co-educational government secondary school with classes from Year 7 to 12. Overall there are about 500 to 600 full-time students with 80 students in Year 11 and 60 in Year 12. Enrolments have been stable or fluctuating. Competition for enrolments comes from other nearby schools in similar circumstances. The school is located within a low socioeconomic neighbourhood containing a high proportion of students from non-English-speaking backgrounds. Parent interest in the school is high but participation in school management is low. The curriculum of the school has been traditionally a general academic one with a few vocational units offered as embedded units within centrally approved school leaving subjects with university ENTER score status. Approximately 20% of students who complete Year 12 proceed directly to university studies; the rest enter the workforce or continue with a TAFE course.

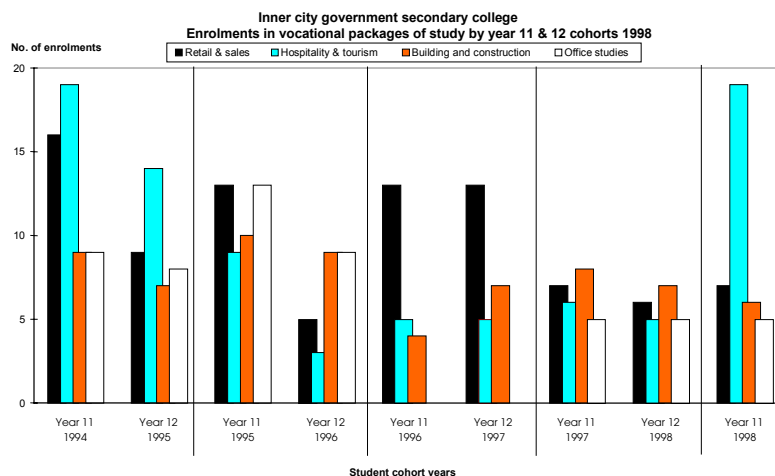
Vocational program student targets and intentions

The original student target group was the 60% to 80% who did not proceed to university. As the program progressed and enrolments fell (refer to figure below) the target group was expanded

to include those likely to leave school at the end of Year 10 and Year 11 and other at-risk students from nearby schools. The vocational program has maintained two goals: to provide courses which enable students to maximise credit transfer and advanced standing into TAFE, and to provide students with specific vocational skills and workplace values to assist them in gaining a job. Retention rates for students undertaking these vocational courses are now close to 90% except for building and construction where there is continuing leakage of students into full-time jobs prior to course completion.

Vocational program curriculum arrangements

A four-stream vocational program was established (retail, tourism and hospitality, building and construction and office studies) with two programs (office studies and hospitality) derived from an existing curriculum and resource base. Each stream is designed to be a self-contained vocational package spread over Years 11 and 12. The block vocational program is in addition to the existing curriculum offerings within the school. Each vocational stream is arranged to provide workplace learning for one day per week for 20 weeks per year. Two of the streams are conducted in conjunction with teachers and facilities from a local TAFE institute for which students are charged fees.



Vocational program implementation

The program is staffed by a full-time co-ordinator, who as well as teaching a .3, load organises internal timetables and work placement for the program. The timetable is organised for Wednesday to be work placement day, but this is not always possible as it depends on employer availability and goodwill. Students often miss non-vocational classes and a 'catch up' system is in place. Feedback from employers has resulted in the provision of a crash remedial program in English and basic mathematics for those students identified as requiring further assistance. Local government provides significant promotional and work placement support, but as with other employers, also provides placements for other local schools. An intensive careers counselling and personal development program accompanies the vocational studies.

Costs

The workplace learning nature of these programs is entirely dependent on grants additional to the school budget. This translates into approximately 70% of a senior teacher's salary, plus a margin for additional recurrent costs for employer promotions and visits. The variability in Year 11 and 12 participation rates in the overall vocational program (from 45% to 25%) and in some vocational streams (hospitality—from 22 enrolments in one year to 7 in another) adds an internal cost pressure to the vocational program. Students carry all material costs and external enrolment fees. Hospitality, clerical and some retail teaching costs are met by conversion of resources from pre-existing programs. Teaching time for building and construction is an additional cost met by students.

Future

Schools similar to this are in a difficult situation. The effort to maintain a modest four-stream vocational program is significant, particularly if it is maintained as a separate program within a traditional curriculum and organisational framework. This type of program often finds itself competing for legitimacy and space internally, as well as attempting to maintain a quality image to employers. Logically schools in this situation would benefit their students if they moved to a collaborative model with other neighbourhood or district schools. This however requires a significant shift in school values as each student enrolment contributes to the school budget, and the organisation of a school into class size minimums does not necessarily allow for fractional disbursement of funds on a student contact hour model. Without additional assistance most small-to-medium-sized government schools will encounter difficulties in maintaining work-based vocational programs, even if they join a cluster. Vocational funding arrangements therefore might need to be targetted to the administrative concept of the cluster as well as the individual school and student. Another variant might be to amalgamate two nearby 7 to 12 schools into one 7 to 10 school and a senior Year 11 and 12 college with an extensive vocational program array. Some States, such as Tasmania and the ACT, have moved to this model. Bendigo Senior Secondary is a successful district model that overcomes the problem of small individual enrolment schools competing against each other.

Case 2: Lone school, non-government sector, in transition to either a regional cluster or an independent business unit

School or provider description

A capital city non-government school ranging from preparatory grades to Year 12 and 13. Overall the school has a student population in excess of 2000 with just over 450 students in Year 11, 12 and 13. It has an extensive parent and former student support network and extensive grounds and sporting facilities. The school is known for its commitment to a values-based education and seeks to serve the student and the community. Its student base is varied but tending towards a middle and upper socioeconomic profile. Traditionally 70% to 80% of students proceed to university studies. As a fee-charging school it has both a strong commitment to serving the needs of all enrolled students as well as running the school on sound business principles. Staff are carefully selected to reflect both the values of the school and expertise in their fields of instruction. As part of the school philosophy all students experience applied subjects in the early secondary years (electronics, metal work, wood work, technology) as well as undertaking a work experience program.

Vocational program student targets and intentions

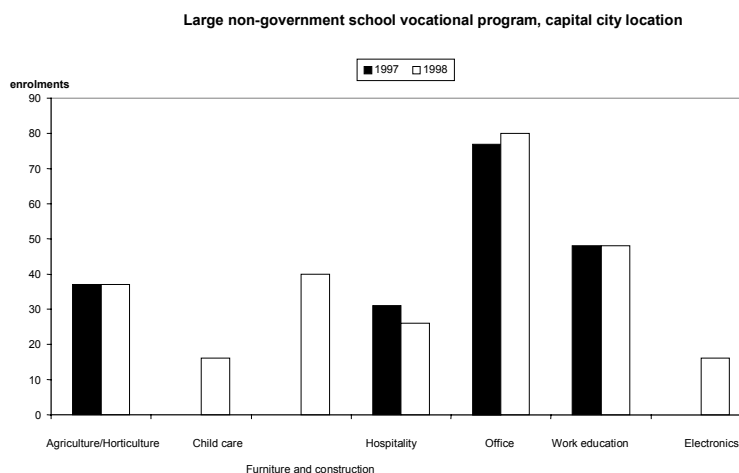
The school clearly has as the target group the 20% to 30% of students who do not proceed to university, with the intention of providing them with advanced standing in nationally accredited vocational competencies. Just over 100 students are engaged in vocational education either through undertaking a specific VET course, stand-alone subjects or embedded modules. A significant proportion of this group requires and receives additional counselling and remedial instruction in the basic competencies. While providing particular vocational streams, the curriculum also has provision for 'university bound' students to taste a range of vocational experiences through a general industry subject. This option is not available in some State curriculum and certification frameworks.

Vocational program curriculum

Two influences on the vocational curriculum have been the base of existing programs and resources within the school and the vocational arrangements established within the State by the Board of Studies.

With an established comprehensive curriculum, facilities already existed for hospitality and office. The extensive grounds also provided a natural base for developing vocational courses in

agriculture and horticulture. Teaching staff with industry experience and teacher qualifications were recruited into the hospitality and office areas.



The school proposes to expand its vocational range of subjects into new areas such as multimedia and information technology, and make these courses and their facilities available on a fee-for-service basis to other schools and adult learners.

Vocational program implementation

The school has the full support of its council and principal in extending its curriculum into the vocational area and has appointed a full-time vocational co-ordinator. The vocational program will be expanded gradually in terms of curriculum and enrolments but will be mainly associated with the group of students not proceeding to university. In accord with the school philosophy, an extensive pastoral care, counselling and remediation system is in place for students deemed to be at risk or requiring assistance.

Following State guidelines the school established memoranda of understanding with three TAFE institutes, each specifying a partnership function regarding the provision of teaching, assessment and quality assurance services for three of the vocational streams. The school meets external delivery requirements for the other streams.

The school shifted from being a sole provider by joining a regional cluster of secondary schools providing vocational programs with work-based learning. The internal arrangements for this new cluster are still being developed and its long-term attraction to a large non-government school is still being considered.

Work-based learning occurs through a designated subject of the Board of Studies which requires 40 hours per semester in Year 11 and 60 hours in Year 12. It can be taken in conjunction with either a vocational course in a specialised area or taken as a work taster over a number of areas. Work placement time is not fixed within the school timetable. For some subjects it is fixed within the timetable; for others it is variable and sometimes is associated with the student's own part-time job after school. For many students this means a catch-up timetable for missed classes.

Costs

The cost of participating in vocational courses is contained within the normal fee structure of the school. Students are expected to pay for materials and extra curricula activities. The school receives grants from the ANTA allocation to non-government schools and a seed grant from the ASTF. The business plan for the school is to provide an ongoing vocational program contained within the fee structure and growth plans. Where available State and federal grants will be

accessed to offset course costs. Income associated with fee-for-service provision to other schools and community groups will also be used to offset internal costs of provision.

Variations

One recurring variation is to use the business planning skills and networks to expand into providing entry-level school based new apprenticeships as an employer. This can occur either where the school the employer (small numbers only) or for the school to establish itself as an entry-level group training company to then act on behalf of other regional schools. This then allows the federal government new apprentice subsidies to be paid to schools and to cross-subsidise the general provision of vocational courses. This last step has been proposed at a number of locations, but so far has been blocked by traditional interests.

Another variation is the provision of a selective range of AQF courses up to levels 3 and 4 on a fee-for-service basis to the general public and to specific industry interests to generate cash flows to offset the provision of vocational courses to students.

Future

Some large non-government schools entering vocational education have the capacity to become community vocational providers of a range of VET courses in their own right. Some discussions have also occurred about the extension of these programs into a junior college model (USA style) where students can proceed to complete advanced vocational certificates at the school before proceeding to either university or into the workforce.

Case 3: Transition to a district cluster: two government secondary schools in adjacent communities

School or provider description

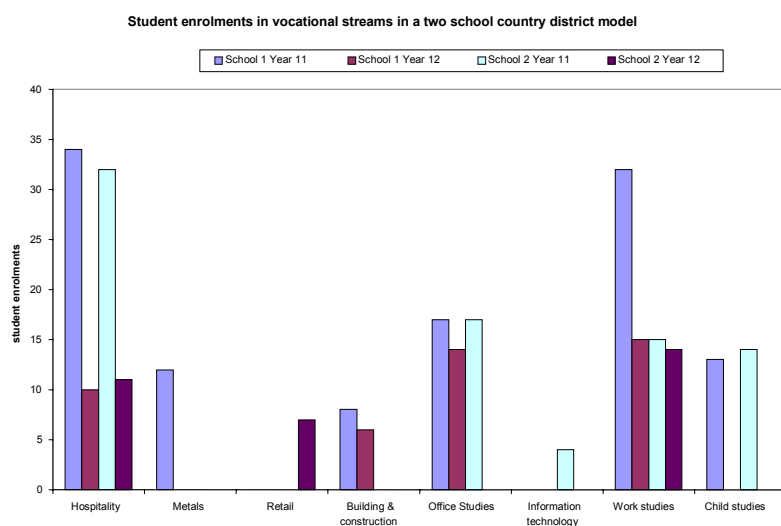
Two adjacent country towns located within the same local government area, each with a population of approximately 5000, and each with a secondary school. One of the towns has a significant aboriginal population, and both have grown around the provision of services to various primary industries surrounding each town. Since the early 1990s there has been a progressive decline in service facilities located in each town, and in enterprises such as meatworks and dairy processors. Consequently this is an area of high socioeconomic disadvantage with an unemployment rate fluctuating between 25% and 35%. The two towns have suffered an exodus of students for both schooling and work to the nearby provincial city and the more distant capital. By identifying a common problem of unemployment and population decline, the two towns overcame traditional rivalries and now work collectively on a number of projects. This has extended to the two schools when they realised that they had to work together if they were to provide a relevant and viable educational program for local youth. A co-operative vocational program was initiated in 1995 by a grant application to the ASTF.

Vocational program student targets and intentions

The two schools identified two target groups of students. The 70% who stayed to complete Year 12 and those at risk from withdrawing after Year 10. A concern for this later group led the schools to devise complementary vocational programs at Years 9 and 10 for youth at risk involving work place learning.

Vocational program curriculum

The curriculum was initially determined by what was available within the resource base of each school. Hospitality, office and a work studies program were already available within the Board of Studies approved array of subjects. As in many States vocational programs could be offered in a variety of forms ranging from a general work studies subject with a variety of work-based learning experiences through to embedded modules and a specialist course as part of an industry study program. All vocational studies are now competency-based and assessed. Not all vocational streams could be offered at both schools, so students moved between the two schools depending on vocational choice. The small employer base in each town placed local limits on the structure of work-based learning. Extended hospitality, metals and office work placements required students shifting to the nearby provincial city or to the capital city. Building and construction was volatile depending on the volume of local activity, and retail was provided partly in response to the establishment of a major chain supermarket in one of the towns. Vocational curriculum choice is therefore limited to existing school resources and local employer profiles. Work placement is designed to meet a minimum of 80 hours, but goes beyond this when places are available. It is usually organised on a block release basis of one week per year, the timing varying between streams and year level.



Vocational program implementation

The joint approach to vocational program provision was formed by establishing a district workplace learning management committee made up of the two school principals and three other school representatives, three industry representatives, a TAFE person and an appointed workplace co-ordinator. The committee is dependent on school administrative and financial support. The co-ordinator supports both schools and is responsible for organising work placements for all vocational courses, including those in Years 9 and 10, employer liaison and recruitment, program promotion and maintenance, some careers advice and liaison with TAFE. In many cases the co-ordinator is often involved in the organisation of transport for students between the two school and to TAFE classes and employer placements in the provincial city and elsewhere. Teaching staff within each school provide instruction in their respective vocational areas, with TAFE staff providing specialist instruction either at the schools or at a TAFE facility. With an emphasis on students at risk, there is an extensive support and intervention program at each school complementing the vocational program. The State Government has recently committed capital funds for the development of a vocational wing to be built at one school but to serve the student population of both. The two schools have not yet considered the full implementation of shared and rationalised staffing as the formal entity of each school is still the basis of budget determinations by central agencies.

Costs

Each participating school contributes to the cost of the work place co-ordinator, but .6 of the cost is dependent on ASTF grants and allocations from ANTA funds. In this context it is the provision of work-based learning that is the major contributor to the cost of vocational learning. This cost factor is represented by the addition of a co-ordinator's salary, and travel and accommodation costs for students. Small student numbers and wide geographic distribution of employers add to the cost of the program. Benefits are measured in terms of community support for work placement and the retention of students at risk, not necessarily to Year 12 but to a longer and more productive time at secondary school.

Variations

In larger communities work-based learning management committees can evolve into independent incorporated non-profit organisations. When this occurs there is sometimes a shift in the focus of activity away from a narrow provision of learning at work to a broader provision of youth support services within the community. This youth support can range from employment services, such as job placement and careers counselling, to integrated youth service and recreation programs and co-ordinated pathways into local TAFE institutes.

Future

For schools and districts such as these, scale and distance are real obstacles to the establishment of financially sustainable workplace learning vocational programs. Clearly the two schools and communities are better off by working collaboratively, and gradually greater levels of co-ordination can be achieved. However, without external grants the schools will not be able to sustain or increase the existing vocational program. The nearby provincial city is seen as a competitor for students as it now actively promotes an integrated vocational program with itself as a specialist senior secondary college, a TAFE and a university working together. The potential loss of more senior secondary students to the provincial city is seen as a further threat to these two schools and their towns. The concept of a connected wider regional model of vocational provision based on supported feeder outlier schools has not yet evolved.

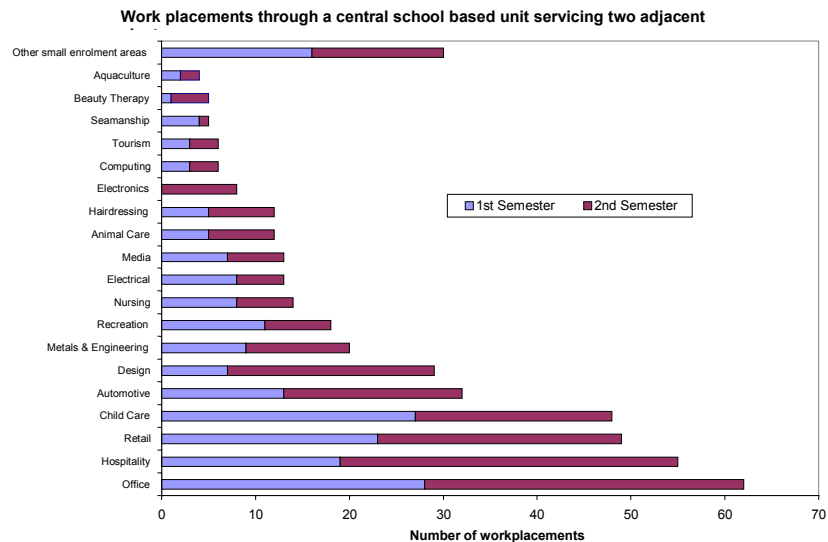
Another threat to this type of model is its dependency on the staffing arrangements in government schools. The skill, experience and effort of the founding co-ordinator were seen as crucial to the development of the program, but the program is vulnerable to change if the incumbent sought a promotion as this would then be contested from the statewide pool of teachers. This issue of staffing procedures has been identified as a concern by schools in a number of States. It also raises the question of vocational teacher supply as remnants from previous technical schools approach retirement there are no new teachers trained specifically in applied technology.

A contrasting case—two adjacent school clusters sharing one workplace co-ordinating unit

In this example eight non-government schools spread across two adjacent regions pay a per-student fee to support a central work placement unit of three staff. With over 250 students undertaking a work placement each semester, the co-ordinating unit is able to provide an array to suit the needs of most students. Placements reflect a broad curriculum mix of embedded vocational units and extended vocational studies.

Each participating school maintains a vocational co-ordinating teacher who also participates in workplace supervision, as well as curriculum co-ordination at the particular school.

Fees per student do not reflect the full costs of providing such a central service. Full costs per student are estimated to be approximately \$750. Most of the participating schools absorb some of the charged fee into the normal fee structures for the school, cross-subsidising from lower cost areas of general provision.



Case 4: A maturing third party organised regional vocational provision

Provider description

This type often evolves from a district model initially organised by school interests with a prior association with vocational programs. Often a critical incident involving a prominent industry or community leader shifts activity from a school-managed model to an industry-managed one with a growing number of participating schools, programs and students. Organisation then shifts from a school-managed collective to an incorporated not-for-profit third party entity with paid officers. After this second phase of rapid growth a period of consolidation and reflection occurs when purpose, scope, structures and relationships are reviewed. Program management will then change to a comprehensive sub-committee structure reporting to a board of management. There are comparatively few of these programs but most of them are organised on the principle of a third party group. Some variants on organisation are: an incorporated community management group; a group of regionally located enterprises operating through a created umbrella group, or an industry interest group representing employers, trade unions and associated group training and TAFE institute interests. What sets these groups apart is: the support given by members to the vocational purpose of the program(s); the scale of the student group; the vocational program range (structured work-based learning and school-based new apprenticeships); a widespread commitment to youth employment and social outcomes; a capacity to generate income streams and a co-ordinated program provision resourced on a shared basis. They vary in size from three to eight or nine schools and from 70 to 420 vocational students. These programs exhibit continuous review processes that result in ongoing changes to management and program structures.

Vocational program student targets and intentions

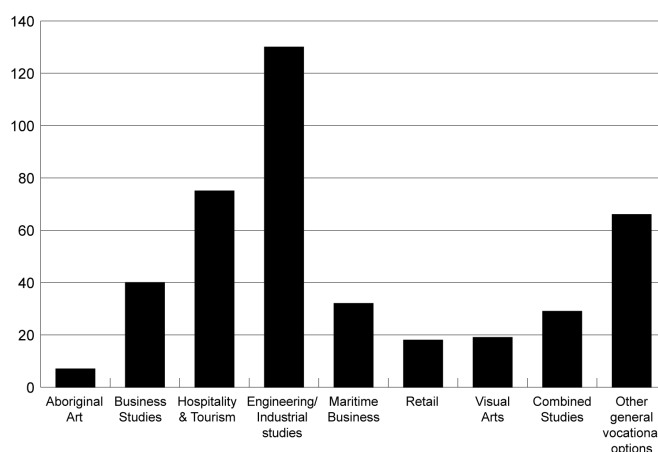
A scale factor means that a wide range of vocational subjects can be maintained with viable group sizes, even if one school can only provide two or three students per subject. Students have subject choices that they would not otherwise have. The group selects students for new apprenticeships but has student choice as the basis of entry for the non-wage-based vocational program. Youth at risk of early leaving, minority groups including Indigenous people, and non-university-bound stayers are encouraged to participate. In some examples vocational programs with work-based learning will also be provided for traditional academic subjects such as physics, chemistry and mathematics. A representation of local employers and group training companies on management committees often extends the services of the group to post-school

employment placement by either running federally funded Job Pathway-type programs or by direct approaches to local employers.

Vocational program curriculum

The strength of a central administrative group is its capacity to provide a breadth of vocational curriculum options to participating schools that would not otherwise have been available to them. The program is usually additional to the existing curriculum of each school. The vocational program range and enrolments of one group is illustrated in the graph. In this example an extensive industrial membership allows high-cost courses, such as engineering to be available to all students in the group. In addition to this a school-based new apprenticeships program with 60 students in four areas is provided and will expand in future years. The management group of this project also provides a range of other services including: career expositions; industry open days; placement for unwanted industry equipment into schools; teacher-to-industry professional development programs; post-school job placement for youth; combined youth forums between schools, TAFE and universities; a one-point contact with State and federal agencies and industry contacts for enterprise studies in Years 9 and 10. Each program complies with State board of study end-of-school certificate requirements, but has variable standing with regard to ENTER score status.

Large industry-based third party cluster: work-based learning vocational program and enrolments available to eight participating schools



Vocational program implementation

This type of program relies on formal agreements between participating employers, schools and the third party administrative agency. Beneath this, each school maintains an independent relationship to the education department, and each participating company is responsible to its own board of directors and share holders. The third party group co-ordinates workplace learning and TAFE off-the-job instruction where it cannot be provided within a schools resource base. Work placement days for each stream vary but are known throughout the group and each school manages its own timetable accordingly. Work placement supervision and assessment can vary from being co-ordinated by the central group, to an out-sourced function provided by group training companies on a fee-for-service basis, or provided by qualified school and TAFE staff. Due to the traditional focus of the school as the target for central State funds, many functions are duplicated between schools that could be more efficiently handled at the third party level. The lack of acceptance by central State agencies of a third party group that can negotiate on behalf of its members has been a common experience which hinders efficient program development and implementation. Internally the third party group operates on a functional sub-committee structure enabling them to carry out specific functions and report back to the general management committee.

Costs

These programs have relied heavily on federal agency grants to establish themselves, particularly to fund workplace co-ordination and program promotion and administration. As the program and entity become known, employer and school charges are gradually introduced to offset costs. Employers, local government groups and community service groups assist with contributions in kind, but these do not cover salary costs. Staffing of the central group can vary from two to three full-time staff to ten or more depending on the range of services provided and whether any tasks can be devolved back to schools, or whether commercial services are provided for a fee to other employers and government agencies. Surpluses from these services are often used to cross-subsidise the provision of vocational and employment programs. In some States government schools can choose to allocate that part of their budget associated with the provision of work-based learning subjects to the third party group. In States where this is not available schools and employers are charged a fee for each student placement which varies according to industry area and an annual membership fee.

Variations

An industry group has been established to operate an industry-specific program across five government schools strategically spread throughout the State. In this model the industry (employers and organised labour) takes responsibility for maintaining an entry-level skills training and employment program, but still relies on government funding to run it.

Future

There are perhaps fewer than twenty of these groups throughout Australia. Key issues facing them appear to be their acceptance by State and federal agencies into funding and policy considerations and by competing agencies in so-called thin markets for youth services. Another issue is that these types of groups cannot appear on command—they are new features on the Australian education landscape and thus need to be nurtured and studied.

Implementation issues from case histories

In the eyes of the beholder

What the case studies have shown is that a wide range of activities are undertaken and that the answer to the question of what constitutes a vocational or school-industry program varies depending on which entity is asked. This selectivity extends to the evaluation of vocational programs where we frequently encountered central agencies promoting particular vocational programs as 'best practice' and not identifying programs outside their particular 'best practice' construct. Other case studies also confirm this variable framework of best practice between central agencies, practitioners and researchers (Cumming & Carbines 1997; Spark 1998; Malley et al. 1999).

Examples of vocational programs that at one stage did not fit within official definitions are commonplace. For example Malley et al. (1999) report that there was no existing appropriate course for the cotton industry at the time that a remote rural school decided to create a pathway for early school leavers into the dominant industry in its community. Nevertheless, the school, in conjunction with a nearby TAFE institute, proceeded to develop the required course without central agency support. Another example is an inner metropolitan city school that designed and implemented a workplace learning vocational course despite receiving written advice not approving the course from central authorities. Later that school and program were identified by the agency as an example of innovation. Another provincial city vocational program with extensive local employer support proceeded to develop school-based apprenticeships despite a lack of support from central agencies and declared that '... if we had waited for the bureaucrats ... we'd have been waiting another twelve months'. In another State a similar response was also

given by a unique statewide industry-based program supported by employers and trade unions. These case studies suggest that benchmarking and best practice are not independent or static concepts but are value-laden and influenced by position in terms of hierarchy and time.

Differences in value and purpose also occur within regional groups or clusters and individual programs. One particular case study reported by Malley et al. (1999) illustrates this. In 1998 the Kwinana Industries Council and the school-industry program known as the Excellence in Education Compact provided a co-ordinated vocational program that included, *inter alia* :

- ❖ structured workplace learning for students studying WA Curriculum Council subjects
- ❖ the management of school-based traineeships through designated schools and sub-contracted group training companies
- ❖ the provision of art and design awards and support for the performing arts
- ❖ linking compact activity with youth employment programs of the area consultative committee
- ❖ making representations to government agencies for acceptance of new initiatives
- ❖ organising youth forums and links between schools, TAFE and universities
- ❖ organising employers to contribute discarded equipment to schools
- ❖ organising teacher-in-industry placements and supporting other teacher professional development activities
- ❖ providing careers expos for the region
- ❖ industry open days

A school participating in the compact identified a different and overlapping range of activities as constituting its school-industry program. This difference occurred because the school maintained its particular responsibility for its students, and this transcended the corporate view of the compact. In this situation the school engaged external vocational program elements and then incorporated them into its own school-industry program. Consequently the school, independently from the compact, arranges work placements with other employers in hospitality and develops its own placements for combined studies students. A similar situation occurs in other third party regionally organised clusters such as Moorabin, Oakleigh, Springvale Employment Development Group (MOSEDG) in Victoria. In this model one of the lead schools includes vocational programs from two adjacent clusters (MOSEDG and Bayside) as well as maintaining its own array of programs.

These findings extend those of the ASTF surveys about differences of vocational provision within schools to differences between regionally provided vocational programs and those provided by a participating school. In this latter situation cluster or regional vocational programs are more likely to include activities such as:

- ❖ linkages with employment programs and agencies such as area consultative committees, Jobs Pathway programs, group trainers and Centrelink
- ❖ a lobby program to key employer, government and community groups
- ❖ acting as broker between potential competitors (schools, TAFE institutes, group training companies and private trainers and job brokers) to ensure an efficient and co-ordinated approach to training provision and transition to work

Case studies on vocational programs in Australian secondary schools, when considered in conjunction with the ASTF surveys, clearly indicate multi-dimensional characteristics that have a capacity to lead schools into rethinking fundamental issues of curriculum and service delivery. These case studies also identify the lagged response chain that often occurs between innovative schools, and State and federal central agencies.

Responding to and managing change

A recurring theme is that successful vocational programs have a history of responding to change. The more recent the history of vocational programs at a school, the more change could be attributed to the leadership of particular individuals. The change drivers were enthusiastic people, sometimes teachers and sometimes an industry or community person, but more likely to be visionary principals. These individuals often responded to external triggers for change that included:

- ❖ central policy and program initiatives such as:
 - the AVCTS report (ESFC 1992) and associated pilot funds used to investigate new vocational pathways
 - the establishment and maintenance of the ASTF, its guidelines and funding
 - new vocational program structures proposed by State curriculum and accreditation authorities
 - other State initiatives designed to improve school retention rates. The pursuit of this goal often exposed the inappropriateness of maintaining a one-dimensional curriculum model based on university entrance requirements
 - ANTA funding provision for VET-in-Schools
- ❖ local concerns about high levels of youth unemployment and an apparent loss of job pathways within a community
- ❖ local and statewide industry concerns about the future supply of skills and courses

Innovative schools responded to these change triggers in active ways—by applying for funds, working with others, making submissions and designing programs. These schools and their partners recognised the need for change and actually did something outside the conventional or comfortable to ensure that something different happened. In all cases change responses required working beyond established hours and resources. Having responded to change, most of the programs then engaged in a period of negotiation with systemic authorities to gain recognition and acceptance. By responding to change in such a way, the key players in many case studies created a range of concepts that previously would have been considered outside the realms of any discussion of schools and schooling.

Leadership

The role of a critical person in initiating and then maintaining vocational programs, particularly those based on industry partnerships was another common factor identified by case studies. The more robust programs were those where the principal of the school was active in supporting vocational programs and the inclusion of work-based learning into the school profile and curricula. At these schools the principal actively promoted the value of vocational learning to teachers within the school, employers, parents and other principals, modified timetables to accommodate it; provided dedicated staffing units to support it, and became involved in making representations to seek further resources for its provision. There was a more tenuous acceptance of vocational education and work-based learning in those schools where the champion was the head of a department or a vocational co-ordinator, and the principal took a more traditional hands-off approach to engaging any of the curriculum areas.

Integration within a general education framework

A whole-of-school approach and an active and articulate discussion on vocational learning within a general education framework were also signs of an established vocational program. In practice this meant that structured work-based learning was integrated into the overall school program and was designed to capture the interests of youth. This occurred in apparently dedicated industry programs such as agriculture, engineering and business and clerical where a broad-based curriculum focussed on the development of the young person as a whole, not just a

range of specific competencies. Schools such as Iona Presentation College Perth (WA), St Joseph's College Nudgee (Qld), Sandringham SC (Vic), Box Hill SSC (Vic), Hellyer College (Tas), Hamilton Hill SSHS (WA) and the South Australian Engineering Pathways schools each developed variants to this inclusive education model through curriculum design and professional development activities. In the majority of cases the prominence of this general education model in the school was dependent on the beliefs and intervention of the principal.

Another general education approach to vocational education and structured workplace learning is the provision of 'taster' or introductory vocational courses. These allow students to either leave at the completion of the introductory stage or proceed to a specific occupational skills course. The INSTEP program of Western Australia, and its umbrella Curriculum Council subject (structured workplace learning) is one example of this, as is the Certificate of Work Education offered by some Tasmanian and Queensland schools. Another variant on this general education model is the extended VCE program for students at risk offered by Box Hill SSC in Victoria. Trinity College in South Australia also structures its curriculum within the SACE framework to allow students to undertake a number of skill paths. However, as the ANTA/MCEETYA program and funding requirements for vocational courses are progressively enforced, many of these general education models will change in order to conform to these requirements.

Client service and needs

Many schools with vocational programs provide a level of service to students and employers not often evident in VET programs offered by TAFE institutes or other providers such as group training companies. In a number of schools, this intense level of servicing was attributed to the traditional professional responsibility of teachers, that, when combined with legislative requirements, led to an emphasis on a duty of care for students.

For example the ASTF surveys identified that most students in vocational work placement programs were visited at least once in each work placement of extended duration (over 5 days) by either a teacher or workplace co-ordinator, and participating employers were visited regularly. Schools were also extremely responsive to employer feedback, either about the student trainee or elements of the curriculum.

Supporting these visits were smaller class sizes at school, individualised student attention, self-guiding learning materials and log books, dedicated help telephone lines, newsletters and training courses for employers.

This level of servicing is probably a major factor contributing to ongoing concerns about the adequacy of many traditional school-based resource allocation models to structured workplace learning programs. It might be too simplistic to suggest that this resourcing issue occurs because schools are over-servicing, since the feedback from students, parents and employers identifies these services as a major reason for their participation.

Program management

In some cases when school-industry programs were adopted, a range of program management skills or solutions were used to improve school operations.

The timetable solutions for many schools were not solutions for the students, as they were not adjusted to accommodate time away from the school on work placement. In these models students are expected to catch up on missed class work in their own time. Timetables that build in work placement time without a penalty class catch-up are probably the ultimate sign of a school's commitment to supporting structured workplace learning. However, as indicated by survey data, most schools have not achieved this.

Resourcing for school-industry programs was identified as a problem by most case study schools. In Western Australia a partial systemic solution for government schools was the extra allowance of a staffing fraction for students enrolled in the Curriculum Council subject of 'structured work-based learning'. Within clusters another solution is the nomination of each

school to be responsible for a particular course and administrative task. This ensures that viable class sizes can be maintained and workloads shared. The pooling of vocational enrolments when negotiating with a private or TAFE provider can also result in lower unit costs. The extension of activities into income-generating fields such as Jobs Pathways, school-based traineeships offered in partnership with a group training company, or collective provision of fee for service training by acquiring RTO status, are other ways of reducing costs. However, these require a co-operative approach between schools. At some fee-paying schools, cross-subsidisation of fees from larger classes in the junior grades to smaller classes in senior grades is used to offset vocational program costs. In some government schools, the charging of all non-direct teaching costs to students provides some flexibility in providing specialist vocational courses.

Other issues and themes

Teacher turnover

Within government schools and clusters the loss of experienced vocational teachers and their replacement by inexperienced non-vocational teachers was identified as a major threat to program continuity. In some States school staffing procedures create a degree of uncertainty about program maintenance as appointments and promotions are not always within the control of the school. In some clusters the movement of principals also created uncertainties about the continuation of vocational programs. The contrast with this situation is that of some non-government schools where experienced vocational staff were attracted from the government sector through salary and conditions packages.

It is also apparent from case studies that there is a shortage of teachers with the skills to initiate and develop effective school–industry programs. State education authorities and teacher training institutions will need to pay attention to appropriate training and professional development strategies if vocational programs with school–industry links are to be sustained.

Student choice

Student choice amongst the available vocational subjects will vary over time and have implications for some schools on their capacity to sustain high-cost programs. For example an initial high enrolment and interest in hospitality encouraged a school to invest in this area. Within two years, student interest had switched to other vocational areas, and it was not until four years later that student demand for places in hospitality rose to the initial levels. During this period the school experienced financial hardship trying to maintain a curriculum range once staff and equipment have been committed to supporting it. Another effect of this volatility in enrolments is on participating employers. If a regular interaction between school, student and employer is not occurring because of fluctuating enrolments then, as some case studies report, employers withdraw their participation.

Access and equity

Access and equity issues are always near the surface in vocational education programs. At the heart of these issues are questions about whether vocational and school–industry programs are integrated into mainstream curricula and whether there is negative streaming (students who are not university material do school–industry programs) or positive selection (only students with the right attitudes and skills have access to work-based learning). A further concern is whether the vocational programs are accessible to all those who wish to participate in them.

Students in case studies are often quick to identify whether vocational programs were adjuncts to tertiary-oriented academic programs or fully integrated. When one student was asked ‘Why are you doing this course?’ The response—body language of dropped shoulders, no eye contact and a muttering of ‘... because I am not a TER student’—was a clear indicator of the status of vocational education at that school. The tendency to assign or encourage students to vocational

streams based on academic performance is commonplace and appears in surveys that identify participation in VET with lower levels of achievement across a range of tests (Lamb et al. 1998; Fullarton 1999; Polesel 1999). The possibility of academically achieving students being exposed to applied learning models is minimised in schools that maintain traditional curriculum values and views of education.

In places where vocational education was integrated into the curriculum and a variety of vocational programs was offered, a different access issue sometimes appeared. Where work placements were limited, a selection procedure was invoked to ensure that only the 'best' or 'prepared' students were sent to employers. Two interrelated reasons are used to justify this. One is that the reputation of the school with employers is determined by the quality of student sent to them, and the other is the concern that an employer might withdraw from participating in the program if they received a difficult student. The question is where do the 'difficult' students go? To school-based vocational programs with TAFE institute modules?

This selection issue within vocational programs is exacerbated when similar VET-in-Schools and school-based new apprentice programs are offered within the same school.

Performance indicators

The departure of students prior to their completion of school–industry programs is frequently identified in case studies. In most instances students leave the program to take up a job with an employer who had participated in it. Privately many teachers indicated that this was the best outcome possible for those young people in that particular environment. Publicly there was concern that statewide indicators such as apparent retention rates were generating pressures which would not support this type of outcome.

A number of schools asked the question as to why performance indicators for education systems did not measure and value the movement of students from school into these jobs. A further question raised was why students were deemed to have left school when the apprenticeship they entered into with an employer continued to cover similar curriculum areas to those which they would have covered had they stayed on at school. Could there not be recognition that successfully completed apprenticeships could contribute towards the end-of-school certificate? It was suggested that this type of recognition would encourage young people to stay connected with education and training systems, and would give a real dimension to the lifelong learning concept. These suggestions seem to embrace some of the concepts of Finn (1991).

A dominant theme

One constant theme from these case studies is that of variety and continuing change. There also appears to be no one best model of a school–industry program, or of delivering structured workplace learning, and being best is often temporary anyway.

The capacity to respond to and manage change probably separates the better vocational programs from the rest. In most cases these capacities were associated with strong and visionary leadership—often at the school, but occasionally from industry, enterprises or third party agents such as group training companies. It is no coincidence that a third element in this response to change is the emerging recourse to co-operative regional or community solutions that transcend and challenge the traditional program and policy separations of central agencies. Some of these co-operative community solutions are redefining traditional boundaries of secondary schooling at the same time as suggesting new forms of education and training delivery.

A number of case studies also illustrate the tensions between change management and centralised policy and resource mechanisms, particularly when practice at the periphery is ahead of central policy and waiting for it to catch up.

The unresolved issue reported by most case studies is the ongoing resourcing of co-ordinating units to manage the various forms of workplace learning and industry and enterprise

participation. Most vocational programs with work placement were reliant on diminishing and temporary external funds from the Australian Student Traineeship Foundation, the Department of Education, Training and Youth Affairs, the Australian National Training Authority and State education and training authorities.

Diversity and best practice

When the limited number of recent case studies on school-based vocational education is considered alongside the changing policy and program guidelines from central agencies for the same period, it becomes apparent that the quest for examples of best practice becomes elusive. The available surveys and case studies reveal that the period 1995 to 1999 was characterised by growth and change where increasing numbers of schools and students entered into the vocational arena and that schools and programs continued to develop new procedures and structures. In this dynamic environment it has been relatively easy to document some inputs (students, programs, schools, funds) and organisational features (clusters, management committees, work placement, employer participation) but less easy to associate these with outcome measures of student learning, retention and transition. Without these outcome measures the concept of benchmarks or best practice becomes somewhat problematic.

In this instance it may be appropriate to consider the distinction between the benchmarking of academic or learning standards and that of institutional practice as indicated by Anderson, Johnson and Milligan (2000). A benchmark of academic or learning standards is described as a statement of the explicit systemwide standards that apply within a field or discipline and usually refer to critical points of achievement. However, benchmarking of practices in an institution refers to the formal and structured process of searching for those practices that lead to excellent performance and the adaption of those practices to meet organisational needs. This latter view of benchmarking still raises the question of a performance measure but contains elements that can be applied to vocational education and training programs in schools; that is, the search and adaption of practices to meet organisational needs. However, the focus on search, adaption and organisational needs highlight the dynamic nature of benchmarks and their unique applicability to an organisation.

Implementation characteristics

At the individual school level, vocational program type and content vary, and appears to depend on combinations of the following factors:

- ❖ the history of participation in either vocational education or curriculum innovation
- ❖ whether the concept of vocational education is embedded into a broader philosophy of general education or is seen as a separate curriculum stream for those not going to university. For example in schools with a commitment to an expanded general education model a vocational program might extend down to Years 9 and 10, be linked with enterprise education activities (such as E Teams, Mindshop Excellence and other programs which teach students business planning and problem solving skills in real situations), be supplemented by extensive careers education courses with work experience or industry visit programs and general courses on technology and society. Underlying the accommodation of an expanded general education concept is a supportive teacher culture and professional development program
- ❖ the co-operative arrangements entered into with other schools, enterprises, TAFE institutes and third party groups
- ❖ the chosen curriculum and a willingness to develop customised programs to suit student, community or industry needs which may initially lie outside prescribed frameworks
- ❖ school size, location and parent support

From these case histories of implementation it becomes apparent that:

- ❖ Most vocational programs start as a conversion of existing school programs and resources.

- ❖ There is no one best developmental path for schools wishing to engage themselves with vocational program provision.
- ❖ The size of the available enrolment base influences the scale and viability of the vocational program, but the available base might come from a cluster of schools not just a school.
- ❖ The provision of structured workplace learning that complies with National Training Framework requirements as expressed through training packages, and includes supported on the job assessment, generates the largest additional cost element for vocational programs.
- ❖ The most common target student group is those not proceeding to university, and not students at risk of early leaving.
- ❖ Schools with a history of fees and access to reserve funds and capital resources are more likely to link vocational education with income generating activities.

From published case studies on vocational programs in Australian secondary schools the most striking feature is the change and variety occurring in program arrangements and student target groups. In this environment vocational programs, schools and communities appear to progress through a multitude of development pathways with varying levels of success. How to describe this activity is a challenge for policy-makers and researchers in that:

- ❖ Vocational activity is unevenly distributed, ranging from schools and groups with leading-edge education, training and business practices with a high degree of financial independence acting ahead of central policy guidelines, to schools and communities with traditional vocational programs entirely dependent on central agency curriculum directions and resources.
- ❖ Vocational programs are applied at the provider level to a variety of target groups for a variety of purposes. In some schools more able students are selected for employer contact programs; in other schools vocational programs are identified as being suitable for low-achieving students or students at risk. In some schools vocational programs have been used to assist students into jobs before Year 12 completion, while in others vocational programs are undertaken by students because they give them bonus ENTER scores for university selection.
- ❖ Vocational activity is episodic and developmental, often shifting from a limited starting point within a school through a series of developmental phases sometimes resulting in some form of collaborative provision.
- ❖ There are no systematic studies to relate vocational program elements at the provider level to specified measures of success, efficiency or effectiveness. While case studies and quality decision guides (ASTF 1997a) have been useful in identifying possible systematic factors of program success, there are no Australian studies that examine the relationships between these factors and provider, program and learner characteristics.

To assist in the formation of order in the complex domain of school-based vocational education and training we have developed a framework (see table 1 in part 1) to identify and profile at any one point in time the salient features of a school or provider-based vocational program.

Profiling vocational program implementation within schools

Each secondary school will have a profile which best describes its vocational program and associated environment at any one time. For many schools these profiles will frequently change and will be determined by decisions confronting a school about to deliver a vocational program. Table 12 is a guide to the types of decisions schools will make about each vocational program in terms of student profiles, course accreditation, course delivery characteristics, required and appropriate external linkages, and resource sourcing and procurement. In any column a school may have multiple characteristics as each vocational program, subject or stream (office and clerical compared to engineering or an embedded general vocational subject) might be administered differently. In this case a separate row of characteristics might be developed for each.

Table 11 illustrates many of the decisions that each school will make about its overall vocational program provision and about each element within it. For example a school might offer a board-of-study-approved vocational course with an ENTER score, and, while available to all students, will favour those bound for university due to timetable and workload considerations. At the same time that school might also run another vocational course directed specifically to early school leavers and devise an 'off mainstream' timetable to allow for the teaching of vocational, key competency and minimum core subjects for end-of-school certification. The provision of each of these courses will then take the school through a variety of decisions regarding course provision, curriculum support and resourcing.

Table 12 provides a basis for plotting a profile for a school or a vocational program against five different types of organisation. Most schools will start off as stand-alone providers of vocational education and then progress through a number of organisational types. For example an individual school may start as the providing entity, but proceed over time to become a member of two district clusters for two of its vocational subjects and remain as a sole provider for the other three. In some cases specialist stand-alone VET secondary schools have been created by governments (such as Bradfield in NSW) and in others senior secondary colleges with strong vocational components become a permanent feature of an educational system (Tasmania and ACT). In both cases schools are still able to form co-operative arrangements with other schools and employers and communities.

Two examples illustrate the complex dynamics that have occurred in school-based vocational education provision over the last eight to nine years. In the first example a lone government school might start with a limited range of vocational programs, some with a low-level commitment to workplace learning, none of which attract a university entrance score and are targetted to early school leavers. This continues for two or three years but the effort is too much for the school to sustain unless it can acquire efficiencies through cost-sharing and more enrolments. It then establishes a neighbourhood provision with an adjacent school and increases the scope of the target group to university-bound Year 12 students by offering two ENTER status vocational courses. After two years this neighbourhood group then joins a regional model of mixed government and non-government schools with a shared workplace co-ordination office supported by a regional TAFE institute and a group training company providing associated contract positions of training for school-based new apprentices. Six ENTER status vocational courses are now available to students through this network as well as a job counselling and placement services.

Another example of change is where a group of schools within a regional community receive funds from the ASTF to form a school-industry cluster. Each school is required to make a partial contribution to the cluster while the ASTF fully funds the co-ordinator. Collectively the cluster grows, but at the end of the seed-funding period the host school, located in a low income socio-economic status area, withdraws due to resourcing difficulties associated with maintaining a contribution for the full-time workplace co-ordinator. The school withdraws to a lone model for two years and then rejoins the regional group on a different financial basis. No published case studies on school withdrawal from vocational programs or on vocational program decline were available at the time of writing this report.

From these examples it can be seen that there are inherent weaknesses in pursuing relatively static benchmarks or models of good practice. If they are to be useful then they need to capture cycles of change and critical events, and to report on processes and reactions. One contribution into this field which demonstrates awareness of continuous change has been the quality program planning matrix of the ASTF (1997b) which has been used by many grant recipients. As a planning guide it identifies likely future management activities, but does not provide schools with solutions to overcome fundamental external impediments such as low enrolments, limited resources and few employers.

Table 11: Vocational course/subject dimensions in Australian senior secondary schools

Student target group(s)	Vocational course/ subject status	Vocational course/ subject characteristics	External linkages and support	Resourcing
A1. All enrolled students in Years 11 & 12	B1. Full AQF vocational certificate embedded within approved State completion certificate with ENTER status	C1. Full-time C2. Part-time	D1. Systemic school authority	E1. Fully resourced within normal fee/funding structures
A2. Those proceeding to Year 12 but not directly to university	B2. Partial AQF, with the rest same as B1	C3. Duration, less than a year to 3 years	D2. ACACA agency D3. VET authority	E2. Resourced by additional general fees and fee cross-subsidies from within the school or group
A3. Those at risk of not proceeding to Year 12	B3. As in B1 and B2 but no ENTER status	C4. General vocational C5. Specific vocational	D4. TAFE institute D5. Group training company	E3. An additional levy/fee placed on participating students
A4. Those at risk of not proceeding beyond Year 10	B4. Full or part AQF but not part of approved State completion certificate, no ENTER	C6. Classroom C7. Workshop or simulated work environment C8. Work-based learning C9. Other	D6. ASTF D7. ANTA D8. ITB D9. School-based parent group D10. Project management group D11. Local government D12. Local service & third party groups D13. Local employers and industry associations D14. Local trades & labour groups D15. Other	E4. Additional resources received from systemic authorities E5. Additional funds received from ASTF E6. Participating employers charged an annual fee E7. Subsidised under ANTA Profile arrangements E8. Subsidised in-kind from employers, parents etc. E9. Income generated from other activities including JPP E10. Cross-subsidisation of grants and income from group training companies and other employment agencies E11. Other
A5. Returnees seeking a schools completion certificate	B5. Non-AQF vocational courses/subjects appear on school certificate			
A6. Other	B6. Non-wage and contract-based B7. Wage and contract-based B6. Other			

Table 12: The organisation of VET in Australian secondary schools

Element type	Student group(s)	Vocational status	Vocational characteristics	Linkages & support	Resources	Comments
	A	B	C	D	E	
1. <i>School alone</i>						Scale and location of some lone schools will limit viable vocational program in terms of range of vocational areas offered and extent of work-based learning. Some non-government schools can use scale, fees, networks and business freedoms to overcome restrictions.
– <i>government school</i>						
– <i>non-government</i>						Allows for the 15–19-age-group culture. District senior school model ensures scale of enrolments to provide curriculum range and flexibility and choice for students.
2. <i>Senior college</i>						
– <i>systematised</i>						
– <i>few/occasional</i>						
3. <i>School organised groups</i>						
– <i>neighbourhood</i>						In principle overcomes issues of individual school size, but focusses attention on the organisation of sharing and co-operation, particularly if government and non-government schools are in the group; also problems of relative wealth. Does the most disadvantaged school in a group withdraw or seek minimal services because of costs?
– <i>district</i>						
– <i>region</i>						
– <i>remote</i>						
4. <i>Third party groups</i>						
– <i>district/region</i>						Provide extended vocational and employment support to participating schools, and links to employers, RTOs, TAFE institutes and group training; integrated service provision not directly funded by governments; few in number, but have high profile.
– <i>industry/occupation</i>						Co-ordinated service provision either by a management group or by a new post-compulsory entity yet to occur.
5. <i>Integrated post-compulsory transition services.</i>						
6. <i>Other</i>						

Issues, themes and directions

In this and the preceding chapter we have attempted to illustrate the complex concept of implementation as it applies to school-based vocational education. Within the context of Australian federalism implementation is about interactions between policies and practice as they occur within and between entities located in three planes—the Commonwealth, States and Territories, and schools, communities and employers. The interactions between and within the Commonwealth and State planes have essentially remained hierarchical and exclusive. This has contributed to a dissonance between policy intentions, policy formation and practice which effectively disconnected at one level school experience in the provision of vocational training from the formation of the National Training Framework and training packages. At another level dissonance occurred between State schooling agencies and school communities as new and local organisational models of integrated service delivery for youth struggled for recognition within traditionally separated agency fields of responsibility. One emerging theme therefore is the need for a more inclusive and responsive model of policy formation to operate equally across each of the planes of action.

The issue of relationship and recognition is important to the VET-in-Schools agenda, but so far has been avoided. If integration of education, training and work is to be a policy goal, then the traditional policy machinery should examine ways of incorporating the activities of regional and industry collective third party groups into the policy arena. There is a large amount of policy-type information about vocational education in schools as it is transmitted between Commonwealth and State agencies, but there is very little about the actual processes and practices at the school and community level. Without the networking facilities of the ASTF there would be even less. Yet it is schools and communities who ultimately implement central policies.

The issue of inclusion of non-traditional groups into the policy arena will become important as the convergence of youth services through co-ordinated local actions is pursued as a policy goal.

We have also shown that since 1992 the policy framework has changed from a focussed perspective of reforming training systems to a broad-based one intent on reforming upper secondary schooling and building a partnership culture for youth between schools, communities and employers. In this complex framework vocational education is ascribed many meanings and intentions. Amongst other things it is identified as:

- ❖ a lever to reform senior secondary school curriculum
- ❖ a means of establishing structured work place learning and learning communities
- ❖ a means of skill formation according to industry standards
- ❖ providing curriculum choice within an established general education framework for students not proceeding to university, providing articulation for school students into the TAFE sector
- ❖ providing students with work-ready skills to assist their passage into employment, sometimes without completing Year 12
- ❖ a means of establishing integrated and co-ordinated provision of entry-level training between the VET and school sectors
- ❖ a means of establishing long-lasting connections between employers and the education sector through the formation of co-operative learning cells and learning communities

This increasingly complex set of objectives is not fully identified and supported by each of the planes of activity. Consequently there is confusion about what is the baseline objective of a vocational program. There is sufficient feedback from school and community groups, and from State curriculum and accreditation agencies to suggest that now is a time to reflect and perhaps consolidate the intent and structure of vocational education in schools. This might mean a restructuring of the NTF and training packages to recognise the value of general

vocational skills, key competencies and underpinning knowledge acquired in a variety of classroom, workshop and workplace settings. ANTA and the State agencies as equals might jointly develop a general vocational qualification which acts as a bridge between the vocational and industry study courses of boards of study and the work-ready skill-specific courses of training packages and employers.

If this occurred, then a range of national vocational outcomes could be designed to better suit the needs of youth, including the 25% who withdraw from school before completing Year 12.

A reconsideration as suggested above would also draw attention to the costs of providing the various models of vocational education and the expanding array of objectives associated with its implementation.

Foremost in this review would be a consideration about the provision of structured workplace learning. This is consistently identified as the activity that significantly adds to the cost of implementing vocational programs. Limited case and longitudinal study evidence suggests that SWPL does have a positive effect on some student outcomes, but there are no studies which examine the extended range of intentions attached to vocational education with costs of provision. In the meantime the Commonwealth, through the ASTF, has created a general expectation that SWPL is a desirable component of vocational learning.

The role of the Commonwealth Government in initiating the current interest in school-based vocational education should be recognised and maintained. Now that State and Territory school agencies are in the process of adopting and working within the National Training Framework, and assuming that this will be adjusted to include school inputs, many of the traditional delivery roles seed-funded by the Commonwealth can now revert to them. However, new initiatives such as the provision of SWPL are outside this traditional framework and should be maintained by the Commonwealth. This would complement their intentions concerning the development of community partnerships and integrated youth services. An ongoing Commonwealth presence at this level would also ensure a relatively uniform entry into the policy arena of regional and community-based groups. However, the challenge for all traditional policy groups will be to manage variation rather than control it. The combination of vocational education and co-operative learning has thrown up a variety of delivery models to meet needs and circumstances at that time. These will change and will therefore require continual adjustments of administrative and policy frameworks.

However, the case for change should not be overstated. Most vocational programs in schools have been developed from pre-existing general education subjects, and engage students who most likely would have continued to complete Year 12. There is a small, but growing number of programs that provide integrated employment, education, training and welfare services but they are not typical. The real need then appears to be to consolidate the concept of applied learning and extending its availability to students through various partnership agreements that may or may not include SWPL. By itself this is an ambitious objective that is still in a fledgling stage.

The next four years should then be seen as the third period of development where a consolidation of provision of vocational education and training in schools occurs. In this period the general concepts and principles have been accepted but work is required to adjust some of the national frameworks and to establish ongoing policy and resourcing functions.

7 Cost and resourcing issues

Some basic issues

There are significant differences between desired and available measures of cost, particularly in the field of vocational education and training. Symmonds et al. (1999) suggest that costs of training are the value of the inputs used to obtain outputs of knowledge, skills, attitudes and values. However, when proceeding to identify various forms of cost studies they note that some, such as budgetary forecasts, concentrate on costs and ignore process and output issues while others focus on cost variations associated with process or organisational change with only a partial reference to outcomes. Only a small group of studies attempts to relate costs to outcomes and these vary considerably in form and methodology.

To overcome problems of comparison where findings often indicate differences in costs and outputs Symmonds et al. (1999) suggest that such studies also need to record the nature of the process that gave rise to them. These conclusions are similar to those of others (Stern 1999a; Stasz 1999; Brewer & Gray 1999) who have reflected on the types of information required to advise vocational education policy formation and indicate an ongoing issue about data capture and definition and the construction of analytic frameworks.

Cost and resource information on vocational education and training in Australian secondary schools is drawn from a small set of studies supplemented by fragments from other sources such as case studies and budget papers. Collectively these do not approach the ideal data set for evaluation purposes as described above.

From the previous chapter it is evident that there is considerable variation between schools and States in the way vocational courses are structured and delivered. Understanding this variation is important if national commitment to vocational education provision in secondary schools is to be effective and efficient. An understanding of the micro-economics of vocational course provision might improve the allocation of resources to schools, communities and learners by shifting these decisions away from post hoc arithmetic studies of highly aggregated data.

In this section we consider issues about choice and program structure to illustrate internal processes and limitations placed on schools implementing a vocational course and how these impact on costs. We subsequently present some available cost estimates on vocational education provision. It is apparent that some attention has been paid to estimating the costs of providing approved vocational education courses within the senior secondary school framework, but in most of these exercises costs have been estimated only for traditional school-based inputs used to deliver a vocational course (teacher time, curriculum materials and external charges). Most of these studies do not cost resources contributed from outside the conventional schooling domain, such as contributions from industry and community for SWPL, and do not relate costs to wider program outcomes often attached to vocational programs. The connected services of employment placement, job and welfare counselling, employer recruitment and learning infrastructure for a community are usually not considered in the outcomes side of the costing equation of most studies. Yet integrated service provision keeps appearing in the policy literature (Kemp 1999c; DfEE 1999a, 1999b; Urquiola et al. 1997)

and in practice in a small but growing number of community-based vocational programs (Malley et al. 1999).

We now have a reasonable idea of the conventional costs of providing vocational programs in schools, but only as they relate to a tightly defined educational outcome. We know very little about the processes and decisions about how a school or community might go about allocating resources within the constraints of a timetable, existing curriculum and budgets, and prevailing values of parents and community. In addressing the cost issue we have also not made explicit the expected responsibilities for the long-term provision of the various resource components associated with vocational programs. This appears to be the critical issue as the federal government and State governments attempt to move towards a new national policy on senior schooling and youth while remaining within the traditional policy frameworks of federalism and centralism.

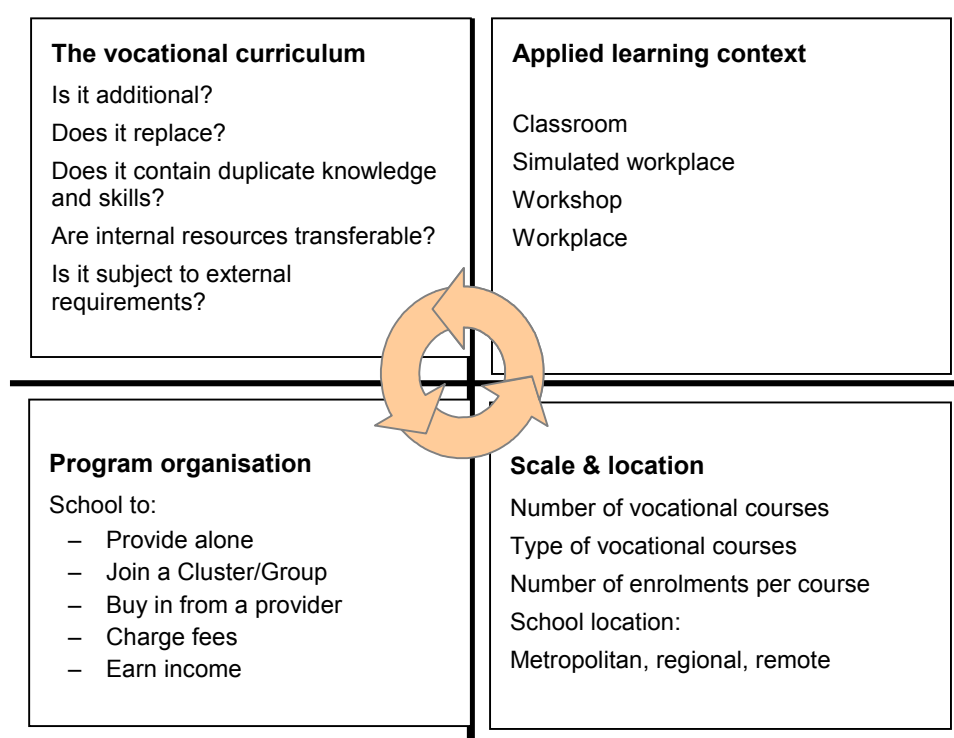
School choices and vocational costs

From reviewed studies, interviews and vocational program management experience we have identified four broad areas that appear to determine the cost structure of vocational programs for schools. These four areas engage most schools in choices and decisions, but some, like location and enrolment size, could be considered as exogenous. The following questions address these four areas of choice:

- ❖ How is vocational education accommodated within in the school curriculum?
- ❖ What type of applied learning is used in the vocational program?
- ❖ What is the organisational framework for the vocational program?
- ❖ What is the scale of the vocational program and where is it located?

Within each major area there are sets of nested sub-questions about the vocational program which affect the resource requirements for each school. Elements from the four areas are not independent and interact with each other to eventually affect the overall resource demands for the school. This framework of choice and decision is illustrated in figure 19.

Figure 19: A decision matrix for school-delivered vocational programs



The use of this type of matrix could precede the application of an 'ingredients' approach to educational costing as used by Symmonds et al. (1999) and suggested by Levin (1987). The ingredients approach is passive in that it costs what is actually used in a designated program and, unless embedded within a comparative framework, does not ask questions about possible alternatives that could be made to ensure efficiencies through integration of the vocational program in a school or cluster.

Curriculum choices and influences

There are five fundamental questions about vocational programs and their relationship to the school curriculum which impact on costs. Is the vocational program an add-on to the existing curriculum offered by the school? Does it replace any previously offered subject(s) from the curriculum? Are there any duplicate areas of knowledge in the vocational and general education components of the curriculum? Can the school transfer existing resources to the vocational area? Are there external requirements associated with the vocational program provision such as standards, registration or purchased delivery that require additional resources? These questions draw attention to whether the vocational program generates new additional costs and the extent to which existing resources from within the school can be redirected to absorb such costs.

A new vocational course that does not replace previous courses and does not duplicate knowledge elements from other subjects in the curriculum cannot make use of existing capacity and will require additional resources. A vocational course that replaces another subject or represents a subject conversion to a vocational form will require fewer additional resources by making use of existing capacity. One common form of subject conversion is the technique of dual recognition, which as practised in some States, allows schools to provide one course to meet both vocational and general education recognition requirements.

Other factors influence the selection of vocational programs within schools. Some of these are:

- ❖ the design of the program in relation to its length and commitment to a particular industry or occupation (a two-year sequence of studies leading to specialist skills compared to a one-unit study in general workplace competencies)
- ❖ the cost of meeting external standards requirements such as the training of staff and the conversion of kitchens or workshops to industry standards

After considering these curriculum choice issues schools become aware that there are high-cost and low-cost vocational courses. If schools cannot achieve cost offsets internally through program conversion processes then another way of offering high-cost vocational programs will be through some sharing or clustering arrangement, with students bearing a considerable part of the additional costs.

From case studies it appears as though many schools offer vocational programs as additions to the existing school curriculum, but do so by making some use of existing courses and facilities. In 1998 over 60% of the estimated national enrolments in VET-in-Schools were in the areas of hospitality, office and clerical, information and computing technology and general vocational skills. The reason for this enrolment pattern is that each of these vocational areas has existed in the past as similar general education courses and that vocational programs have generally been established however a conversion process. However, the pre-existence of these courses does not mean that all schools have the capacity to transfer some of their existing resource base to support the vocational program. The implication of this is that few schools resort to the substitution of vocational programs for general education ones.

For many schools the question of resource transfer and substitution between courses is not easy. Some argue that parent expectations and school culture do not allow them to substitute a vocational course for a traditional academic or general course, even if the original subject has low enrolments. Another impediment to redirected resource allocations within schools is the link between funding and staffing formula and the organisation of classes and the curriculum. Most government schools design their curriculum and timetable to operate on a minimum class size which has a fixed overhead of a teacher. The shift of four or five students

from an existing subject to a vocational one does not necessarily free up fractional teacher resources that can be transferred if the original subject continues with a viable class size. These arguments should fade if a near similar general education course is converted to an approved vocational format.

Another model of vocational learning is one that treats applied or situated learning as an essential feature of any subject within the curriculum. This model is not common in Australian secondary schools. The separation of vocational education within the secondary curriculum is maintained in part by the prescribed meaning now attached to it by ministers¹⁵ and by the conditions attached to the use of ANTA-provided funds for VET-in-Schools.

Applied learning

The form of vocational or applied learning attached to each subject also impacts on the cost of vocational programs. Some vocational subjects can be taught in the classroom and do not require extensive work-based learning to achieve desired levels of competency. Other vocational subjects can be taught in simulated work environments (the 'practice office' concept is used in many business and clerical vocational courses) or in workshops (automotive and engineering) located at schools or TAFE institutes. Workshop learning incurs capital costs but can avoid costs associated with maintaining an employer base and supervising out-of-school students. Differences in cost and effectiveness between various forms of workshop and work placement have not been systematically explored in the Australian context, even though prevailing policy initiatives are encouraging structured work placement as a preferred form of applied learning. What is known from the available research is that extensive structured workplace learning in each vocational subject adds significantly to the recurrent costs of provision and that SWPL administration is additional to any generated teaching demands.

For many schools there is no choice in the style of applied learning as boards of study, the ASTF and training packages now require time to be spent in the workplace as a condition of the approved course. This varies between States and training packages, but has been a general requirement of the ASTF. Through the ASTF, the provision of SWPL in secondary schools providing vocational programs is now more widespread than its provision within TAFE institute courses. This ASTF promotion has been successful in raising the use of SWPL by secondary schools and has resulted in an ongoing demand for funds to support work placement co-ordinators.

The emphasis on SWPL as a mandatory feature of vocational education provision has not encouraged a closer discussion on the relative merits between classroom, workshop and workplace learning for entry-level vocational courses. The estimates given earlier on student participation in SWPL indicate that it varies between States and subject domains. Studies reported in this chapter also suggest that its provision is the major contributor to the cost of running vocational programs in schools and is the resource most dependent on external funding. The push towards SWPL, in the absence of an articulated framework of costs, provision and outcomes, suggests that there may be mixed and unstated goals and expectations about why SWPL is a general policy goal. The quality matrix of the ASTF, with its emphasis on industry engagement in management committees and outward-looking strategic management techniques provides some clues as to the direction and place of SWPL in Australian secondary school vocational programs.

Organisation of the vocational program

In conjunction with considerations about curriculum and applied learning, a school also needs to make choices about organisational arrangements to provide a vocational program. Will it run a vocational program alone and within the constraints of the school curriculum and

¹⁵ At the April 1998, MCEETYA meeting ministers agreed to the NTF with its industry-derived standards and specified training packages as the only form of vocational education to be recognised by boards of study.

budget? Will it seek to expand its curriculum provision by joining or forming a cluster of schools? How will it engage enterprises if SWPL is to be part of the offering? Will it form relationships with TAFE institutes and group training companies to purchase off-the-job training hours? Will it charge students additional fees for enrolling in school-based vocational programs? Will it establish enterprising activities which generate an income based on student placements or products and services generated by their vocational engagement? Will employers be charged fees for participating? Will it provide an extended service to students regarding post-school employment and job counselling and also provide employer services?

The decision to provide a program alone or as part of a cluster is often made in conjunction with decisions about scale and existing capacity. For example, a medium-to-large-sized school may choose to run a hospitality vocational course on an in-house basis by converting existing food technology courses into vocational equivalents. The establishment of a school restaurant open to the public provides the SWPL and generates sufficient income to cover some of the material costs. The management of the program remains within the school as a food technology faculty responsibility. Students are not charged for instruction as this is covered by normal budget allocations.

In contrast to this, a small school may have two groups of three students who want to participate in engineering and retail vocational courses that the school is unable to provide by itself. Two nearby schools are in a similar situation where small numbers of students want to access VET-in-Schools courses that individually they cannot provide. As a collective entity the three schools find they can pool fragments of staff allocations and with the assistance of an ASTF grant can engage a workplace learning co-ordinator to manage a four-sector vocational program (engineering, retail, hospitality and office administration). Students in each school benefit by having a wider vocational program range and with SWPL built into each area. To meet NTF requirements for engineering, students attend a TAFE institute and pay additional fees for that instruction. In this example clustering increases student choice but increases the cost of provision.

Cluster or group arrangements vary from two or three small government schools operating on a common timetable to co-operative regional models where schools contribute fractional staffing allocations to create a full-time work placement co-ordinator (Cumming & Carbines 1997; Malley et al. 1999). Large wide area models with high levels of community and employer support and with a mix of government and non-government schools also occur (Willett 1998). These larger groups can involve eight or more schools and often operate on a cash-fee-for-service basis (ranging from \$400 to \$700 per student per year) from a centrally staffed co-ordination unit. Many of these larger groups maintain management committees with industry and community representation, a situation which provides benefits by way of business practices and in-kind resources but also generates additional servicing costs.

For many government secondary schools the addition of vocational education to the curriculum creates a dilemma in that, in order to run the program, students may be charged disguised fees to cover the costs. Some schools disguise these costs by referring to them as material fees, getting parents/students to pay registered providers directly, cross-subsidising vocational education from surpluses created in other parts of the school fee structure, or by offsetting them through generating income from student activity or fees to employers. The tension for Australian government school systems is that provision of secondary education is considered to be free from fees for instruction.

Scale, type and location

A school setting up a vocational program has choices about the range of vocational subjects and courses of study it might offer. A vocational program made up of three or four full AQF level 2 certificate courses embedded within an end-of-school certificate with full ENTER score status, each offered as a two-year sequence with workplace learning, will require a high level of resourcing. If offered through a stand-alone school, this type of program range could only be sustained if sufficient students continue to choose to enrol in them. However, it is possible

to sustain a program range in the face of small student enrolments if the range is offered as part of a cluster.

A different situation from this is where a school only offers a one-year course requiring a general placement in any industry or enterprise for the purpose of acquiring competency in a general skill. Most schools have sufficient student numbers over time to sustain this type of general vocational course provision.

An exogenous factor to cost of provision is location. Schools and clusters in metropolitan areas have relatively easy access to a wide variety of workplaces, TAFE institutes with workshops and other supporting agencies. In contrast to this are clusters of schools in provincial or isolated communities where the nearest town with a diversified employer base and TAFE institute might be three hours away in travel time. In many cases isolation often requires schools to organise work-based learning on a live-away-from-home basis for periods of up to two weeks. The time spent on organising and supervising vocational placements varies with location and adds to the cost of vocational course provision.

Vocational program and cost variations within a school or cluster

From this simple framework on choice and influence, and from the case study examples and program typology considered in the previous chapter, it can be seen that the costs for vocational programs are sensitive to a variety of factors. There is a gap in our present knowledge about why this variety occurs and how it impacts on vocational provision. This creates a problem in that it encourages allocation of resources on a general formula approach and avoids long-term commitments based on particular issues of integration, need and goal attainment. It also encourages inconclusive debate between the federal government and State governments about relative funding responsibilities and program objectives and which leaves many of the more innovative programs at risk. As sunset and annual grant review periods draw to a close without clear directions for the next period they distract schools and other delivery agencies from addressing their own issues of growth and change.

The extent of difference that can occur within a vocational program is illustrated in table 13. A large secondary school operating both independently and within a comprehensive cluster might offer the following range of vocational subjects, with each vocational subject having a different cost profile. In this example board-of-study guidelines allow the school to offer:

- ❖ full AQF vocational certificates (certificate 1 and 2 in domains a, b and c)
- ❖ VET modules packaged as a subject which are recognised by the board as an approved subject (subjects d and e)
- ❖ vocational modules embedded within a board subject which meet NTF requirements (modules f and g)

In table 13, X indicates the form of delivery occurring in that school. So, for example, certificate 1 in domain *a* (engineering) is delivered by a mixture of school-based resources, purchased instruction from a TAFE institute and by structured work-based learning. A certificate 2 in office administration (*b*) might, on the other hand, be delivered entirely through structured work-based learning via the Administrative Training Company on-the-job training package. A second certificate 2 in horticulture (*c*) makes use of the school grounds and gardens as a resource for instruction but also makes use of nearby commercial growers who come to the school once a week to provide instruction and who also provide structured work-based learning for students. The school as part of a cluster also offers a stand-alone information technology subject (subject *e*); for example, CISCO [a software system]) that is recognised within national level certificates. Similar explanatory lines can be developed for the other vocational modules and subjects.

Table 13: Vocational subject profiles offered by a school within a vocational cluster

Program type	Delivery mode					
	In school using:*			Purchased and delivered by a registered training provider	On the job via SWBL	Other (distance, multi media, etc.)
	Schl	Clu	Com			
<i>Full vocational certificate course of study</i>						
Certificate 1 in domain a	X	X	X	X	X	
Certificate 2 in domain b					X	
Certificate 2 in domain c	X		X		X	
<i>Embedded or stand-alone vocational subject/s contributing to a certificate</i>						
Vocational subject d						
Vocational subject e		X				
<i>Vocational module/s embedded within a BOS subject.</i>						
Vocational module f						
Vocational module g						

Notes: *School delivered using existing school-based resources (schl), shared resources of other schools in the cluster (clu), or community or employer resources donated to the school (com).

SWBL – structured work-based learning

The possible range of vocational program arrangements available to a school will vary according to prevailing State/Territory guidelines, size of school, availability of clusters or other providers and curriculum choice decisions by students. In some States students have a wide choice as to the intensity of engagement they have with vocational education. For example in Western Australia, South Australia and New South Wales students have been able to take vocational subjects as an embedded element within a board-of-study approved subject, as a recognised TAFE subject appearing on an end-of-school certificate, or as a full or near full certificate I or II. In Victoria the choice for students has usually been restricted to a full certificate program to be undertaken over two years.

Despite these cautions and difficulties there appears to be general agreement that, overall, the addition of vocational education and training into a secondary education system is more costly than an equivalent traditional academic program. Benson (1992) cites a career magnet school in New York with many 'new vocationalism' features as having recurrent costs 7% higher than conventional secondary schools, and as will be illustrated below, Australian studies come up with similar findings.

Some vocational program cost estimates

In the current context of VET-in-Schools there are a few studies that examine program costs, and each one of these associates cost measures to traditional educational outcomes. The schools-based case study by Bluer et al. (1997) identifies vocational course costs associated with organisational change and some processes and outputs, and translating these into Statewide measures. Like Symmonds et al. (1999) they conclude that further detailed case study work is required in order to understand vocational cost and outcome relationships. Keating (1998a) breaks down the various activities for vocational provision by schools and then estimates likely costs from an 'a priori' position. Malley et al. (1999) provide extensive process and organisational information and cost details for vocational programs in individual

schools but do not proceed to estimate aggregate cost implications or formally associate costs with outputs. Ernst & Young (1999) combine school-based surveys with aggregate State data to identify vocational activities and functions and their associated costs. These are aggregated into national estimates for the continuation of the present VET-in-Schools initiative. The Symmonds et al. (1999) study compares costs of work-based vocational learning with courses provided by TAFE institutes and relates these costs to measures of student satisfaction but not learning outcomes. Burke et al. (2000) review the literature on costs of vocational provision and provide a framework for identifying costs but do so in a conventional school provision framework.

Other than these few studies there appear to be no other contemporary analyses of vocational education and training in Australia which relate costs of various forms of provision to outcomes. This is a significant gap in our collective knowledge as it occurs at a time when there are signs that governments are seeking to improve outcomes for youth in the post-compulsory age group through integrated and co-ordinated services. If these changes to government service provision proceed, then the need to know about relationships between co-ordinated program costs and outcomes will increase. As discussed in other parts of this report, vocational education provision in secondary schools appears to be a key part of this broad policy. Yet we know so little at the case-study level about relative costs and effectiveness of particular programs on youth groups other than basic associations of cost with traditional measures of outcome and traditional forms of curriculum.

What cost information is available is usually qualified and presented cautiously. With reference to their Victorian schools data on vocational dual recognition programs Bluer et al. (1997) comment that it had to be interpreted '... in a context where new programs are being introduced each year and the method of organisation and the sources of finance are also changing' (p.3). Similarly, from an earlier period in the USA Benson noted that '... the new vocationalism is still so new and takes such a variety of forms that cost estimates drawn from operating models are eccentric' (1992, p.5). More recently a MCEETYA VET in Schools Taskforce report continues this caution by declaring that their data are indicative and provide '... realistically accurate ballpark estimates ' but that '... they do not provide the same measure of reliability which could be obtained using statistically representative samples' (Ernst & Young 1999, p.iv).

The use of the word 'program' needs to be considered. At a school a vocational program will refer to the range of subjects or studies made available within the curriculum. Another use is where it refers to particular courses of study based upon an industry or occupational field. The latter tends to be used in broad policy-based discussions and analyses. Using this broad meaning of program, Bluer et al. (1997) produce contemporary Victorian data (table 14) to highlight two issues:

- ❖ vocational course cost differentials (there are high-cost and low-cost courses)
- ❖ the implications of fixed-term grants from the federal government (the ANTA \$20 million per year to 2000) for VET-in-Schools and the unstated expectations about what schools should do in the medium-term to accommodate the costs of course provision

In this example State agencies have deemed that schools be funded at 70% of the rate for which TAFE institutes are funded to provide the same course. This 70% rate applies as a means of rationing the fixed net additional amounts of annual funds made available for VET-in-Schools by ANTA and forcing schools to reallocate funds from their existing resource base for the other 30%. In this example the Victorian Government proceeded in following years to further reduce the proportion of the post-school TAFE funding rate available to secondary schools because the number of participating schools and students increased. In making funds available through a sunset clause (expires in 2000), and with limitations on their expenditure, the federal government and State governments appear to have made an assumption that vocational education should not in the medium-term be maintained as an additional element to the school curriculum and resource base. After 2000 supplementary grants to run vocational education are likely to be withdrawn. If this is part of the central policy intention to restructure the provision of secondary education, it has implications for school-based

curriculum and resource planning, but these have not been clearly communicated to schools and communities.

Table 14: Victorian funding model for two VET in schools courses, 1997

Program	1997 TAFE system purchase price per student contact hour to TAFE institutes	1997 TAFE payments to schools per student contact hour	Year 11 maximum funded hours for each course	Year 12 maximum funded hours for each course
Engineering	\$7.79	\$5.45 (70%)	232	229
Small business	\$5.92	\$4.14 (70%)	130	70

The problem with this model of allocation is that it assumes that all schools receiving additional funds can deliver these vocational courses at a cheaper rate than TAFE institutes and have the capacity to free up resources from their existing base and reallocate them to the vocational area. Neither of these propositions has been systematically tested.

Another set of cost differences between senior secondary school subjects and vocational courses has been provided by MCEETYA (1995) using Queensland data. By calculating total costs (recurrent and capital) on a per-class-per-year basis, Queensland demonstrated that even though senior school subjects vary (resource intensity and location) they are lower in cost per class to offer than TAFE courses (table 15). Using mathematics provided in a metropolitan setting as a base (1.00 = 1995 estimated cost per class of \$7700) a TAFE hospitality class is estimated to be some 17% more expensive than a mathematics class and 11% more expensive than a biology class delivered by schools in metropolitan areas. Similarly, a vocational business studies course is estimated to be some 56% more expensive per class than a school-based mathematics course provided in a metropolitan school setting.

Table 15: Queensland estimates of costs per class per year for senior school subjects and TAFE vocational subjects likely to be offered by schools

	Metropolitan	Provincial	Isolated
Senior school maths	1.00	1.06	1.10
Senior school biology	1.06	1.13	1.17
TAFE Business studies	1.56	1.82	2.47
TAFE Hospitality	1.17	1.43	2.08
TAFE Work education certificate	1.17	1.43	2.08

In conducting this analysis Queensland concluded that TAFE costs (that is, for approved vocational courses) are significantly higher than average secondary school costs, and that this gap increases for schools in provincial and remote areas. An 11% difference in cost per class occurs between the lowest cost TAFE classes (1.17 for hospitality and WEC) and a high-cost school course (biology 1.06) and a 17% difference between a low-cost school course (maths 1.00). Differences between TAFE and school course costs on a location basis increase up to near 100% for classes in isolated areas

Bluer et al. (1997) estimated costs per student for a variety of delivery arrangements for Victorian dual recognition vocational courses (table 16). In the Victorian context a dual recognition program usually refers to a four-unit sequence of studies taken over two years with a specific industry or occupational focus and thus represents a 'heavy' vocational commitment by the school and student. Their estimates are for recurrent costs and as with other studies refer only to the provision of vocational instruction for the approved course. In this study, the authors explore the recurrent costs of four models of vocational program delivery.

The Bluer models as presented in table 716 are:

- ❖ **model 2**, the school as a private provider delivering one vocational program with no structured work placement
- ❖ **model 3**, the school operating with an intermediate broker and offering two programs both with workplace learning
- ❖ **model 4**, the school operating as a private provider with two programs with workplace learning, and purchasing four programs from a TAFE institute, two with workplace learning
- ❖ **model 5**, the school providing one program with no workplace learning through a TAFE institute and three programs with work placement through a group training program

Model 1 is a base estimate of an average annual direct teaching cost per student for a non-vocational program (1.00 = 1997 average annual per student direct teacher cost of \$540) derived from MCEETYA estimates (MCEETYA 1997). Models 2 to 5 represent the average annual direct teacher costs per student for vocational programs plus the additional non-teacher recurrent costs associated with each form of delivery. These estimates are significant in that they suggest that costs rise per student as the program range and organisational complexity increase (by at least 100% for models 4 and 5). However, as the program complexity increases there is some evidence to suggest that a more complex series of outcomes are provided, not just the delivery of vocational courses.

In these complex co-operative models students often receive intensive levels of careers counselling, pastoral care, on-the-job learning and post-school job placement services superior to those any individual school could provide. The Bluer model and others were not able to separate these additional services from their estimated cost structures but noted that differences probably reflected variations in program quality and outputs. This inability to differentiate outcomes can lead to a misleading conclusion that some forms of vocational education can be at least twice as costly to provide as a 'standard' classroom-based subject.

Table 16: Estimated average annual recurrent costs of vocational program delivery arrangements for secondary schools

	Model 1	Model 2	Model 3	Model 4	Model 5
Average direct teacher costs per secondary student	\$540 *	\$511 **	\$511	\$511	\$511
Co-ordination costs for workplace learning	\$0	\$0	\$300	\$300	\$300
Net additional VET cost excluding teacher provision	NA	\$45	\$201	\$294	\$316
Total average cost per student per year	\$540	\$556	\$1012	\$1105	\$1127
Cost index per student with average Year 11 or 12 teacher provision as base.	1.00	1.03	1.87	2.05	2.09

Notes: *MCEETYA (1997)

**Bluer et al. (1997)

Keating (1998a) from an *a priori* position estimated a recurrent annual cost to a school of \$30 540 for running two to three vocational programs with workplace learning and with an overall enrolment of 50 students. This translates to approximately \$611 per vocational student.

Another study (Ernst & Young 1999) conducted on behalf of the MCEETYA Taskforce on VET in Schools attempts to recognise the different curriculum frameworks in three States and the goal of integration of vocational education into a general education framework. For each of the three States involved, total costs are estimated for the provision of general education and VET-in-Schools (the approved form of vocational education in schools) on a per student basis and reflect the between State differences in curriculum frameworks (table 17). Victoria has a higher cost ratio for vocational courses (54% higher than general education courses) because

of the dual recognition policy which requires all VET courses to be part of a two-year program. The overall lower costs per student in Victoria probably reflect efficiencies due to scale and density of students and schools within that State. By contrast, Western Australia, with a sparse and relatively small school population, is estimated to offer vocational courses at a cost 19% above that for a student in a general education course. This lower cost of provision is partly attributable to the flexibility of provision of vocational education within the WA Certificate of Education where students may engage in vocational units, subjects or major sequences over one or two years of study.

Table 17: Estimated 1998 total costs per student for general education and VET-in-Schools courses in three States

	Total cost per student general education	Total cost per VET student*	Cost ratio per VET student in senior secondary schooling
Victoria	\$1274	\$1962	1.54
South Australia	\$1646	\$2056	1.25
Western Australia	\$4493	\$5351	1.19

Note: *Adapted from Ernst & Young (1999)

With regard to the goal of integration, Ernst & Young (1999) comment that for VET-in-Schools to become viable it needs to be integrated into the general education curriculum and budgets of schools otherwise it is unlikely to become viable, the implication being that vocational courses should not be seen as additional courses requiring additional funding, rather duplicated knowledge should be eliminated and curriculum restructuring should occur to substitute vocational courses for other existing ones. They observe that only a small number of schools will have achieved curriculum integration by the year 2000 and that at least 30% of vocational course hours should be provided through existing school resources.

In each of the above studies the derivation of the base comparison cell ($x=1.00$) is different and its basis of calculation influences the subsequent differences in the ratio measures. One means of overcoming this is to take the estimated additional costs for vocational provision and to derive ratio measures from a common denominator. In table 18 the 1997 MCEETYA estimate for recurrent expenditure per student in Australian government secondary schools (\$6050) is used as a base. Assuming that the preceding vocational cost estimates are true, then a crude index can be derived to present these findings on a common basis.

From these crude indexes it appears as though the provision of structured workplace learning to a vocational program, with its attendant functions of recruiting employers, monitoring student welfare and organising on-the-job assessments adds at least 8% per student to the cost of instruction. A VET course requiring purchased instruction time from an RTO and SWPL could add at least 10% to costs. Where the majority of direct teaching (70%) cannot be absorbed into existing budgets through replacement or conversion, then an additional 6% loading for the vocational program is estimated to occur.

From these studies, and despite methodological differences and shortcomings, there are consistent findings about costs of vocational programs in schools. These are that:

- ❖ Cost of provision of vocational courses in schools as a conversion of an existing program and with no SWPL or externally provided instruction is generally no more costly to provide after initial conversion than that of general education programs.
- ❖ Cost of provision is related to a number of factors but particularly to the provision of structured work-based learning and associated requirements of student and workplace co-ordination and support. The other significant cost factors are associated with maintaining compliance to NTF requirements and purchasing instruction from outside providers.
- ❖ Variation in cost of provision between the States is related to the degree of curriculum and resource integration of vocational programs into the general education framework.

Table 18: Crude index of average cost per student for various models of VET-in-Schools provision

Model of provision as an average annual recurrent cost per student	Cost index of provision with direct teaching costs absorbed into existing budget	Cost index of provision with 70% of direct teaching costs for VET additional to existing budget
1. Average recurrent cost per secondary student in a government secondary school (MCEETYA 1997 = \$6050)	1.00	
2. Doing a VET-in-Schools program with no SWPL and substituted into the curriculum through conversion of general education courses	1.01	
3. Doing a VET-in-Schools program with basic SWPL (less than 10 days p.a.) and no extended program goals	1.08	1.14
4. Doing VET-in-Schools program with a high level of SWPL (more than 10 days p.a.) and extended service outcomes.	1.10	1.16
5. Purchased instruction time from TAFE/GTC/RTO and with extensive SWPL	1.12	1.20
6. VET-in-Schools as a full AQF sequence as part of a school cluster, with SWPL	1.11	1.17
7. VET-in-Schools model 5 in a non-metropolitan environment not considered remote, with SWPL	1.14	1.24

- ❖ There are economies of scale with regard to student enrolments in any one particular vocational program, but these become less obvious as more vocational programs and other youth services are provided. The identification and separation of extended youth services has not yet been analysed and costed.
- ❖ States, Territories and schools are not yet in a position to maintain vocational programs in secondary schools to NTF requirements without ongoing assistance from federal government grants.
- ❖ Schools will not be able to maintain vocational education programs with substantial amounts of work-based learning unless they either restructure their present curriculum array (eliminate duplication and/or substitute) or continue to receive additional resources as income from fees or enterprising activities, grants from central agencies or subsidies from community and employers.
- ❖ Unit costs of provision vary with location, increasing for rural and remote schools.
- ❖ Schools do make choices about vocational course provision based on existing resource availability and the conversion of general education courses.

Estimates generated by these studies are essentially snapshots based on existing organisation and curriculum structures of schools and TAFE institutes. They therefore assume the reproduction of these structures, but with minor adjustments to accommodate vocational courses. This is reflected in the Ernst & Young (1999) study:

One of the key issues relating to the delivery of VET in Schools and associated costs, is the extent to which the VET programs are provided in addition to general education courses (generally using funds provided specifically for this purpose), or whether these programs are integrated within general education and are resourced by the re-allocation of existing funds.

(Ernst & Young 1999, p.5)

In this type of analysis the concept of curriculum *integration* is held to be the key to resourcing vocational education by freeing existing resources for re-allocation. However, integration as a process and an outcome is not explained. What appears to be meant is that integration occurs when either curriculum conversion or replacement takes place and results in existing

resources being freed for use within a vocational one. Curriculum replacement became a priority goal when State and Territory governments accepted the NTF as the appropriate form of vocational provision and through board of study approval processes embedded these requirements into the existing school organisation and curriculum frameworks. The acceptance of this replacement argument slips the fundamental resourcing responsibility for vocational curriculum provision back to the States, Territories and schools. It should not however, shift the responsibility for SWPL to the States as this has been an additional feature of vocational education driven by Commonwealth policies. Prior to 1992 non-wage-based SWPL was not a feature of school-based vocational education, or of most TAFE courses.

The resource and cost implications of a different secondary school curriculum based on situated or applied learning are not considered by these studies, nor is the concept of a common curriculum and resource base for post-compulsory age students in school, TAFE or at work.

Another limitation of these analyses is that they are silent about the changing resource demands for vocational programs as schools proceed through a developmental cycle of shifting from a school-alone provision, to a school-based cluster and then to a community-co-ordinated learning model.

The impact of insufficient numbers of qualified vocational and technological teachers on the long-term provision of vocational learning in schools is also not considered by the preceding cost studies. The demise of specialist teacher training courses for vocational and technological disciplines and the subsequent decline in specialist teachers was identified as a limitation to program expansion in a number of the case studies reported by Malley et al. (1999). This problem will be exacerbated when schools find themselves competing with TAFE institutes and other private providers for qualified vocational teachers and trainers which will occur in the near future as the age wave of experienced and permanent teachers retire from the TAFE systems throughout Australia (Malley et al. 2000).

Costs, resources and policy agendas

The expansion and restructuring of vocational education provision in secondary schools during the 1990s is attributable to Commonwealth policy and resourcing initiatives. While some of the policies have changed with governments, overall, a connected thread of reform has been maintained. What also has endured over this period is a relatively short-term commitment by federal governments to resourcing these changes. As the end of the second four-year Commonwealth funding period (\$187 million¹⁶ for 1996–97 to 1999–2000) draws to a close there are no long-term bilateral agreements in place between the federal government and State governments about relative responsibilities for maintaining secondary school vocational education in subsequent years. The implication of this at the school and community level is that most vocational programs requiring work-based learning and using co-operative forms of provision cannot be maintained without external assistance.

The expectation of the Commonwealth is that States and schools should take up this responsibility.

... I am concerned that there is still not an adequate degree of ownership at the State and Territory level of the agenda for vocational education and training in schools at those senior years and in the middle years.

The Commonwealth can act as a catalyst, but ultimately, it's the responsibility of those running the school systems, running individual schools, to take up full ownership of this

¹⁶ This \$187 million is made up of:
\$80 million of ANTA funds
\$23 million of VET-in-Schools funds from the School to Work Program
\$40 million for the ASTF
\$38 million for workplace co-ordinators, via the ASTF
\$6 million for the Jobs Pathway Program

agenda. It's not a Commonwealth add-on. This is something which is absolutely integral to the effective provision of education and training in Australia as we move into the next century.
(Kemp 1999b, p.8)

While this intent reflects traditional State responsibilities for education, it down-plays the national leadership role of the Commonwealth, given its complex reform agenda for vocational education, and overestimates the capacity of States and schools to quickly absorb it. If the Commonwealth is intent on using vocational education to reform upper secondary schooling (Kemp 1999c), and to achieve other related objectives such as training systems reform and the creation of sustainable models of community partnership to provide integrated youth services, then a longer-term policy and resource commitment is required.

Case-study evidence from the vocational education field suggests that most of these structural objectives are not yet fully established or understood at the school and community level. One indicator of this is that most schools and communities are responding to Commonwealth initiatives by adding vocational programs into the existing structure of schools. Most schools, for a variety of reasons, have not substituted vocational programs for general education ones, thus treating vocational education as an add-on rather than a structural reform. Similarly State governments have maintained traditional resource allocation formulae to fund schools and these do not make provision for the different work requirements associated with work placement and extended service provision for youth. Boards of study have also maintained a traditional subject approach to schooling and university entrance with the result that the vocational agenda is shaped to fit into existing frameworks and maintains a dual profile within a single school completion certificate.

If the Commonwealth is to maintain its reform agenda then it needs a longer-term plan to assist State agencies, schools and other appropriate entities to:

- ❖ address the issue of senior school curriculum reform through integration and substitution of vocational learning
- ❖ translate curriculum reform into resource re-allocations and form resource management and planning skills
- ❖ provide extended and co-ordinated service provision to youth beyond traditional school and training functions
- ❖ provide a flexible and nationally recognised general vocational qualification that will have standing as an end-of-school certificate and provide a common basis of recognition for students who do not pursue occupation or industry-specific courses
- ❖ maintain and expand co-operative workplace learning programs and to increase the level of employer participation and contribution
- ❖ build up underlying infrastructure to maintain these structural reforms

In resource terms the areas in need of continuing Commonwealth support are:

- ❖ workplace co-ordination and associated employer recruitment and maintenance
- ❖ costs associated with meeting NTF requirements for vocational course provision
- ❖ the training and professional development of vocational and technology teachers
- ❖ the development of a general vocational qualification to sit within the AQF

From the preceding studies on vocational education provision a general dimension of additional costs to schools, based on student numbers and vocational program type, is given in table 19. The table simplifies many of the issues and possible variations of vocational learning into a series of additive models. Each model represents an additional amount to the base per capita cost of a secondary school student in a government secondary school in 1997. Each model represents a different element of vocational education that cannot be met in the short-term by redirecting existing school-based resources.

Model 1 represents a school providing a vocational program with no work placement and absorbs most of the direct teaching costs into the existing general education program. The

costs are temporary in that they represent conversion of existing courses and staff to NTF standards. Model 3 represents a school where SWPL is provided on a basis of up to 10 days per year per student for all vocational subjects. The .06 translates in 1997 costs to approximately \$365 per student. Model 4 represents a commitment to providing over 10 days SWPL per year and the provision of extended support services to students and employers and represents approximately \$480 per student. Model 2, the purchase of instruction time from a TAFE institute or RTO, is often added to other types of provision. So a school that provides most of its own vocational instruction but needs access to TAFE for specialist components of a course will incur additional costs in the order of some .02 to .04 of the base rate for a student in a secondary government school. A school purchasing from TAFE (.02), providing extended SWPL (.08) and providing all vocational programs as new and additional to the curriculum (.08) could be incurring at least 18% more costs per participating student than a baseline general education student.

Table 19: Estimated student cost loadings per vocational program element; base of 1 = recurrent costs per student in a government secondary school, 1997

	Loading per student	Scale factor		Distance factor
		Small	Large	
Model 1. Basic provision of 2 VET-in-Schools courses as conversions of existing general education programs with no SWPL or workshop/simulated environment (temporary)	1.01 to 1.02			
Model 2. Basic provision of 2 VET programs with purchased hours from TAFE for selected modules for workshop access; no SWPL	1.02 to 1.04			
Model 3. SWPL (less than 10 days per student) provided for all courses	1.06			
Model 4. SWPL (over 10 days) and extended student and employer support	1.08			
Model 5. VET courses additional to curriculum requiring 70% increase in direct teaching costs for VET modules	1.06 to 1.08			

Note: Columns 3 and 4 are there to illustrate the need for users to insert their own values as the weightings will vary in each setting.

In terms of responsibility for provision of funds to cover these various costs, it might be reasonable to now separate activities and suggest that the conventional role of vocational course provision should become the full responsibility of States and Territories. Within an agreed timeframe they would then fund all vocational course development and implementation from within State budgets, and schools would embark upon a systematic conversion of general academic courses into vocational equivalents in ways that meet both board of study and NTF requirements. This might mean that States and Territories resource the recurrent provision of entry-level vocational training jointly from school and VET sector sources. The Commonwealth could provide further interim funding to assist States establish this as an ongoing function.

The Commonwealth should then take on the long-term funding of SWPL associated with vocational education provision by Australian secondary schools. How this would be managed needs consideration beyond this report. However, it is apparent that SWPL has an expanding set of objectives that go beyond traditional school and education department responsibilities. These emerging objectives include the establishment of new forms of community and industry engagement in the provision of services to youth, industry to take a more direct responsibility for contributing to skills training, and for youth services to be co-ordinated across formerly separate providers at a regional or local level.

Using MCEETYA estimates of future participation in VET-in-Schools programs, and the indicative models developed in table 19, likely additional funds required to maintain this program nationally are identified in table 20.

Table 20: Estimated additional annual recurrent school-based costs required for provision of VET-in-Schools programs with varying student numbers and program type

Number of vocational students	100 000	150 000	200 000
Est. annual recurrent requirement	(\$million)	(\$million)	(\$million)
Vocational program type			
Model 1 (.02)	12.10	18.20	24.20
Model 2 (.04)	24.20	36.30	48.40
Model 3 (.06)	36.30	54.50	72.60
Model 4 & 5 (.08)	48.40	72.60	96.80

The Commonwealth commitment to SWPL provision and the development of community and industry-based co-operative vocational learning models would commence at a level of \$25 million per annum and rise to approximately \$48 million by the end of the next four-year cycle. If funding is carefully allocated to the formation and maintenance of co-operative clusters rather than to individual schools, then as clusters become established and service delivery more efficient, the basis of funding could change to an examination of group or cluster needs.

States and Territories collectively might add up to \$24 million per year to secondary school allocations in order to assume the recurrent provision for vocational education, based on existing MCEETYA estimates. These estimates would cover conversion costs within schools of existing courses to NTF standards and payments for instruction not able to be provided within a school or co-ordinated cluster. This recurrent provision might require States to reconsider some of the financial separations between school and TAFE sectors, particularly regarding the funding of approved entry-level vocational training.

Another resource issue was drawn to the attention of the research team by schools running extensive vocational programs, particularly those in hard technology areas such as automotive, metals, building and construction and some areas of communications technology. This issue is the training and supply of vocational and technology teachers. At a national level this issue has not been quantified, but consistent comments from case studies indicate a falling quality and supply of vocational teachers in both the school and VET sectors. If community/co-operative models of vocational learning are to become a feature of our educational landscape, then sufficient numbers of vocational and technology teachers should be trained in how to establish and manage this type of delivery and maintain a technical knowledge base within schools. There are probably many ways of achieving this without necessarily recreating separate technical teacher categories.

Issues and directions

Vocational education provision in Australian schools over the last five years has been subject to a series of policy decisions promoting its rapid take-up by schools and students. *Inter alia*, this has been achieved by temporary additional and conditional funding made available to schools and school systems through federal agencies. Two resourcing issues became evident from this activity. One was that in making funds available to promote particular forms of vocational education, insufficient consideration was given to the framework of values and practices surrounding school administration, particularly at the curriculum and funding interface. The other was that these new funds were made available to schools in such a way that the cost of providing approved vocational programs often exceeded the allocation.

With regard to the first issue there appeared to be an assumption by central agencies that schools and State education authorities would respond to these policies by adjusting existing curriculum and resourcing frameworks to accommodate these new vocational programs. This

did not happen as schools found that constrained budgets and parental expectations placed limits on the degree of subject and budget substitution that could be used to support new vocational programs. The expansion of VET was therefore mainly through additions to the curriculum or conversion of existing courses to VET formats not substitution of academic subjects for vocational ones. While conversion programs could be contained within existing budgets if they did not involve extensive SWPL or the purchase of external instruction, additional VET courses had to be funded from new sources.

In the meantime schools and clusters consistently argued that the delivery of vocational education in a form to meet the requirements of the National Training Framework and its attendant training packages and establishing partnerships with enterprises to sustain SWPL, could not be fully met from these new funds. This combination of program requirements (new VET courses, SWPL and the formation and servicing of partnerships) often generated cost structures greater than the offered funds. Research studies from within Australia and overseas also consistently indicated that school-provided vocational programs with these characteristics cost more per student to deliver than traditional academic type subjects. Yet a consistent policy was pursued by federal agencies of annually reducing the amount of funds available to any one school or cluster.

Partly as a result of these conditions the following characteristics of VET provision emerged:

- ❖ The majority of VET enrolments have been located within traditional school subject areas that transferred to the VET stream, and that within these areas, the majority of students experienced simulated workplaces or minimal work placement time and structure.
- ❖ Where costs of provision exceeded available funds, students and employers were charged fees to cover the costs of instruction, material and organisation. These charges differentiated secondary school students and partnership employers from those participating through VET sector institutions in the same or similar courses.
- ❖ Students in smaller schools in remote areas were at a significant cost disadvantage in accessing VET courses that depended on high levels of SWPL and enterprise partnerships as issues of scale and proximity were often key determinants in their establishment.

In those States where government schools cover vocational course costs by seeking fees and donations from students and employers, a fundamental shift in educational practices and values and has occurred. This shift occurred at the level of the school without clear signals from State agencies that instructional fees were now in place.

Having identified a range of costs for different types of vocational courses, the issue of ongoing sources of base line funding to meet them is raised. The position of the Commonwealth has been to 'trigger'-fund activities for a short period of time with an expectation that States and schools will rearrange their funding and curriculum arrangements to fully accommodate these vocational programs. This position seems to overlook the situation that the high-cost areas of vocational provision have occurred as a direct result of Commonwealth policy initiatives. SWPL has been promoted and funded by the ASTF, and promotion of the National Training Framework as the standard for school-based vocational education has come from ANTA with conditional funding allocations to systemic school agencies. Both these initiatives formed part of the policy platforms of successive federal governments.

Two propositions emerge from this. Should the Commonwealth continue to fund that part of vocational education provided by schools that relies on the development of SWPL and partnerships with enterprises? And should schools be able to access funds for post-school VET courses on the same basis as TAFE institutes when it can be demonstrated that there is no transfer from existing school courses? With regard to the first question, we have estimated that an annual \$48 million from the Commonwealth would sustain the growth of SWPL and industry partnerships and remove the additional burden of provision for this from existing school budgets. The second question could require the States and Territories to collectively add up to \$24 million per year to secondary schools, but some of this might become available by redirecting some recurrent funds from the separate TAFE/VET sector budgets.

These issues about funding sources highlight the separations created by Federation (education is the province of the States) and agency demarcations (training sector budgets and employer-focussed agendas versus school funds and youth and general education agendas). However, if long-term restructuring of educational provision is to occur so that a high level of integration is achieved between general and vocational education, and education and work, then this might require a long-term commitment by both the Commonwealth Government and State governments. Without a commitment of funds to accompany structural reform policy objectives, it is likely that the traditional agency approach to the administration of education and training will prevail, and schools will on the whole treat vocational education as an additional component to established concepts of curriculum, teaching and learning.

The extent of intended reform to education and training systems by policy-makers through the promotion of VET, SWPL and school-industry partnerships is unclear. Consequently, costs and resource estimates for VET-in-Schools have been cast within an assumption of existing frameworks. A different set of resource and funding requirements would emerge if they were derived from different organisational structures and boundaries concerning federal, State and sectoral responsibilities for youth, employment and education. Estimates would also change if organisational models included recognised roles of community and employer groups. It would be a useful exercise if governments articulated these new possibilities.

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