

The quest for a working blueprint

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Vocational education and training

in Australian secondary schools

J Malley J Keating L Robinson G Hawke

Editor's note:

This report has been organised into two parts. The first part establishes the context and background for the report, provides an overview of the research project and its outcomes and recommendations, and a literature review. Part 2, which can be found on the web at www.ncver.edu.au/research/proj/nr7039_2.pdf, elaborates on the major findings and issues presented in part 1. The material presented in this second part provides the underpinning detail and research upon which the findings and recommendations of part 1 are based.

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Executive summary

Introduction

This report is a response to an ambitious project comissioned by the National Centre for Vocational Education Research (NCVER) to describe the recent growth and practice of vocational education and training (VET) in Australian secondary schools. The brief included directions to consider, among other things:

- resourcing practices at schools and central agencies
- organisational options for delivery including cross sectoral and partnership arrangements
- program delivery arrangements
- curriculum, assessment and qualifications
- ✤ access and equity regarding youth participation
- linkages between schools, student employment and further education outcomes
- measures of satisfaction
- ♦ gaps, omissions or areas of improvement identified by the various stakeholders
- ✤ overseas developments, particularly in the USA and the UK

The report has been organised into two parts. The first part establishes the context and background for the report, provides an overview of the research project and its outcomes and recommendations, and a literature review. Part 2 of the report, which can be found on the web at www.ncver.edu.au/research/proj/nr7039_2.pdf, elaborates on the major findings and issues presented in part 1 of the report. The material presented in this second part provides the underpinning detail and research upon which the findings and recommendations of part 1 are based.

Part 1—overview and findings

Framework for integration

A conceptual framework for school-based vocational education is introduced in the overview chapter based on a US-developed model (Benson 1992). This framework leads to the consideration that vocational education has a range of purposes wider than that of merely equipping young people with skills demanded by industry and post-school vocational institutions. This complexity of purpose for school-based vocational education is reflected in international experiences and is condensed into four broad goals. These are:

- to stand as an alternative to the traditional restricted entry programs of university preparation
- to provide an integrated form of instruction so that more students, through applied learning acquire more academic knowledge and thus meet the requirements for university entrance by alternative means and at the same time gain 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'

The conceptual model then argues that, in order to achieve these objectives, three structural reforms are required. These are:

- the integration of vocational and academic studies
- the integration of secondary and post-secondary education
- the integration of education and work

In Australia the application of such a framework can only be understood by identifying the four major stakeholder groups that have traditionally influenced the provision of vocational education and training in secondary schools. These are:

- federal governments and their 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 which include student and parent interests
- 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 and regional employment and youth agencies

The continual interplay between these stakeholders within a federalist framework has ensured that, in Australia, the development of vocational education has not been even and has been contested, even when national goals have been apparently agreed. Much of the struggle has occurred because dominant policy goals have often been developed and imposed by hierarchical systems of the federal government and State governments without proper consideration and knowledge of practice at school or communities.

Major features determining vocational provision in schools

Global themes

In the 1990s in Australia, as in other countries, vocational education became increasingly used by governments as an economic and social policy tool to ensure skilled workforces; it was also used to keep young people attached to education for a longer duration.

The inclusion of VET into secondary schools for 15–19 year olds meant changes in curricula, organisational structures and partnerships. In many countries provision of vocational education occurred through partnerships with other educational institutions, community groups and employers and through the provision of simulated work environments in schools. Alongside these changes has been a move to locate some responsibility for vocational education provision away from central agency control.

Australian themes

Three factors impact on the provision of VET in schools in Australia:

- a British heritage with an industrial training system based on social and industrial values and structures different from those in other western countries
- ✤ a federalist model that placed responsibility for education with the States
- a national view that Australian labour and capital needs to be competitive within an increasing global economy

Because the presence of vocational education within secondary schools since Federation predates the 1976 birth of the national post-school system of VET, many of the values enshrined within each system differ markedly, a situation which was to impact significantly upon the 1990s developments in vocational education and training in secondary schools.

The three phases in the growth in VET in Australian secondary schools since the 1990s are described to demonstrate that, by the end of the 1990s, the growing number of enrolments and participating schools was taken to be a measure of success and indication of the need for this type of program. However, the unevenness in growth and distribution were masked by the overall increases.

Furthermore, the policy and funding processes used to generate growth deflected critical review away from prevailing structures and goals. Now that VET in Australian secondary schools has achieved significant mass, it is timely—particularly since Commonwealth-sourced seed funds are drawing to a close—that the concept of vocational education and training in schools and its implementation are critically reviewed and assessed. Crucial to this process is an evaluation of the differing expectations of the various stakeholders in school-based vocational education and training.

Also important in this process is an examination of the future directions of the VET-in-Schools model, particularly adjustments to accommodate entry-level training as provided by secondary schools. A debate about the appropriate specification of the National Training Framework (NTF) as it applies to entry-level training for school students is necessary to recognise the long-standing activities and skills of school-based delivery in this area.

Vocational education and training in Australian secondary schools today

Strengths

- a recognised national agenda establishing vocational education in senior secondary schools in Australia and linked to national qualification and skill frameworks
- a national commitment to school-based education evidenced by a rising level of student, school and employer participation, bilateral policy agreements between governments, including joint State/Commonwealth policy and guideline development, and allocation of specific-purpose funding to schools and school agencies
- significant organisational changes including the establishment of a VET in Schools taskforce by the Ministerial Council on Employment, Education, Training and Youth Affairs (MCEETYA) and ASTF (since 2001 known as Enterprise and Career Education Foundation [ECEF])
- new delivery arrangements in schools; for example, widespread implementation of structured workplace learning, combination of part-time work with part-time school attendance, a variety of co-operative models to maximise locational opportunities or community or industry involvements.

Weaknesses

- multiple objectives, the most obvious being the spread of objectives and expectations imposed on the vocational education platform and the control of the forward agenda by separated central agencies. Much of this complexity can be attributed to traditional separations between the Commonwealth Government and the State and Territory governments—education, training, employment and youth agencies—and between schools, TAFE institutes and other providers of VET
- problematic application of quality and benchmark concepts whereby evidence on links between changes to inputs, processes and structures of various forms of VET are not provided. Many benchmark indicators set conditions without demonstrating how they affect quality or quantity of student outcomes

- limited entry-level vocational concepts and qualifications, whereby most secondary schools have had to adopt the post-secondary school competency model of vocationalism and embed it within a general education framework
- participation and retention issues, whereby the reported growth in VET-in-Schools enrolments (from 1996 with 60 000 to 1999 with approximately 130 000) disguises issues requiring further investigation, issues such as lack of change in Year 10–12 retention rates and age-specific participation rates
- ongoing funding and resourcing responsibilities for VET in schools, which, since 1993, have remained unresolved, with issues such as the additional costs of structured workplace learning, the purchase of instructional hours from publicly funded TAFE institutes at market rates and the cost of training school teaching staff to meet NTF requirements for teaching and assessment being crucial to the resourcing debate
- lack of flexibility by central policy authorities, whereby change and innovation from the field are rejected because they don't comply with current guidelines or practice
- lack of appropriate performance measures, whereby prevailing school performance measures tend not to identify as a successful outcome, the placement of a student into a full-time job before completing Year 12
- employer participation, which is relatively low and varies between regions and schools
- maintenance of supply of vocational teachers, whereby concerns have been evinced about program continuity when experienced vocational teachers in schools retire

Towards a blueprint for integration

General observations

The success of the model of the new vocationalism cannot be achieved unless structural reforms are implemented to integrate the traditional organisation of secondary education, with post-school education and training, vocational education and academic education, and education and work.

From the recent Australian experience with school-based vocational education it would appear that the principles of integration have been adopted. However, that this is a difficult and complex process that progresses unevenly over time has been amply demonstrated.

The concept of integration has been adopted as a major policy platform by many countries and while varying in detail, many countries now pursue integration through:

- academic and vocational education, often through the introduction of key or basic competencies concepts to the system
- upper secondary school and post-school education and training through the development of multiple pathways and locations for the delivery of, and certification of vocational and academic learning outcomes
- education and work through a variety of mechanisms including joint industry advisory structures involving employers, trade unions and governments, establishment of regional and employment and training groups to provide advice on local market needs, the promotion of workplace learning as part of the social contract of employers to schools and colleges within their community, the provision of simulated workspaces and workshops to schools and colleges and the transfer of some elements of internal labour market training to a shared domain between publicly funded education and training institutions and enterprises

Australian integration

Australia has progressed down the path of integration using many of the above mechanisms. Other aspects of integration in Australia are exemplified by the following:

- connecting vocational models: an expanded model of general education incorporating significant elements of vocational learning into an overall school framework has been agreed through ministers of education and, while the post-school sector has provided national qualifications and training frameworks now used by vocational programs in schools, significant conceptual and practical differences need to be resolved before integration can be claimed
- *pathways:* the establishment of the pathways concept in Australian secondary education is important in that it now includes the provision by schools of vocational courses and certificates once the exclusive domain of the post-school sector
- *education and work:* the integration of education and work has occurred at two levels. One is associated with the development of industry-based curricula and standards through the NTF and the other has occurred largely through the funding initiatives of the ASTF whereby school–industry programs were established
- *policy development:* a consistent pattern of policy development has emerged since the late 1980s promoting integration between the world of work and education. Policy initiatives since this period have sought to reform existing systems in that they seek to integrate into the schools environment new activities connecting them with the workplace and postschool vocational education institutions through shared delivery of national vocational qualifications

VET in Australian secondary schools—recommendations for the future

The challenge now facing vocational education provision in secondary schools is how to build upon the advances already achieved without extending the unevenness in provision already evident. The following are identified as being essential to this process.

- There is a need to clarify and prioritise the objectives and expectations for vocational education overall and for each level of activity. The growing set of economic, social and education objectives associated with the provision of vocational education are not coherently connected or prioritised.
- Accompanying this strategic specification of vocational education should be the development of appropriate outcome measures that reflect the move towards integrated provision of youth education, training and employment services. Unless a realistic strategic implementation and outcomes framework is established with clear role and responsibility statements for the various stakeholders, then a range of institutionally led outcomes could be pursued at the expense of youth needs.
- To maintain a national framework approach and to co-ordinate a review of objectives there is a need for the Commonwealth Government to commit itself to providing long-term support for vocational education provision. This commitment would include a leadership role in policy development, the commissioning of research and evaluation, and an ongoing responsibility for the development and maintenance of new structural reforms or those additional to traditional State and Territory activities.
- States and Territories should continually examine the basis of curriculum and accreditation for schools as they have done in the past, and constantly adjust the structural provisions to best meet their needs. States and Territories should maintain review processes. There is a need within these review functions to pay attention to the ongoing evaluation of the structures and procedures used by practitioners as well as to aggregated studies on the distribution of vocational enrolments and program provision.
- There is a need to rationalise and adequately fund the resource requirements of the various forms of vocational provision offered through schools. Some basic vocational provisions can be funded

from already existing school-based resources. Other vocational outcomes that require access to equipment, work processes and expertise, and are also tied to other objectives such as the establishment of community learning and employment networks, will require additional funding. A guideline for resourcing these new activities might be that agencies or governments with long-standing responsibilities in either education, training or employment should continue to resource those responsibilities in an integrated structure. This might lead to additional funds from new sources and redirected funds from existing agencies with interests in youth outcomes.

- A national entry-level vocational qualification needs to be developed in conjunction with the States, employers and trade unions that will have the status of a school leaving certificate and provide holders with a set of generic competencies acceptable to employers: this should be developed as an alternative to the end-of-school certificates offered by each of the States and Territories and be broadly based to provide pathways for entry into a range of specific vocational qualifications. It should also cover all of the basic or key competencies to designated levels and be designed so that schools, TAFE institutes or other institutions can deliver it without incurring many of the costs presently associated with delivering occupationally specific outcomes of training packages
- A co-ordinated and sustained program to increase employer participation in the various forms of vocational education is required. This participation could range from creating structured workplace learning positions within an enterprise, becoming a member of a management committee for either a school or regional/industry vocational program, or contacting vocational networks as a first step in any recruitment processes for young people.

In progressing each of these priority areas, mechanisms should be developed that are inclusive of each level of significant stakeholder. Having already established a working framework for vocational education, the next period of change will require adjustments to those frameworks and the development of different organisational forms not yet widely experienced in Australia. There are already two signs of this occurring. The first is the clustering of schools on a co-operative basis, when in the past they acted as autonomous and sometimes competitive units, and for government schools, within a hierarchy of centralised funding, curriculum and certification. The other is the formation of regional co-ordinated learning and employment networks. For this third period of development the focus should be on new and flexible administrative forms based on co-operative funding and delivery, guided by measures of need, and evaluated on measures of youth and employer outcomes.

Part 2—VET in Australian secondary schools

Part 2 of this report elaborates on the major themes and issues identified in part 1, beginning with a broad historical review of the purposes and origin of vocational education, considering in detail its development in the United Kingdom because of its influence on the formation of Australian values and institutions, and in the United States because it is a federated nation with a strong state structure that has maintained an ongoing commitment by central federal governments to providing policy leadership and resourcing for school-based vocational education since 1917.

The following chapter examines in detail recent policy and program influences at State, Territory and federal levels of government on the provision of vocational education and training in schools. In this chapter the long history of secondary school engagement in vocational education provision and its later disengagement from the general education model adopted by most secondary school systems is identified. The post-1992 resurgence of vocational education in secondary schools is associated initially with labour market concerns about young people with work-related skills, the emergence of a national change agency promoting school–industry partnerships and the creation of a national post-school training authority. This sets the scene for the subsequent accommodation of two overlapping forms of vocational education and training within secondary schools and identifies the policy entities that emerge to represent the various stakeholder interests in school-based vocational education and training. The available statistical and research data on vocational education in schools are presented in the next chapter. The VET-in-Schools initiative is traced from its early origins in 1996 through to 1999 with student growth trends being identified by State and Territory, fields of study, school sector type, gender and age. Questions are raised about the declining rates of growth and the access of lower socioeconomic groups to vocational programs. The impact of VET programs on age participation rates and apparent retention rates is examined.

The implementation of vocational programs is subsequently considered through an examination of specific policy initiatives and their models of delivery at the school and cluster level. The concept of best practice in a continuing formative period is questioned as the wide variation and rapid development of vocational programs at the school level presents a problematic benchmarking scene. Examples of apparently successful programs are presented but questions are raised as to whether the conditions producing them can be replicated.

The final chapter progresses the consideration of models of implementation by examining cost and resource issues associated with VET programs. Issues of curriculum choice and subject substitution by schools are identified as having some influence on the cost of provision, as are issues of scale in relation to student enrolments and numbers of vocational subjects offered. The most significant contribution to the cost of delivery of a vocational program occurs when the program is designed to include structured workplace learning and the purchase of instruction from TAFE institutes. This type of vocational program raises questions about the appropriateness of prevailing funding models to government secondary schools.

Context

This report on the implementation of vocational education and training in Australian secondary school systems is a collaborative institutional effort led by the Australian Council for Educational Research (ACER). The National Centre for Vocational Education Research initiated the project at a time of growing national interest and growth in the provision of vocational studies in senior secondary schools. The rapid growth of secondary students undertaking vocational subjects can be attributed to a series of connected policy initiatives from federal and State central agencies and local program initiatives developed by individual schools, communities and employers all concerned about the education and employment pathways of young people still at school. This growth in enrolments also illustrates the interest of many young people at school in applied forms of learning.

The '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 students studying vocational subjects or modules or competencies to national industry standards. SBNAs allow young people to participate in a wage-based contract of training with an employer and continue with studies of school leading to a school completion certificate. In addition to these two forms of vocational participation, some schools conduct other vocational programs which include elements of workplace learning, skills training and career exposure. While these 'other' vocational programs are not fully integrated into a comprehensive framework with Vet-in-Schools and SBNAs, they are nevertheless identified by practitioners as one of the responses enabling young people to make better informed career and further education choices. Unfortunately, consistent national data are not available on this third category although partial indicators are available at State or schools level.

Project objectives

In the context of this rapid period of growth, the NCVER proposed a research project with an objective to improve current practice of vocational education and training in schools by providing particular information to organisations and individuals who play a role in incorporating VET into the school curriculum. It was intended that the information from this project would:

- describe the growth and practice of vocational education and training in terms of industries covered and the nature of their involvement in structured workplace learning (SWPL)
- describe the methods used to deliver vocational education in schools
- identify and document emerging good practice in the provision of vocational education in schools
- evaluate the extent to which expectations of stakeholders were being met and whether they were mutually compatible

Specified project outcomes

NCVER further specified that the information be gathered in a number of stages with each stage producing particular subsets of interest and activity. The first stage was to be a review process of programs, policies and research on vocational education in schools with particular attention being paid to:

- resourcing practices at schools and central agencies
- organisational options for delivery including cross sectoral and partnership arrangements
- program delivery arrangements
- curriculum, assessment and qualifications
- ✤ access and equity regarding youth participation
- linkages between schools, student employment and further education outcomes
- measures of satisfaction
- gaps, omissions or areas of improvement identified by the various stakeholders
- ✤ overseas developments, particularly in the United States and the United Kingdom

A second stage was to develop a framework for vocational education in schools derived from much of the work reported in stage 1, while the third stage of the project was to present an analysis of broad trend data on the implementation of vocational education and training in schools.

A fourth stage was to conduct targetted interviews with key stakeholders to identify expectations and levels of satisfaction with the developing arrangements for vocational program provision.

Translating the brief into action

The broad specifications of the NCVER brief suggested that the experience and expertise required to cover all issues was unlikely to reside within any one organisation. Consequently a team was formed from the Australian Council for Educational Research, the Royal Melbourne Institute of Technology University and the University of Technology, Sydney. At that time team members were able to pool their recent and ongoing experiences in other national, State and local research projects relating to school-based vocational education and training and the development of a national post-school vocational education and training system. This meant that projects funded by other agencies such as the Australian Student Traineeship Foundation (ASTF), the Victorian Board of Studies and the Australian National Training Authority (ANTA) were able to directly contribute to this project without duplication of effort or knowledge. It also meant that the team was fully aware of the contemporary and historical issues of schools and vocational education.

One factor modifying our approach to the brief was the speed of change occurring in the development and implementation of vocational education and training over the review period. Change often occurred quickly and sometimes overturned traditional structures. In a number of States and Territories, not long after team members interviewed policy-makers from school and post-school agencies, internal reviews changed the administrative arrangements, in many instances doing away with the departmental separations of the past and creating integrated approaches to vocational provision. At another level ministerial agreements reached through the Ministerial Council on Education, Employment, Training and Youth Affairs (MCEETYA) resulted in State and Territory boards of study amending the eligibility of schools to provide particular types of vocational programs. At the level of the school we also became aware that the life cycles of vocational programs were not necessarily robust. Changes in student subject preferences, access to participating employers, TAFE institute fees and eligibility for central agency support funds meant that some schools

experienced volatile shifts in vocational program profiles on a year-to-year basis. All of these factors challenged the assumption of stable and replicable examples of good or best practice. They also meant that much of our information on practices and structures was relevant to specific periods and should not be assumed to prevail in subsequent ones.

Information sources

Five broad types of information were used to meet the project requirements. These were:

- interviews with Commonwealth, State and Territory officials involved with policymaking and administration of vocational programs in schools, post-school and curriculum and accreditation agencies. Interviews were also conducted with a sample of students, teachers, principals, parents, and employers associated with particular schools with vocational programs, as well as with people from supporting service clubs, TAFE institutes, group training companies (GTCs) and third-party brokers
- reviews of research papers on various aspects of vocational education and training
- reviews of policy, planning, position and curriculum documents from a variety of Commonwealth, State and Territory agencies and other organisations such as peak employer agencies and schools
- quantitative information from a range of primary sources such as MCEETYA and the Australian Bureau of Statistics (ABS), school records and the re-analysis of reported data and trends from published and unpublished reports
- observation of vocational programs
- web-based chat networks which allowed school-based vocational education practitioners to raise issues of concern and discuss reactions to policy and administrative arrangements (Vocational Education Co-ordinators Online [VECO], VETNET)

Influences on the provision of vocational education and training in schools

The volume and fluidity of the gathered information caused us to reflect on the fundamental features shaping vocational education provision in Australian schools. In this reflective mode five issues stood out:

- the historical basis of vocational education provision in Australian schools and its contribution to the comparatively recent formation of the post-school TAFE/VET sector
- the particular form of federalism in Australia which historically has given the States (and later the Territories) the constitutional prerogative for most forms of education provision. This explains much of the variation between States and Territories in the provision of VET within secondary school systems, even when there has been agreement on national principles and frameworks
- the crucial leadership role of the Commonwealth Government since the early 1990s in facilitating a shift away from traditional State and Territory positions to a commonly agreed national framework
- the dynamic development of the vocational concept in some schools and systems and an ongoing tension between their innovative practices and traditional desires of some central agencies to control practice by defining what is appropriate or approved. This often led to situations of policy lag where some local schools and their partners enthusiastically developed programs to meet the needs of youth and employers within their local labour markets only to find that they lay outside the funding guidelines established by central agencies. However, central agencies were not always insensitive to these local developments. Their slowness to respond was often attributable to the protective self-interest of agencies with traditional interests in either youth, training, education or labour markets. The accommodation and resolution of agency claims to ownership and control of various components of the vocational education platform also contributed a confusion of

objectives as to why and how vocational education should be presented within senior secondary schools. There remains a tension between providing vocational education to meet industry needs and standards, the needs of boards of study to maintain standards dominated by university entrance, and the needs of young people who leave school before completing Year 12 and who do not aspire to proceed to tertiary education

 resource assumptions and expectations about vocational education provision within or by secondary schools

Organisation of the report

We have organised this report in a way we hope leads readers to ask questions about the purpose and direction for the provision of vocational education and training in secondary schools.

The report is presented in two parts. The first part comprises the context for the report, an overview of the research project and its outcomes and recommendations, and finally a literature review. The overview offers a concise summary of the major issues relating to implementation of vocational education and training in secondary schools and which are elaborated in significant detail in the second part of the report. While the emphasis in the report has been on reporting issues of implementation and development, practice and research, the literature review offers a more conventional review of the research literature in this field.

Issues elaborated in the second part include the following:

- survey of school-based VET: a model of VET in schools is presented here and is based on a series of assuptions about the need to integrate what were once separate domains. This model provides the basis for discussion of the remainder of the issues in this part of the report (chapter 1)
- historical and international aspects of vocationalism in secondary schooling: here broad historical aspects on the development of VET in Australia and in other countries are considered—the developmental aspects of education and training systems and the influence of the national cultures in shaping them (chapter 2)
- policy influences on the implementation of VET in Australian secondary schools: recent policy and program influences at State, Territory and federal levels of government on the provision of VET in schools are discussed (chapter 3)
- statistics relating to VET in Australian secondary schools: statistical and research data on vocational education in schools are presented (chapter 4)
- implementation of VET policy for secondary schools: here the Commonwealth Government's entry and ongoing role in the field of the secondary vocational educational are described (chapter 5)
- school-level implementation of VET: key features of recent and contemporary VET as practised by secondary schools are described. Two types of information are used to identify and describe school-level practice—snapshot national school-based surveys and case studies of schools providing vocational programs (chapter 6)
- cost and resourcing: cost estimates of vocational education provision are given and issues about choice and program structures are considered in relation to their impact on costs (chapter 7)

Overview—towards a blueprint for school-based VET in Australia

Over the last ten years there has been significant activity in the provision of vocational education and training by secondary schools. This report describes this activity at a number of levels (Commonwealth, State and school) and evaluates it in terms of a general model of integration, stakeholder expectations and indicators of success or best practice.

Within a dynamic environment a range of activities considered to be significant in the development and implementation of vocational education and training in Australian secondary school systems is identified and examined. In this overview these activities will be considered in the context of the theoretical framework of integration presented in detail in the first chapter of part 2 of this report and summarised below.

Competing goals and objectives and the Benson model a framework of integration

Vocational education provision in secondary schools has been an international subject of renewed 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. 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 has been the inclusion of vocational education and training into the senior secondary school curriculum.

However, debates about vocational education provision continue because its form and placement within a general secondary education are not agreed. 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. 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 to meet these ends.

Benson (1992) identified the complexity of purpose for vocational education in schools in the United States of America and ascribed the following aims to it:

- ✤ as an alternative to restricted entry programs for college
- as an integrated form of instruction through applied learning enabling students to acquire academic requirements, thereby meeting college entry requirements and gaining skills to enter the workforce
- to provide more people well-paid and satisfying work
- to relieve the economy of the cost of students 'milling around in secondary school, community college and low skill temporary jobs'

Benson then argued that before these aims could be achieved and a new vocationalism for schools established, three sets of integration—involving major structural reform for education and training systems—had to occur among currently separate activities. These were:

- integration of vocational and academic studies
- integration of secondary and post-secondary education
- integration of education and work

This framework of objectives and integrations appear to have maintained relevance throughout the 1990s. In the Australian context the Benson framework of integration has been reflected in the cumulative policy goals of Australia's governments through national reviews of education, training and youth employment beginning in the early 1990s with Finn (1991).

The main contextual features that have shaped vocational provision in schools are summarised and particular strengths and weaknesses are discussed.

Global themes

Policy intentions

During the 1990s Australia was not alone in placing a national priority on vocational education (OECD 1999a). As with other countries, two related themes came together under that label. One was that vocational education became increasingly used by governments as an economic and social policy tool to generate appropriately skilled workforces to meet the challenge of global competition, changing technology and changing work practices. The other was that it was also used as a device to keep more young people attached to education systems for longer periods of time by providing them with more meaningful learning experiences while still at school. An extended attachment to learning institutions appeared to provide the link for vocational education to other educational policy goals, such as lifelong learning, key or basic competencies, and pathways to further education and work.

Devolution and partnerships

The pursuit of these two themes by the inclusion of vocational education into secondary school systems meant changing traditional curricula, organisational structures and relationships so that they might cater more effectively and equitably for that group of 15 to 19-year-olds who did not complete secondary school nor proceed from secondary school to university. In many countries this provision of vocational education occurred through policy-initiated partnerships with other educational institutions, community groups and local employers, or through the provision of simulated work environments within schools.

Alongside a rising profile of vocational learning and partnerships has been a movement to locate some responsibility for this provision within communities and with employers, whether they be local, or representing specialist interests. For some countries this shift away from central agency control to more localised ones is new, as education, along with many other government services has been subject to a tradition of hierarchical specification and response. This devolution to emerging local forms of responsibility has also occurred alongside an intention to integrate a range of employment, education, training and welfare services to youth. These appear to be ongoing developments that have required the continuing presence of national governments to provide leadership through policy development, resourcing, program reform and organisation, even when these responsibilities have traditionally been located with State, county or local government agencies.

In the United States this leadership for integrated forms of vocational education has been provided through the *Federal school to work act*, progressive amendments to the *Perkins act* and other supporting legislative frameworks. In the United Kingdom the national government has established a comprehensive post-16 youth policy which includes the establishment of a network of regional Learning and Skill Councils to co-ordinate vocational education and

training provision and to advise central government on needs. France has also established regional councils to co-ordinate vocational provision to youth.

Recent signs of shifts to similar regional models in Australia come from the Australian Student Traineeship Foundation Bright Futures submission (2000), the Business Council of Australia's discussion paper (2000) on pathways to work and the Victorian review of postcompulsory education and training (Kirby 2000). Mainly through the ASTF and its funding of structured workplace learning, a small but growing number of communities with coordinated youth education and employment programs has been established in Australia. However, these groups are precariously placed as they are currently dependent on temporary government funding and do not occupy a place within the traditional policy and planning mechanisms of government education and employment agencies. If co-operative community learning is to be a national policy priority associated with the provision of vocational education and training, then there is a need for the Commonwealth Government to maintain stewardship of this area and to ensure the inclusion of local groups within policy circles.

Multiple goals

In the international context of economic and social change, the term 'vocational education' has been subject to ongoing debate for some time as it is used in association with a variety of objectives (for example, Green 1998; Thompson 1973). These objectives include:

- reform of secondary school curricula to include more applied learning methods and student outcomes connected to employer needs, nationally accredited competencies and courses provided by the post-school sector
- labour market training reform where employers collaborate with schools to provide recognised skills training so that youth jobs can be constructed to fit into a more flexible model of provision of part school and part work
- the creation of lifelong learning models where vocational education provides youth with skills to assure ongoing learning and access to learning institutions as their occupational experiences change
- improving youth transition from education to work by designing vocational courses to equip traditional early school leaver groups most at risk of experiencing long-term unemployment with skills and competencies in demand

(Urquiola et al. 1997; DfEE 1999; OECD 1999a,c)

By contrast to the more optimistic conclusions drawn from country reviews by the Organisation for Economic Co-operation and Development (OECD) about the place of vocational education in the social and economic agendas of nations, a World Bank review (Gill, Fluitman & Dar 2000) indicates a concern about the increasing list of demands created by governments for vocational education and the disappointment likely to occur when they are not met. Carnoy (1998) more directly associates the changing role and objectives of governments in the provision of education and training with the impact of globalisation and a search for ways to redistribute the growing costs of maintaining knowledge-based systems to communities, participants and employers.

Australian themes and context

These global themes are apparent in recent Australian developments of vocational education in secondary schools.

The development of vocational education policy in Australian secondary schools over the last ten years has been subject to growing but disjointed policy influences from national and State governments as they responded to global economic and social pressures present in many post-industrial economies. Consequently, a variety of vocational programs and practices has been developed by State agencies and schools as they responded to central policy initiatives and the needs of local youth and communities. Within a broad federalist framework there has been an increasing level of convergence of these policies and activities, often occurring under national ministerial agreements and national qualification and training frameworks.

With this convergence there is also a growing complexity in that governments appear to be developing policies to link vocational education with a range of other social and economic objectives. In Australia this broader goal is the integration and convergence of youth services and functions so that they become more efficient and effective, and for this to occur within new regional structures of delivery based on greater contributions from the community and employers (Kemp 1999). This apparent duality of convergence and complexity might be associated with new directions that governments are currently exploring. However, the concept of integrated provision of youth services across traditionally separate boundaries of education, training and employment using local delivery models based on community has few models to provide policy-makers with an experiential base. Consequently, while these policies reflect intentions of convergence and integration by governments, they have not always been maintained or reflected in the structures and processes of agencies.

A secondary school vocational history

There has been a long-standing presence of vocational education within the secondary education systems of the Australian Federation that predates the 1976 birth of the post-school national system of vocational education and training. This school-based model of vocational education and training, although near dormant by the late 1980s, carried within it values shaped by State models of general education, and welfare and economic concerns for youth that were sometimes different from those underpinning the more recently derived post-school VET sector. These values have reappeared in the *Adelaide declaration of schooling for the twenty-first century* and are still embedded within both State departments of education and schools.

Rebirth and growth

By the end of the 1990s many of the second-phase federal fund sources used to promote vocational education in schools were drawing to a close, creating an opportunity to reflect on recent developments. The first phase occurred in the early 1990s, up to the end of 1995, when a small but growing number of schools, students, employers and community groups were encouraged to develop new vocational programs through various seed funding arrangements. Unrest about the quality of generic and specific skills for youth entering the labour market, combined with the near demise of full-time jobs for those in the early-leaver age group and upwardly resistant school completion rates, contributed to this resurgence of interest in school-based vocational education.

After 1996 the second phase commenced and was characterised by a rapid growth of students and schools engaged in vocational education. A process of systematisation then occurred as State and Territory education and training agencies accepted the objective to develop programs within prescribed national guidelines and provided schools with limited funds to undertake this role.

By the end of the 1990s the growing number of enrolments and participating schools in vocational education was taken to be a measure of success and a demonstration of need for this type of program. However, these broad measures disguised details about the unevenness in distribution and growth. Furthermore, the policy and funding processes invoked to generate growth in student participation deflected critical review away from prevailing structures and goals. It seemed as though a critical mass of participation had to be quickly achieved before a process of refinement and consolidation could occur. That critical mass has now been achieved at a time when Commonwealth-sourced seed funds are drawing to a close thus creating an appropriate space to reflect and critically review.

Stakeholder expectations

Within this recently accumulated body of policy, practice and research it has become evident that, over the last six to eight years, there have been different and masked expectations between the various stakeholder groups with interest in school-based vocational education and training.

Schools and communities have developed vocational programs to service local needs that differ from guidelines of State or Federal agencies. Individual States have differently embedded vocational programs into school curricula, certificates and tertiary entrance systems. Secondary school agencies have differed from vocational training agencies about the purposes of vocational education, and employers have indicated different expectations about the purpose and outcomes of vocational training from those held by schools and educational central agencies. The existence of these differences has meant that the development of vocational education has been evolutionary and contested, but guided by a common commitment to a general policy ideal about improving transitional outcomes for youth.

Future directions

While there probably has been benefit in quickly establishing commitment to a national framework of industry standards, it is now timely to reflect on possible adjustments to that model—particularly for entry-level vocational training as provided by secondary schools. Such a need is implicitly reflected in the Adelaide declaration on future goals for schools through its advocacy of a vocational model that is more extensive and inclusive than that of the present National Training Framework (NTF) specification. For the moment the process of incorporating the post-school concept of VET into secondary schools appears to be more about providing another layer of subjects and subject requirements than it is about integrating vocational education principles with those of general education.

A debate about the appropriate specification of the NTF as it applies to entry-level training for school students should occur with a view to recognising the long-standing activities and skills of school-based delivery in this area. This debate should also consider that at the entry level of training, many employers seek competency in a range of general skills including key or basic competencies, positive attitudes to work, generic industry skills and basic skills in broad-based technologies and processes. Demand for school leavers with these broad skills appears to have a higher priority than occupationally specific skills at a work ready level of proficiency.

Quest for an evolving blueprint for school-based VET

Strengths of the system

A recognised national agenda

A strong and recognised national initiative has re-established vocational education in senior secondary schools throughout Australia, and this has been linked to national qualification and skill frameworks (the National Qualifications Framework [NQF] and the National Training Framework). Development so far has progressively built upon concepts and practices established during the early 1990s and has been driven by Commonwealth policy and funding initiatives. These achievements towards a national framework for school-based vocational education and training, when considered against the history of federalism and State control over education, are remarkable. To this extent the elements of these frameworks (the NQF and the NTF) should be maintained, but not necessarily in their present format. As framework elements they too need to demonstrate their capability to respond and adjust to change.

Growth in participation

Evidence of a national commitment to school-based vocational education comes from:

- a rising level of student participation (estimated at 37% of Year 11 and 12 students in 1999)
- an increased school participation (an estimated 86% of secondary schools in 1999)
- rising employer participation (at least 30 000 workplaces)
- bilateral policy agreements between governments
- the connection of various levels of government agencies within State governments and the Commonwealth Government to develop joint policy and implementation guidelines
- allocation of specific-purpose funds to schools and school agencies (at least \$187 million of Commonwealth funds since 1996)

Other evidence of commitment comes from case studies that illustrate a variety of models used by schools and clusters to implement vocational programs and the support for these programs from students, school staff, community and employers.

Organisational changes

Significant organisational changes supporting this growth included the establishment by MCEETYA of a working party and taskforce arrangement to provide a national forum for the negotiated development of policies on VET in schools, and the establishment of the ASTF as a national change and support agent for structured workplace learning (SWPL) and co-operative learning models.

Through MCEETYA, States and Territories have agreed to the inclusion of VET-in-Schools program subjects and competencies in end-of-school certificates, and to include them in the determination of equivalent national tertiary entrance rank (ENTER) scores for university entrance. While this is identified as a strength, some would argue that it could discriminate against students at risk of early school leaving and those students not intending to proceed to higher education.

Through ministerial statements of intent, and through practices at some schools and clusters, vocational education is used to achieve broader goals of school curriculum reform; linking education, training and employment activities; and promoting the acquisition of lifelong learning skills. While valued as an ideal form of integration, this form of vocational practice is at this stage confined to a few schools and clusters.

States also maintain continuous review processes of the arrangements between schools, school curriculum and accreditation agencies, and employment and training authorities that seem to be guided by principles of integration. Often these activities are cast in the language of more efficient and effective delivery mechanisms to allow students/youth more effective choice with regard to education, training and employment pathways.

New delivery arrangements for schools

In the take-up of VET-in-Schools programs structured workplace learning has become widespread to the point that, in many places, vocational learning and structured workplace learning appear to be synonymous. This is another feature of school-delivered vocational education and training which sets it apart from traditional forms of vocational learning provided by TAFE institutes. In blending duty of care and pastoral care requirements for students with employer support and on-the-job assessment requirements for some training packages, a small but growing number of schools is providing an extended form of vocational education not previously seen in Australia.

In addition to this, there is also a small, but growing number of schools and clusters developing the concept of part-time school attendance in conjunction with part-time work.

Again this is different from traditional TAFE institute offerings in that these students/workers are simultaneously working towards end-of-school certification, AQF certification and job promotion and extended employment.

Other forms of delivery of vocational education have also emerged. Alongside the traditional delivery within schools, a variety of co-operative models is now in place. These range from two to three government schools in geographic proximity pooling resources to achieve efficiencies in scale, to mixed government and non-government clusters, industry specialist clusters, and wide area models managed by third-party agencies with high levels of industry and community participation. The latter type is not widespread but is promoted as an ideal form which demonstrates concepts of community and employer contribution. The concept of co-operative provision is also developing new relationships between schools, TAFE institutes and group training companies. As with other new arrangements, the quality of these relationships vary—some run on an equal partnership basis while others are dominated by apparently senior institutes or schools.

Throughout Australia by the end of 1999 a strong and vibrant informal network was established by the ASTF between schools engaging in vocational provision with school– industry partnerships. The ASTF, through its support for the web-based VECO and VETNET, and through active support for seminars and conferences, has done much to establish selfhelp and advice mechanisms for schools. These networks could be used more extensively by State agencies and other federal agencies to support the distribution of ideas, technical knowledge and experiences as well as learning materials.

A third wave

At the beginning of 2000 another stage appears to be commencing for the implementation and development of vocational education in schools. A coincidence of funding period closure and initial implementation experiences provides a window for modifying the frameworks established during the mid-1990s. This emerging new stage will witness the extension of vocational learning to a number of dimensions: year levels (down to Year 7), subject domains (career education, enterprise education) and objectives (lifelong learning, pathways and skills).

Weaknesses in the evolving vocational system

Multiple objectives

The most obvious problem appears to be the spread of objectives and expectations imposed on the vocational education platform, and the control of the forward agenda by separated central agencies. This occurs at both policy and practitioner levels, but is more evident at that of the policy level.

This growing list of expectations and agendas, often connected through overlapping objectives, includes:

- the establishment of industry-focussed vocational courses within schools in accordance with the National Training Framework requirements
- the establishment of school-industry partnerships on a regional or industry basis
- the reform of secondary school curricula to provide more programs for those not proceeding to university
- ✤ improvement of the participation rate of youth at risk of early school leaving
- the provision of programs to enable students at risk of early school leaving to successfully transfer to 'good' jobs, if necessary, before completing school
- the introduction of integrated forms of part-time school and work
- the introduction of student fees for vocational instruction

- the establishment of shared delivery structures between education providers
- ensuring that school leavers attain competence to a specified standard in either generic or industry-specific skills

In parallel to these agendas, schooling systems, through the Adelaide declaration, are attempting to provide a connecting general education framework that includes vocational activities such as work experience, enterprise education and careers counselling.

In combination, these objectives present a very complex policy and practice environment. We have attempted to illustrate this complexity in table 1 at the end of this chapter by categorising and listing many of the decision points encountered by schools when establishing a vocational program in Australia over the last six years. This table could be used as a guide to clarify and structure objectives and procedures for school-based vocational education.

Much of this complexity can be attributed to traditional separations between the Commonwealth Government and State governments—education, training, employment and youth agencies—and between schools, TAFE institutes and other providers of education, training and youth services. In recent times there have been attempts at the program level to integrate and co-ordinate activities (for example Commonwealth Youth Allowance, Jobs Pathway, and VET-in-Schools) but each of these has remained within the administrative frameworks and expectations of their host agencies. Structural integration of agencies has been attempted in NSW and is about to be tried in Victoria but, at this stage, it is too early to evaluate their effectiveness.

Initially, during the early 1990s, there appeared to be an implicit underlying purpose for vocational education: that is, non-university-bound students to learn applied skills and competencies in demand in the workplace. However, the growing list of policy expectations has promoted an unclear and fuzzy perception about what is now the primary goal. Consequently many vocational programs with multiple functions, such as providing structured workplace learning, job placement and youth counselling, spend significant amounts of time negotiating with different agencies for limited funds and conditions that often conflict with or intrude on other parts of the service provision.

The problematic application of quality and benchmark concepts

The policy and program guidelines used to promote vocational education and training in schools extensively use quality, best practice and benchmark concepts. Most of these exhortations have not provided transparent evidence on links between changes to inputs, processes and structures of various forms of vocational education and student learning or employment outcomes. Many of these quality or benchmark indicators set conditions, such as financial sustainability, formation and incorporation of management committees and the provision of workplace learning environments to industry standard without demonstrating how these affect the quality or quantity of student outcomes. If student outcome effects are not to be used as the standard against which various organisational and process considerations are to be evaluated, then what does become the standard? In most cases the standard has been the input itself or its provision against some predetermined variant. Thus programs with expanding student enrolments and an expanding employer base have often been deemed to be successful because they are expanding and use 'best practice' forms of organisation but often with no reference to student outcomes.

This benchmark or best practice approach has also tended to overlook situations where schools or clusters withdrew or scaled-down their vocational offerings because benchmarks or best practice models could not be attained or sustained within prevailing operational frameworks. There appears to have been avoidance within central agencies of a critical examination of vocational program failure or the possibility of 'life cycles' for vocational programs where students and schools eventually withdraw or scale-down activity to suit local conditions. A consideration of a wider range of vocational activities over a period of time might therefore better inform the development of guidelines intended to improve organisational and student outcomes.

The absence of a learning outcomes dimension within the expansion of vocational education in schools has been noted by Stern (1999a) and Stasz (1999) and has become an issue of accountability in the USA. Within the Australian context very little evidence exists to demonstrate the effectiveness of the various forms of vocational education and training on student learning outcomes. One recent study from the post-school TAFE area highlights the difficulties in trying to evaluate outcomes from students attending workplace learning or educational institutions for the same or similar courses (Symmonds et al. 1999). Without reference to this type of basic research however, benchmarks and other quality concepts remain as self-referring standards.

Unless there is a re-appraisal of implementation issues, including the prioritisation of objectives, issues of quality and best practice will remain focussed on inputs and process, and not on student outcomes. To this extent the warnings of Gill et al. (2000) about unrealistic expectations and subsequent disappointment by governments in vocational education should be noted.

Some broad-based longitudinal studies are providing important but mixed messages. The expansion of vocational education appears to be maintaining participation and exclusion based on social class and also appears to be associated with positive learning (Polesel et al. 1998a). Unfortunately these studies are not able to associate outcomes with the provision of the various input mixes used by schools when providing vocational programs.

A further consideration is that these longitudinal studies, and the expansion of vocational provision in schools, occurred against a background of static or declining retention rates from Year 10 to Year 12.

Limited entry-level vocational concepts and qualifications

In Australia senior secondary schools have had to adopt the post-school competency model of vocationalism and embed this within a general education framework. Furthermore, many schools and some school authorities are concerned about the loss of flexibility occurring as the approved form of vocational education does not encourage general vocational programs suited to the needs of some groups of students. Consequently most States, through their curriculum and accreditation authorities maintain systems that embed components of the NTF competencies into their own subject structures. It is also significant that, for 1999, schools with school–industry partnerships reported that approximately 10% of their vocational programs did not sit within the VET-in-Schools or school-based new apprenticeships frameworks.

To meet these needs as an option within an agreed national framework, a broader stream of vocational learning could be provided which incorporates aspects of the general national vocational qualifications (GNVQ) model from the UK and the Charles Perkins and School-towork acts of the USA. A national general technology/applied learning stream could be developed to sit alongside VET-in-Schools and school-based new apprenticeships, and conventional end-of-school certificates. In the long-term, provision of a general middle pathway within the NTF, and accepted within the accreditation framework of each Australian Curriculum Assessment and Certification Authority (ACACA) member, might provide two outcomes. In the first place it would provide an alternative for students not attracted by conventional end-of-school curricula and certificates that would have national currency with employers and the post-school VET sector. It would also help break down conservative attitudes that marginalise and separate vocational learning to the 'less successful'. If it does this, then there may be a greater impact on reforming the structures and curriculum of secondary schools, particularly in the area of co-operative off-site learning models which involve community, employer and other educational institutions. This type of separate general entry-level vocational qualification might also encourage greater levels of cooperation between agencies responsible for school and training curricula and certification, and between delivery organisations at the local level.

Participation and retention

The reported growth of VET-in-Schools enrolments disguises a number of issues that require further investigation. During the time of enrolment growth in VET-in-Schools programs (from 1996 with 60 000 to 1999 with approximately 130 000), Year 10 to 12 retention rates and age-specific participation rates did not significantly change, suggesting that vocational enrolment growth was not driven by the early school leaver group. It is more likely that enrolment growth came from 'continuers' who switched preferences from general education subjects to vocational ones. This is partly supported by the distribution of the majority of enrolments (55%) across vocational subjects which have general education equivalents (hospitality, office and clerical, and computing). Two issues emerge from these figures which are important to the future design of vocational policies and programs. One concerns equity goals. If vocational programs as presented are not attractive to the majority of early school leavers, then why? And is there a form of vocational program that will interest them and keep them in touch with learning systems? Should these not be priority policy goals of government?

The other concerns the meaning of enrolment growth when a large proportion of the growth is from schools converting pre-existing similar general education subjects to vocational ones and merely carrying over a typical enrolment load from them. If there has been a large carry-over, then a significant component of enrolment growth in VET-in-Schools programs might merely be a way of re-aligning existing subjects and enrolments into a vocational equivalent. These observations have implications for the cost of providing VET-in-Schools programs and indicate a need to know more about the micro-economics of school processes and resource allocations as they relate to curriculum management and student curriculum choice.

Resource responsibilities

Since 1993 the issue of ongoing funding and resourcing responsibilities for the provision of vocational education and training in schools has been unresolved. Schools have consistently stated that they cannot run vocational programs with structured workplace learning (SWPL) without additional funding. Commissioned studies have provided qualified advice that elements of VET-in-Schools programs cost more than general education subjects. Factors contributing to the additional costs of establishing and maintaining VET-in-Schools programs are known. These are:

- provision of SWPL as a required component of the vocational program particularly when it invokes additional student and employer support and co-ordination
- the purchase of instructional hours from publicly funded TAFE institutes and other providers at market rates
- the cost of training school teaching staff to meet NTF requirements for teaching and assessment

In terms of teacher costs, vocational classes delivered within a standard classroom or workshop setting are not very different from the delivery of other school subjects. It is the form of vocational education that schools are being asked to introduce that adds to the costs of provision. Our analysis of costs suggests that an additional amount of between 2 to 4% of annual recurrent costs per government senior secondary school student is required if a vocational unit is delivered for a fee from TAFE institutes, and up to an additional 8% is required if more than 10 days' work placement per year is also required for that unit of study.

Efficiencies in the provision of VET-in-Schools programs can be gained by having large enrolments, often achieved by schools entering into co-operative arrangements. Efficiencies or savings from subject substitution or conversion are often not realisable within a school setting because of the small numbers of students seeking to enter any one vocational subject and the prevailing organisation of schools based on the maintenance of minimum class sizes. Where such efficiencies are not available, then a further 6 to 8% is added to the per-student recurrent cost of providing a VET subject. Greater efficiencies might be gained if there were a closer integration of knowledge and skill components within existing general education subjects to the needs and requirements of vocational packages. Until alignment audits are performed on

the knowledge and skills embedded respectively within general education and vocational curricula, cost reductions from subject conversion and elimination of duplication will be limited.

In the meantime, most schools cannot sustain a vocational program with SWPL and training package assessment requirements from existing recurrent formula allocations. Schools continue to rely on annual grants from the ASTF, ANTA, and State school and training authorities. To offset some costs of provision, often the gap between grants received and costs incurred, many schools have:

- charged students disguised instructional costs (in government schools)
- levied participating employers
- cross-subsidised VET-in-Schools programs from other income sources
- entered into the provision of profit-based goods and services to the general public

The issue of achieving a sustainable funding base for approved vocational education and training is most pressing. The funding of approved vocational education could occur in such a way that recognises the constitutional prerogative of the States and Territories for delivering education but also recognises that the Commonwealth has an enduring responsibility to support those elements of a program with multiple social objectives and which are considered as additional to standard education practice. As there appears to be Commonwealth interest in the provision of SWPL and the development of co-operative learning communities with youth welfare and employment objectives, then these activities could be funded by them and managed through bilateral committees with community membership. States and Territories would become responsible for curriculum and teacher development and the recurrent cost of provision of vocational education other than that associated with SWPL and the management of broad-based learning communities. Initial estimates are that this would require some \$28 million in annual grants from the Commonwealth, rising to \$48 million as VET-in-Schools program enrolments reached their estimated peak in four years' time. As learning communities became established with economies of scale, and States adjusted their allocation procedures to allow resourcing of schools on a cluster basis, the Commonwealth component for managing SWPL and co-operative learning should stabilise.

Allowing practice to influence policy

Many schools which have attempted to use vocational education as a means of designing new forms of education, training, and youth support have encountered resistance when dealing with traditional school and training agencies. Some third-party groups acting on behalf of their school and institute members have also found that, because they are incorporated bodies not formally attached to a government education and training system, central agencies exclude them from information, decision and advisory networks. There is a consistent message that change and innovation from the field that does not fit within guidelines and departmental practice is often rejected or else put through a protracted period of negotiation resulting in one-off special condition approval or funding. In many cases this type of experience has led schools and clusters into high-risk situations where they implement change without agency support, or defer actions for twelve months or withdraw from that activity. If co-ordination and integration of youth services is to be an outcome of the 'new vocationalism', then agency responses to change and innovation need to be considered.

Appropriate performance measures

Prevailing school performance measures tend not to identify as a successful outcome the placement of a student into a full-time job before completing Year 12. Yet this is what many schools do and what many vocational programs with SWPL indirectly encourage. Finn (1991) raised the issue of alternative pathways and outcomes for youth, but this has been ignored as a legitimate indicator of school performance by most schooling authorities (that is, successful transfer to a full-time job with structured training). The Adelaide declaration has resurrected a number of Finn's concepts but it remains to be seen how they will be incorporated into central agency systems, and whether schools will be recognised for successfully shifting young

people into jobs. At a formal level, schools participating in the Jobs Pathway Program receive funding from the Commonwealth for this type of activity and duly record placement activity and outcomes. However, other schools perform similar functions without additional resources and without recording outcomes and effort. This activity of assisting youth into jobs is one manifestation of a co-ordinated and integrated vocational education system likely to grow and therefore be recognised as a legitimate school activity.

Employer participation

The participation of employers in SWPL is relatively low and varies between regions and schools. In practice it is school and cluster workplace co-ordinators who continually sell the concept of participation to employers and respond to their needs and queries when they join a VET-in-Schools scheme. Initially, the Commonwealth, through the ASTF, provided funds for participating employers to undertake trainer-training and gain qualified 'trainer' status. Apart from this program, since 1996 there has not been a consistent and sustained information and promotion campaign by central agencies directed to employers designed to encourage their participation in SWPL. Promotion of new apprenticeships to employers has occurred, but these are different from participation in SWPL. If the Commonwealth wishes to promote mutual obligation concepts where employers are expected to contribute to their surrounding communities, and vocational education is part of that broader vision of creating co-operative learning communities, then a more systematic approach to the promotion and benefits of participating in SWPL programs should occur. To make participation more attractive, the Commonwealth might wish to consider the provision of various forms of tax breaks to employers who contribute more than a passive work observation spot in their facility. Examples of this practice occur at a State level in the USA. An explanation of the benefits of participation to employers, based on the transfer of entry-level skills training to the public sector, should also occur. Detailed employer case studies may need to be undertaken to lend credibility to this proposal.

Vocational teacher supply

Within policy circles there has been an absence of discussion about the future supply of teachers to maintain VET-in-Schools programs. At the school level, and in States where there has been a technology teacher training program, concerns about future program continuity when experienced vocational teachers retire have been raised. Two types of skills are required to run vocational programs in schools. One set of skills is associated with the planning and coordination of vocational programs and requires knowledge of regional economic development, business operations, negotiation and conflict resolution, employment and welfare programs and benefits, assessment requirements and training systems and student record systems. The other set of skills relates to the technical knowledge of a particular vocational area and skills in teaching and instructing young people in the 15 to 19-age-group. In some States formal teacher education qualifications are required for providing ongoing instruction to school students. In some instances there is an expectation that schools which do not have qualified staff should purchase instruction from private providers and TAFE institutes. However, variable experiences of schools with costs of purchasing instruction, and the quality of instruction from minimally qualified sessional trainers suggest that entry-level training from a school has different requirements from that of a TAFE institute. Since some preliminary work (Malley et al. 1999) suggests that there is soon likely to be a shortage of vocational teachers for the VET sector, then it more than likely that VET-in-Schools programs will also be experiencing shortages of either qualified teachers or trainers. The Commonwealth might seek to encourage universities and other appropriate training agencies to address this issue.

Towards a blueprint for integration

Some general observations

The model of new vocationalism noted earlier in this chapter (and explained in detail in the first chapter of the second part of this report) presented the proposition that a set of stated objectives concerning particular youth and education outcomes could not be achieved unless there were structural reforms to integrate the traditional organisation of secondary education, with post-school education and training, vocational education and academic education, and education and work.

Three observations about this model stand out. One is its generality in that it makes no detailed statement about the weight of evidence to support the assumption that the structural reforms of integration will necessarily lead to improved outcomes for the specified objectives. Another is that it offers no advice as to what integration means or how it might be achieved. The final observation is the implied assumption that the new vocationalism is not just based upon specific industry skill needs but about a re-alignment of a new general education model that includes generic competencies for life, specific skills for employment and new structural forms of educational provision.

The generality of the new vocational model offers no specific advice to nations as to how to achieve the desired structural reforms and what shape they might take.

The recent Australian experience with school-based vocational education appears to adopt the principles of integration but demonstrates that this is a difficult and complex process that progresses unevenly over time. The combined experiences of Australia and the USA also suggest that within federated nations with diffused responsibilities for education, training and youth employment, the path towards integration should be measured by degrees over time. In this way due recognition can be given to the political and cultural changes achieved to long-standing organisations, practices and values. Examples of integration achieved by sudden structural reforms are not readily identifiable.

Despite the first observation, the concept of integration has been adopted as a major policy platform by many countries. While varying in detail, policy guidelines and legislation within many countries now pursue the ideal of integration between:

- academic and vocational education, often through the introduction of key or basic competencies concepts to the curriculum, or through an expanded model of general education that incorporates applied learning principles to traditional academic and vocational subjects
- upper secondary school and post-school education and training through the development of multiple pathways and locations for the delivery and certification of vocational and academic learning outcomes. This often involves the development of vocational programs and qualifications that can be delivered separately or in partnership, and/or sequentially or simultaneously, between schools and traditional post-school teaching and learning institutions
- education and work through a variety of mechanisms including:
 - joint industry advisory curriculum and certification structures involving employers, trade unions and governments
 - the establishment of regional employment and training groups to provide advice on co-ordinated provision of skills training and education relevant to local labour market needs
 - the promotion of workplace learning in a variety of forms as part of the social contract of employers to schools and colleges within their community
 - the provision of simulated work spaces and workshops to schools and colleges

• the shifting of some elements of internal labour market training of enterprises into a shared domain between publicly funded education and training institutions and enterprises

Integration is therefore a broad concept that can be approached in a number of ways. In some countries integration has been achieved by the development of vocational programs that deliberately cross the school, post-school and workplace boundaries. In the USA the '2 plus 2' and Tech Prep programs promoted under the *Perkins act*, and supplemented by the *School-to work act* generated partnerships between schools, colleges and the workplace, particularly for students not necessarily destined for university studies.

Until recently in the United Kingdom, a form of convergence was established through a curriculum and certification protocol, the General National Vocational Qualification (GNVQ). By combining elements of general education into a broadly specified vocational qualification that could be delivered through a range of providers, young people of post-compulsory school age were given a choice of institution and qualification. Initially this encouraged various institutions to compete against each other for students. However, new initiatives are in place to maintain the qualification, which is now accepted by many universities, and to ensure a more co-ordinated regional approach to the provision of vocational courses.

Some Australian datum points

Connecting vocational models

Australia has progressed down the path of integration using many of the above mechanisms. The 1998 Adelaide agreement between ministers of education has provided an expanded model of general education that incorporates significant elements of a broadly defined vocational learning into an overall school framework. The post-school sector through ANTA has provided national qualifications and training frameworks which are now used to define most of the vocational programs provided within senior secondary schools. However, there remain significant conceptual and practical differences between the Adelaide agreement and the ANTA frameworks that need to be resolved before it could be claimed that integration has been achieved. Part of this integration process will be the accommodation, particularly by post-school authorities, of the legitimacy of the broad community and student values contained within the schools sector approach to vocational learning. The integration process will also require school curriculum and accreditation authorities to broaden their concept of an appropriate general education model. This model should include key competency outcomes in a curriculum and certificate format not overly influenced by a narrow range of academic interests, and not bound to a standards specification that discourages significant elements of youth from continuing with schooling.

Established pathways

The establishment of the pathways concept in Australian secondary education has provided a major step forward in that it now includes the provision by schools of vocational courses and certificates that were once the exclusive domain of the post-school sector and the workplace. This has been a consistent thread of development introduced by the Australian Vocational Certificate Training System in 1992, and later carried forward by the *Working nation* initiatives of 1994 and the new apprenticeship policies of 1996. In many cases it was local initiatives by schools and enterprises that led many of the policy agencies into detailed considerations as to how this type of integration might be achieved.

Education and work

The integration of education and work has occurred at two levels. One is associated with the development and approval of industry-based curricula and standards through the developmental and approval mechanisms established under the National Training

Framework. The post-school concept of vocational education is predicated on industry needs and their subsequent participation in standards and curriculum development. Increasingly, State boards of study are also establishing advisory groups which include industry members, and are progressing the development of courses to accommodate students seeking to continue their post-compulsory schooling on a part-time basis in conjunction with employment that includes structured training.

The other level of school and work integration has occurred largely through the funding initiatives of the ASTF and the local responses that established school–industry programs throughout Australia. By 1999 an estimated 86% of Australian secondary schools were providing a broad range of vocational programs based on some form of school–industry partnership, with 80% also providing structured workplace learning for students as the basis of that partnership (Malley et al. 2001).

Convergence, complexity and diversity

In Australia, as in other countries, vocational education in schools has become a policy focus of governments with many objectives. Within a complex federal system the objectives of school-based vocational education remain fuzzy and varied, as does the connection between policy and delivery components. This however, is not necessarily a negative observation, in that some key objectives have been achieved and the looseness between central policy and local practice has encouraged innovation.

A consistent pattern of policy development has occurred since the late 1980s promoting integration between the world of work and education. Leadership from various Commonwealth Governments developed policy goals to improve the connection between education and work. Following Minister Dawkins' initiatives in 1988, the Finn report (1991) presented a set of integrated targets for youth concerning their participation in either education, training or employment. Key competencies for youth leaving school and proceeding to employment were then identified (Mayer 1992), followed closely by a national framework to allow skills training to occur within secondary schools (Carmichael 1992). Subsequent Commonwealth Governments have built upon this policy framework to provide the NQF, the NTF and a continuing seeding fund source for the establishment of structured workplace learning and school industry partnerships. In addition to these, changes have also been introduced to connect youth at risk of leaving school early with advice on labour market and further learning opportunities through programs such as the Commonwealth-funded Jobs Pathway Program and Youth Allowance. Each of these policy initiatives represents intentions of reform to existing systems in that they seek to integrate into the schools environment new activities connecting them with the workplace (structured workplace learning, new apprenticeships and school-industry partnerships) and post-school vocational education institutions through shared delivery of national vocational qualifications.

At the practice end of vocational education in schools, a range of partnership models have developed throughout Australia demonstrating various forms of integration. For many schools, vocational education is an addition to the conventional curriculum through the conversion of existing subjects to NTF specification, often without the added dimensions of work-based learning and industry partnership. For a smaller group of schools, vocational education has provided a restructuring of senior secondary schooling through the inclusion of work-based learning to vocational and other subject domains, the creation of industry partnerships and the provision of job placement programs for students.

While a few case studies are available to give insight into the complexity of school and local management of vocational programs, policy development often seems to progress with little response to these complexities. To date there has been a tension between prescriptive top-down policy and resource approaches of many central agencies and the maintenance of innovative practices and different needs by schools and communities at the local level, particularly as systematisation of vocational education replaced the early developmental stages. A key issue of the integration model is how to resolve this tension in a way that

maintains local innovation, improves student outcomes and structurally changes the instruments of policy development and implementation traditionally used by governments.

Drawing for the future—from datum points to lines on the paper

The challenge now facing vocational education provision in secondary schools is how to build upon the advances already achieved without extending the unevenness in provision already evident. From this review the following are identified as being essential to this process.

- There is a need to clarify and prioritise the objectives and expectations for vocational education overall and for each level of activity: we have identified a growing set of economic, social and education objectives which are associated with the provision of vocational education but they are not coherently connected. Priorities do not have to be static lists, but should convey preferred directions to pursue when allocated and volunteer resources are limited. Unless some order and priority are introduced within a strategic plan, it is likely that the limited available funding could be dissipated across too many objectives.
- Accompanying this strategic specification of vocational education should be the development of appropriate outcome measures that reflect the move towards integrated provision of youth education, training and employment services: we have identified a scarcity of outcome measures to evaluate progress towards achievement of even a limited set of vocational goals by schools and systems. Unless a realistic strategic implementation and outcomes framework is established with clear role and responsibility statements for the various stakeholders, then a range of institutionally led outcomes could be pursued at the expense of youth needs. Integrated outcome measures for youth might require an approach to data-gathering based on tracking individuals as they move into various combinations of education, training and employment, as well as on the traditional form of data capture through learning institutions.
- To maintain a national framework approach and to co-ordinate a review of objectives there is a need $\dot{\mathbf{x}}$ for the Commonwealth Government to commit itself to providing long-term support for vocational education provision: this commitment might take a number of forms but would include a leadership role in policy development, the commissioning of research and evaluation, and an ongoing responsibility for the development and maintenance of new structural reforms or those additional to traditional State and Territory activities. The Commonwealth has already provided a connected policy thread across successive governments through its promotion of work-based learning, reforms to apprentice-type training and other forms of vocational education. This role should be maintained, but not necessarily within existing organisational structures. As the provision of regional youth delivery frameworks appears to be of interest to all levels of government, the Commonwealth could provide leadership to encourage new community models of learning. In conjunction with the States, the Commonwealth could take a major role in supporting the formation of the social infrastructure of learning within communities, but leave curriculum, credential, assessing, and other recurrent costs to the States.
- States and Territories should continually examine the basis of curriculum and accreditation for schools as they have done in the past, and constantly adjust the structural provisions to best meet their needs: Victoria has recently indicated a desire for new structural arrangements with regard to the regional co-ordination and delivery of post-compulsory programs including vocational education and the provision of awards and certificates (Kirby 2000). Western Australia is considering the use of competency assessment models within secondary education as a means of meeting a selected range of educational and vocational objectives. Queensland has actively pursued the development of new apprentice models within school frameworks. States and Territories should maintain these review processes. There is a need within these review functions to pay attention to the ongoing evaluation of the structures and procedures used by practitioners as well as to aggregated studies on the distribution of vocational enrolments and program provision.

- There is a need to rationalise and adequately fund the resource requirements of the various forms of vocational provision offered through schools: some basic vocational outcomes do not necessarily require extensive workplace learning, purchased places within TAFE institutes or access to high technology equipment and can be funded from already existing school-based resources. But other vocational outcomes that require access to equipment, work processes and expertise, and are also tied to other objectives such as the establishment of community learning and employment networks, will require additional funding. A guideline for resourcing these new activities might be that agencies or governments with long-standing responsibilities in either education, training or employment should continue to resource those responsibilities in an integrated structure. This might lead to additional funds from new sources and redirected funds from existing agencies with interests in youth outcomes.
- A national entry-level vocational qualification needs to be developed in conjunction with the States, employers and trade unions that will have the status of a school leaving certificate and provide holders with a set of generic competencies acceptable to employers: this should be developed as an alternative to the end-of-school certificates offered by each of the States and Territories and, like the GNVQ concept of the UK, be broadly based to provide pathways for entry into a range of specific vocational qualifications. It should also cover all of the basic or key competencies to designated levels and be designed so that schools, TAFE institutes or other institutions can deliver it without incurring many of the costs presently associated with delivering occupationally specific outcomes of training packages. The provision of this entry-level vocational qualification should not prevent schools from offering specialist vocational qualifications as many already do, but merely provide some young people with a nationally agreed alternative to State-based end-ofschool certificates that do not necessarily have to be completed within a school environment.
- ★ A co-ordinated and sustained program to increase employer participation in the various forms of vocational education is required: this participation could range from creating structured workplace learning positions within an enterprise, becoming a member of a management committee for either a school or regional/industry vocational program, or contacting vocational networks as a first step in any recruitment processes for young people. To date a limiting factor in the growth of a regional approach to integrated vocational education provision has been the relatively low participation rates of employers. Employer participation should therefore become the focus of concerted bilateral activity from the Commonwealth Government and State governments, and cover an integrated set of activities including promotion and awareness campaigns, incentives and research.

In progressing each of these priority areas, mechanisms should be developed that are inclusive of each level of significant stakeholder. Having already established a working framework for vocational education, the next period of change will require adjustments to those frameworks and the development of different organisational forms not yet widely experienced in Australia. There are already two signs of this occurring. The first is the clustering of schools on a co-operative basis, when in the past they acted as autonomous and sometimes competitive units, and for government schools, within a hierarchy of centralised funding, curriculum and certification. The other is the formation of regional co-ordinated learning and employment networks. Although few in number, programs such as those in Kwinana (WA), Mackay (Qld) Bendigo (Vic), and industry ones such as the Engineering Pathways Program of South Australia, have demonstrated the effectiveness of new administrative forms. For this third period of development the focus should be on new and flexible administrative forms based on co-operative funding and delivery, guided by measures of need, and evaluated on measures of youth and employer outcomes.

In this third stage governments should be aware of the time taken thus far to achieve a widespread, but variable vocational presence in secondary schooling systems. If it has taken approximately ten years from the commencement of the Finn report to establish a small set of co-ordinated programs that deliver education, training and employment outcomes, then it might take another ten years to ensure that all Australian youth have access to organisations that deliver this type of program. It might also take this time for most employers to be actively

participating in regional or industry vocational programs as they realise that the effectiveness of their internal human resource functions can be enhanced by community collaboration. By this time vocational education might become a redundant term as all people seek to maintain an active lifelong learning profile.

To overcome the apparent complexity of decision-making about the provision of vocational education in schools, the following framework is provided (table 1). It has been drawn from the literature and practice identified in this review and can be used in a number of ways. At a school or cluster of schools level it might be used as a checklist to aid in the design and delivery of vocational courses at a local level. At a systems level it might be used to identify gaps within policy and resource guidelines, or provide the basis of a system-wide evaluation of provision.

The framework is not intended to be definitive, so would be users are encouraged to adapt it to suit their own needs.

Broad dimensions of vocationalism		Ра	Particular elements: used either alone or in various combinations	
1	Location	*	workplace	
		*	classroom	
		*	workshop	
		*	simulated workplace	
2	Activity or learning outcome for students	*	whole of job or task to recognised standards, provided by structured workplace learning and is workplace assessed	
		*	discrete skills and competencies to recognised standards, workplace and school assessed. Structured workplace learning and school-based learning	
		*	discrete skills and competencies to recognised standards acquired in simulated environments in schools, colleges and institutes	
		*	increased awareness about particular occupations and industries	
		*	capacity to apply general principles and techniques to particular occupation/industry contexts	
		*	can enter a workplace and use a satisfactory base level of general functional and communication skills	
		*	positive self-image and career goals	
3	Content focus	*	occupational skills (vocationally specific model)	
		*	broad industry skills (general vocational or technology model)	
		*	core/key skills (entry-level preparation)	
		*	careers education/job tasting	
		*	entrepreneurship/enterprise education	
		*	careers major focus	
		*	contextualised learning for all subjects (general education model)	
4	Target group(s)	*	students at risk (various) or youth at risk	
		*	minority groups	
		*	applied learners	
		*	returnees to post-compulsory education	
		*	all learners	
		*	undecided pathways	
		*	not university bound	
		*	senior year levels	
		*	middle and senior year levels	
		*	all year levels in secondary school	
		*	all 15 to 19-vear-olds	

 Table 1:
 A framework for vocational education and training in either secondary schools or for the post-compulsory age group

Broad dimensions of vocationalism	Particular elements: used either alone or in various combinations		
5 Curriculum organisation	 off-stream special provision outside the standard timetable streamed grouping within timetable 		
	 integrated into timetable as another subject choice 		
	 full-time only 		
	 full-time and part-time, extended time 		
	 timetabled workplace learning 		
	 non-timetabled workplace learning either as students catch up with peer support or as after hours part-time work 		
6 Certification	 nationally recognised skills embedded in the end-of-school State certificate 		
	 school-provided certificate with statement of attainment 		
	 nationally recognised industry certificate issued by a 'recognised' training organisation 		
	 nationally recognised general vocational certificate that includes key competencies 		
7 Organising entity	 comprehensive secondary school alone 		
	 cluster of co-operating secondary schools of various types 		
	 specialist schools and colleges such as senior secondary colleges, Year 12 colleges, area vocational schools, career magnet schools 		
	 post-school entities such as further education colleges and TAFE institutes 		
	 third-party enabling groups acting as partnership brokers; enabling groups could be community, industry, occupational or local government-led and form the nucleus of a partnership program 		
	 partnership of schools, post-school institutions, employers, community and government entities organised through a management committee structure 		
	 education authorities at federal, State and/or local government level 		
8 Purpose	 improve the quality and flexibility of the social and economic knowledge and skill base of youth 		
	 improve the level of satisfactory transition of youth through various sectors of education and training to work 		
	 improve the continued engagement of today's youth with future learning needs through education and training institutions and structures 		
	 improve the retention rates of schooling systems 		
	 improve the participation rate of youth in post-compulsory education 		
	 improve the knowledge base of youth about particular careers and occupations 		
	 provide a basis for reforming secondary school curriculum and organisation 		
	 delay youth entry to the full-time labour market 		
	 make up for the failure of enterprises to invest in entry-level specific, transferable and general skills training 		
	 act as a catalyst connecting schools and colleges more directly with local labour market skill needs 		
	 ensure successful employment outcomes for post-compulsory age youth not proceeding to university, and most likely to be early school leavers 		

Literature review on VET in schools

Introduction

Most of the proliferating literature on VET in schools can be categorised as pronouncement, polemic or policy analysis, rather than empirically based research, a conclusion shared by other reviewers (Ryan 1997). However, a current surge of research activity of the latter kind (for instance, Cumming & Carbines 1997; Figgis 1998a; Malley et al. 1999; Misko 1998; Polesel et al. 1998b; Spark 1998; Strickland 1998) is helping to redress previous gaps in the research findings in the area. This former dearth of research evidence about VET in schools is consistent with the VET sector more generally, of which it has been widely agreed that 'research has played a very small role in informing policy developments over the past decade' (Boud et al. 1998, p.136; see also Butterworth 1994; Hall 1993; Harris et al. 1998; Lundberg 1997).

The following discussion canvasses the issues that arise in the general literature about VET in schools, but with more attention being given to the published research which is empirical in nature. The task of drawing firm conclusions from the literature is confused, however, not only by the amount of material that is non-research-based, but by the fluidity which characterises the implementation of policy in the area—particularly with policy shifts that occur as a path is negotiated between the interests and priorities of State and national authorities. In such a context, therefore, references in some of the literature to 'rocks, rapids, whirlpools and uncharted waters' is pertinent (Dudley 1997). Because of the constantly changing nature of VET in schools, research findings derived from studies conducted at an earlier point in time may not be readily generalised to policies or programs as they currently operate. A major watershed (to continue the aquatic metaphor) was the endorsement in 1998 by MCEETYA of a nationally consistent approach to the implementation of VET in schools. Although many of the ramifications of this decision are still to be operationalised at State and school level, the institution which is 'VET in schools' has been profoundly influenced by this decision, and therefore the issues that emerge in the current literature will reflect different emphases to those which predominated in previous years.

The rationale for the promotion of VET in schools

There is reference in the general literature to two forces which together could be considered to be driving the growth in VET in schools: one, and by far the more influential, is a policy climate in which there is a strong economic imperative to promote VET, while the second is an argument that centres on the benefits that can be derived from the kinds of learning that VET implies.

Policy context

The prime motivating factor for the increased emphasis on VET generally, both in Australia and worldwide, is economic. Changes in Australian industry, pressures to increase exports and become more competitive internationally, and changes in workplace culture have created the need for a more skilled workforce. Hence the priority given to VET by government and

industry, and the push to expand and upgrade training (Gonczi 1997; Keating 1995; Smith 1997). At the same time, concern about high levels of youth unemployment since the late 1970s have prompted various calls to increase the vocational relevance of the school curriculum, which is traditionally seen to have a too-narrow academic focus, as a means of improving the employability of young people.

The development of VET in schools has occurred against the background of the reform of entry-level training. Schools were prominent in the Australian Vocational Training Scheme (AVTS) pilots in 1993–94, and at the end of 1994, MCEETYA endorsed the expansion of AVTS activities in schools. Many of the early predictions about the probable impact of these national training reforms on secondary schools (Keating 1995) have been realised. Schools have been presented with both opportunities (to become providers of training, and to enable their students to gain VET qualifications while still at school) and challenges (to provide programs that articulate to post-school VET, and to incorporate new ways of learning into the upper secondary curriculum).

The convergence of vocational and general education

Calls for a convergence between general and vocational education occur frequently in the literature surrounding VET and schooling (Smith 1997). As an instance of such rhetoric, Boston (1998b) rejects, on economic, social and educational grounds, the idea of separate VET and general education pathways for students, and claims that the demands of the modern workplace are such that the distinction between 'doers' and 'thinkers' is no longer relevant. Hence the distinction between academic and vocational skills is also irrelevant.

VET in schools is often assumed to involve a workplace learning component, and there has been a renewed interest in the benefits that such contextualised learning can provide. Harris et al. (1998) surveyed the literature regarding workplace training and pointed to the general assumption, both in the literature and in policy during the 1990s, that integration of on- and off-job training was desirable. Hawke's (1995) review of the literature had also concluded that such integrated training was the most beneficial. Harris et al. (1998) noted that cognitive psychologists such as Gott (1989) seem to believe that procedural knowledge and strategic knowledge; that is, techniques and how to decide what to do when, are best learned in the workplace.

Sweet holds the view that workplace learning can enhance learning in general by inverting 'the traditional relationship between theory and practice, between concept and experience, between the classroom and the world outside it' (Sweet 1995). He argues that one of the attributes of workplace learning is that the direction of learning can occur from practical problem-solving to basic principles. In this way, vocational learning reinforces general educational objectives (Sweet 1993). Sweet (1995) also points to the work of Resnick (1987), who described the characteristics of school programs that were effective in teaching problem-solving and thinking skills. These features, which were also common to work-based learning, included moving from the particular to the general, setting learning in context, and building competence step by step. Ryan (1997) observes that there is a degree of consensus, in US research, that vocational education can be used to enhance academic skills.

Some general surveys of the nature and extent of existing provision

There has been a number of surveys that have produced overviews of VET provision in Australian schools during the decade of the 1990s. Initially these were essentially descriptive in nature, with attempts to address the quantitative dimensions of provision undertaken only more recently. A review of vocational education provision in secondary schools in the first part of the decade (Curriculum Corporation 1994; Kennedy, Cumming & Catts 1993) identified the major innovations from the 1970s onwards as work experience, school–industry link programs, specific vocational initiatives, such as the AVTS, co-operative programs with TAFE, the integration of employment-related competencies into the curriculum and career education. Within this review, another way of categorising VET offerings in schools related to the timing of their introduction. According to this typology, there were three phases, the first being the long-established, traditional vocational subject offerings, such as secretarial studies, accounting, or sheep husbandry, followed by initiatives in the 1980s as responses to increased school retention and, thirdly, the surge of activity that occurred from 1993–94 as a response to the national training reform agenda, particularly the AVTS pilots.

A companion volume to the Schools Council report (1994) on how effectively schools were providing for the range of purposes served by senior secondary education documented examples of the efforts made by schools to strengthen the vocational preparation of students (Golding 1994). Descriptions of the typical programs operating in each of the States in the early 1990s (Keating 1995; Lundberg 1995) indicated that they were enormously varied. They included joint school–TAFE programs leading to the Higher School Certificate (HSC) and a TAFE certificate in NSW, the Pathways program in Western Australia, South Australia's Engineering Careers Pathway that allowed credit transfer into TAFE, dual recognition in Victoria, and co-operative programs with TAFE in Queensland. Athanasou (1996) surveyed over 60 school–industry programs across Australia, and while identifying a number of more common features, also found a very wide variation in their characteristics.

In 1995 the Australian Council for Educational Research conducted the first national survey which collected baseline data on the extent of school provision of structured workplace learning programs for students in Years 11 and 12. The survey was repeated in 1996 (Ainley & Fleming 1995, 1997). Results from these surveys highlighted the rapid growth in VET in schools in this period. In 1996 there were programs in 62% of schools, an increase of 16% over 1995. Provision varied widely by State, being highest in NSW, the ACT and the NT in 1996. Teese et al. (1997) found similarly large State differences in the levels of VET participation among Year 12 students. The ACER studies also showed that there were marked differences by school sector, with programs in 74% of government schools, compared with 25% of independent schools in 1996. The greatest growth in programs between 1995 and 1996 was in Catholic schools, where programs were offered in 64% of such schools in 1996 compared with 34% in the previous year. Other factors found to influence program provision were location and school size, programs being more common in regional cities than capital cities or rural areas, and less common in smaller schools. The surveys also enabled estimates of the level of student participation in workplace learning programs, and showed that, between 1995 and 1996, there was an increase from 7 to 12% in the proportion of the cohort of Year 11–12 students who were engaged in such programs, with the strongest growth in Catholic schools. Participation rates differed between sectors, being highest (15%) in government schools, and lowest (5%) among students in independent schools, with a rate of 10% among students at Catholic schools. There was a considerable growth (more than doubling) in the numbers of students in programs with short duration work placements (10 or fewer days), some growth in programs of between 11–20 days, and little growth in programs of extended duration (Ainley & Fleming 1997).

At the State level, there have been numerous recent reports which document the growth of participation in VET in schools programs (Department of Education, Training, Community and Cultural Development, Tasmania 1999; Keating et al. 1998; Shah 1997, for instance) or which focus on the issue of more accurately recording participation (Board of Senior Secondary School Studies, Queensland 1998). In addition, recognition of the need for systematic, ongoing and nationally consistent data collection was the impetus for the instigation by MCEETYA of a project to explore the possibility of establishing a national database that would measure participation in VET in schools. The outcome has been a proposal that Australian Curriculum Assessment and Certification Authority agencies in a number of States undertake a pilot exercise to count VET enrolments, according to agreed criteria, including the possibility of using a unique student identifier that would enable the tracking of cross-sectoral participation over time (Malley et al. 1999).

Currently, at the end of the 1990s, VET in schools programs can be seen as one component of a wide range of vocationally oriented programs offered by schools, a range that includes enterprise education, the Australian Quality Council's E Teams, Transition Teams, careers counselling, Young Achievers, and most recently, school-based new apprenticeships. While

there are clear benefits to be derived from such broad-scale vocational provision, there is also the potential for confusion. According to the Joint Industry Training Education Council, the peak national forum for employers and trade unions interested in VET, 'industry is becoming confused with the variety of VET programs that are emerging, and ... this confusion also exists in the school sector and among students and parents' (Joint Industry Training Education Council 1998, pp.25–6). Such a situation highlights the need for carefully targetted information on the features of individual programs for all interest groups.

Issues relating to the design and delivery of VET-in-Schools programs

A lengthy list of the issues that surround the design and delivery of VET in schools programs can be compiled from a reading of the literature. One way of categorising these issues is to consider the different levels at which they impact—at the level of the system, or the school level or at the level of the student, although in practice there is a great deal of overlap between what occurs at each level. The discussion in this section covers both the issues that arise in the broad sweep of the literature on VET in schools programs, and where appropriate, more specific findings from the published empirical research. In this regard, it is of note that there is also an emerging category in the literature that serves to illuminate and confirm the published research, as well as to point the way to future research needs. This is the very current material available, both through newsletters such as The VETNET worker, which documents many aspects of practice and is aimed largely at teachers, and through email discussion lists. An instance of the latter is Vocational Education Co-ordinators Online (VECO), an ASTF-funded initiative which enables subscribers—largely practitioners—to exchange information, request advice, express concerns and debate ideas. The items raised there over many months provide lively and compelling 'first hand' anecdotal evidence of the issues confronting those who are at the 'coalface' of VET in schools.

Implementation issues at the system level

Accreditation and articulation arrangements

Because institutional structures in all States have historically been characterised by a separation between education departments and training authorities, a major issue for VET in schools is that it has entailed the introduction of programs into the education sector that were developed outside that sector (Keating 1998a; Lundberg 1995). The most significant challenge in this integration process has been that of meeting the end-of-school assessment requirements of the State curriculum authorities (Gillis et al. 1999).

The States have developed their own very different arrangements for the incorporation of vocational courses into their senior secondary certificates. These different approaches include a full VET approach such as in Tasmania, where recognised VET curriculum is delivered and assessments are against competency standards, and the increasingly favoured embedding of competency standards into general subjects, such as has occurred in Queensland (Dudley 1997; Dusseldorp Skills Forum 1997; Keating 1998b; Spark 1998). Regardless of the approach taken, there remains the issue of how competency-based assessment of VET modules, in which a pass or fail approach is adopted to reporting, can be incorporated into mainstream senior certificate assessment which requires a mark to enable the calculation of a students' tertiary entrance ranking (Dudley 1997; Gillis et al. 1999). An illustration of the difficulties of integrating competency-based assessment into mainstream assessment procedures can be seen in anomalies in assessment results reported by Spark (1998). Some students were found to pass the CBT component because they could repeat assessments, but fail the board subject as they could not meet deadlines, and in other cases, students were failing the CBT component because of the need to achieve 80% in each test, but passing the subject as they needed only a mark of 50% (Spark 1998).

While there has been agreement that the implementation of VET in schools should enhance students' pathways to further education and training, the effectiveness of articulation arrangements needs to be monitored. An evaluation of Higher School Certificate/TAFE credit transfer arrangements in NSW concluded that disseminating information and increasing awareness of those arrangements was an ongoing priority (*Training Agenda* 1996). Also, the benefits of credit transfer are reduced if TAFEs are unable to offer shorter course completion times (Bonaventura 1996). While there are some data to show that increasing numbers of secondary school students are obtaining credit transfer to further training (for example, Symons 1998) there is also anecdotal evidence, from VECO sources for instance, of problems encountered by individual students.

Resourcing of programs

Resourcing is a significant issue for schools (Spark 1998), but while most impact is felt at the school level, the issue requires resolution primarily at the system level. Because of the need to employ program co-ordinators, provide professional development for teachers, develop learning materials and purchase services from TAFE, it has been acknowledged that VET is 'costly for schools' (Schools Council 1994). This was the rationale for the decision that ANTA funds of \$20 million per year over the four calendar years 1997–2000 would be allocated to support the expansion of VET in schools nationally.

Shah (1997) has investigated a number of funding-related issues with reference to the Victorian context. One is the formula by which ANTA funds are distributed to school sectors on a per capita basis of Year 11–12 enrolments which means that, when comparison is on the basis of actual numbers of students participating in VET, there is a very much higher allocation to the independent sector. In Victoria in 1997 it was four times higher than to students in the government sector. Another issue is that seed funding does not cover the full cost of programs, so that schools also have to reallocate resources from their global budgets. Among the major costs that schools face is the purchase of access to training sector expertise and equipment. Yet in 1997 in Victorian Government schools there was a shortfall between the number of students requiring such access and the number actually funded by the State government, with some VET programs (for example office and information technology) not funded at all on the grounds that schools could deliver them without the use of outside resources (Shah 1997). There are concerns also about too much red tape and not enough flexibility at the school level; for instance, restrictions by funding agencies on capital expenditure (Spark 1998). Yet this is seen to be needed to meet industry standards, and lack of appropriate facilities at the school level is just as significant a barrier to VET delivery as the availability of suitable staff (Keating et al. 1998).

Uncertainty about ongoing funding has been identified as a major threat to sustainability, (Kirkwood 1997; Spark 1998), and a recurring challenge for those responsible for VET in schools programs is the pursuit of additional sources of funding (VECO). As part of that response, schools are increasingly adopting an entrepreneurial role, seeking sponsorship arrangements (for instance, with sporting goods manufacturers to contribute to sports programs), and becoming involved in commercial ventures, such as in hospitality (Malley et al. 1999).

Implementation issues at the school level

Numbers of students and programs

The task of negotiating, developing, and implementing VET programs in a school is demanding and time-consuming. In deciding what VET courses to provide, a range of factors is considered by schools, including the facilities available, the industry qualifications of teachers, student demand, and the capacity of the labour market, particularly locally, to provide opportunities for both work placements and ongoing employment (Bonaventura 1996; Spark 1998; Tregenza, Kenway & Watkins 1997). Student numbers per program are

frequently small—Victorian research has shown the average was less than seven in government schools in 1998 (Keating et al. 1998)—so there is added pressure on staffing and resources. With reference to the relative influence of various factors on which programs are offered, this Victorian study concluded that they tended to be supply rather than demand-led, because industry areas covered by programs were not well matched to industry priorities or patterns of employment in the youth labour market (Keating et al. 1998).

The issue of viable numbers for VET programs is less of a problem for senior colleges (Malley et al. 1999; Spark 1998). However, as Lundberg (1995) has shown, although this was a delivery model favoured by the Employment and Skills Formation Council (1992), and a large majority of educational administrators in his 1994 survey endorsed the view that senior colleges should provide broader curriculum options, there was also strong support for the retention of provision through traditional Years 7–12 high schools. In examining the question of preferred structures for the delivery of post-compulsory education and training, particularly in terms of optimising choice of pathways for individuals, the limited range of existing models was noted. An alternative model was proposed, involving the integration of upper secondary, TAFE and initial university programs in a multi-path higher education college (Lundberg 1995). While there are examples of such structural innovation, for instance, the Coffs Harbour Education Campus, a co-operative venture between the NSW school, TAFE and university sectors (*Training Agenda* 1995), they are few in number.

Curriculum

In the past, the content of VET in schools programs has been developed by State curriculum authorities or by schools, either within or outside guidelines set by those authorities. However, the issue of inter-State differences in the way in which VET in schools has evolved during the period since the inception of the AVTS has been a source of concern for those who advocate a national perspective. For instance the Dusseldorp Skills Forum highlighted the many differences between the States and Territories in the character and quality of programs by reference to a more detailed examination of the data collected in the 1996 ACER survey of school-industry programs (Dusseldorp Skills Forum 1997). This diversity took various forms: in different interpretations of how the workplace was used to meet students needs; in variation in the number of modules students could gain, with implications for the amount of credit transfer that was available; and in variations in the extent to which a program was seen as a standard subject or an additional one, and in whether students' results were recognised and recorded on the senior certificate. It was noted that, while most of these differences were related to education systems and their procedures and requirements, there were consequences in terms of program quality, and a reduction in diversity was desirable in order to improve that quality. Accordingly, the Commonwealth was seen to have a role in trying to establish an agreed approach to minimum standards, which, it was argued, should include:

- ✤ a consistent approach to the value of vocational education
- ✤ a minimum period of structured work placement in all courses
- ✤ assessment and recognition of workplace learning
- programs of sufficient length to deliver national competencies, and lead to recognised vocational qualifications
- employer involvement in management
- appropriate resourcing (Dusseldorp Skills Forum 1997)

The 1998 agreement within MCEETYA, and involving the Australian Curriculum Assessment and Certification Authority, to adopt a national approach to the implementation of VET-in-Schools programs can be seen as an outcome of such concerns. The introduction of the National Training Framework, and the policy decision that curriculum for VET-in-Schools programs should be based on national training packages, has significant implications. On a practical level, there is a current lack of appropriate teaching materials, with considerable pressure on teachers as a result. While there are various efforts underway to address this need, for instance an ANTA-funded project by the Curriculum Corporation to develop resources, including books, websites and a CD-ROM, much more remains to be done. At this time, the information channels such as VECO make an important contribution to enabling teachers to source useful material.

This decision about training packages also has staffing implications, especially in the context of a shortage of industry-qualified school teachers for VET courses (Spark 1998). There is debate among teachers about the ideal balance between teaching and industry skills, and also uncertainty about what constitutes the 'recent industry experience' that is required for the delivery and assessment of competency standards. Schools have shown a clear preference to use their own staff to deliver VET programs (Keating et al. 1998) with a consequent demand for professional development; for instance, for teachers delivering national modules within their usual courses, and for those wanting to acquire the appropriate experience in industry.

A third major concern flowing from the policy decision to confine the definition of VET in schools to recognised training relates to a possible narrowing of the curriculum. There is a risk that local school-developed programs not leading to a credential within existing AQF guidelines, yet successfully meeting the identified needs of individual students, may be stifled (Malley et al. 1999). Students who have benefitted from the blurring of the boundaries between VET and other programs offered at the school level, such as community-based learning, may be disadvantaged (VECO). Various commentators have cautioned against a narrow definition of VET in schools, arguing for instance, that one of the aims of VET should be to equip students with the knowledge and skills to understand and protect their rights in the workplace (Tregenza et al. 1997). Similar ideas have been expressed by other interest groups, including those of parents (Brennan 1998) and teachers. The Australian Education Union's policy principles on VET in schools includes the statement:

The implementation of VET programs for secondary school students should provide opportunities for students to gain knowledge about work and industry-based skills in the context of a broad general education which provides preparation for employment, for lifelong learning, for participation in public life and for personal development

(The Australian TAFE Teacher, Aug 1998, p.25)

Work placement

It can be argued that there are two main kinds of goals for VET in schools programs, one being to introduce students to the world of work (enabling them to acquire critical insights to help in the transition to work, and to consider employment options) and the second, the development of specific vocational knowledge and skills, which also provides credit toward vocational courses. Billet (1998) claims that, regardless of which of these two goals is pursued, both are best achieved through authentic work activity. Work placement is the aspect of VET in schools that has been the subject of considerable recent empirical investigation (for example, Figgis 1998a; Malley et al. 1999; Misko 1998; Spark 1998). The consensus from such studies is that work placement represents the greatest challenge to implement, yet produces the most beneficial outcomes for students.

Demand for worksites

The status of work placement varies by State. For instance, it is an accredited subject within the mainstream Tasmanian Certificate of Education (TCE) curriculum in Tasmania, whereas in Victoria it is encouraged but is not a compulsory part of all VET in schools programs. There are concerns that if work placement were to be mandated, students who could not access worksites would be disadvantaged and industry may not be able to cater for apprentices and trainees. In such circumstances, employers may be reluctant to take on paid trainees when they can obtain unpaid trainee students (Spark 1998).

Access to a sufficient number of work sites is a commonly reported problem for VET in schools programs (Misko 1998; Spark 1998), although this is not a universal concern, as there are many other examples of the supply keeping pace with demand (Malley et al. 1999). Deficiencies in numbers of worksites are greater in some industry areas (frequently, it is in hospitality) and in some locations. Shortages seem to be less of a problem in larger country

towns and regional cities where strong community links are already established, but placements are more difficult to access in some metropolitan centres and in rural and remote areas (ASTF 1996; Malley et al. 1999; Monckton 1994; VECO). Opportunities for work placement may also be related to the size of the enterprise, with some studies showing that larger companies are more likely to provide placements (Monckton 1994). However, recognition has been given to the need to identify the most effective ways for small and medium-sized enterprises to provide structured workplace learning (Helms & Nelson 1997), and there are many instances of small businesses taking on work placement students. It has been suggested that the difficulty of obtaining worksites, and also of attracting sponsorship, may be more of a problem for disadvantaged schools, due to their 'reputation' (Tregenza et al. 1997), although there is little hard evidence for this.

Timetabling

While some surveys have shown block placements of 1–2 weeks' duration to be the most common mode of organisation of vocational placements, the one-day-per-week model, which is seen to offer greater potential for more meaningful relationships, is used almost as frequently (Cumming & Carbines 1997; Malley et al. 1999; Misko 1998; Spark 1998; Teese et al. 1997).

Perhaps the most problematic aspect of work placement is the difficulty of integrating it into the school timetable (Ainley & Fleming 1997; Cumming & Carbines 1997; Misko 1998; Velde et al. 1997). Many students have to catch up regular school work missed while on placements. In 1996, 40% of structured workplace learning programs required students to miss normal classes, while in only 30% of programs did they miss no classes (Ainley & Fleming 1997). This could be a greater problem for students who are having difficulty with school work and, as there is a tendency for VET students to be lower achievers, the problem may be exacerbated. On the other hand, there may be a difference between the perceptions of teachers and students as to the extent of the problem, with teachers generally being more concerned than students (Spark 1998). Furthermore, recent case studies reveal that strategies are being introduced by schools to overcome this difficulty, particularly designated work placement days on which no other classes are timetabled (Malley et al. 1999; Spark 1998).

Co-ordination

Various approaches to the time-consuming task of organising work placements are documented in the literature. These range from instances of individual teachers having responsibility for all activities, including the recruitment of employers, the allocation of students, and workplace visits. Other schools, singly or in clusters, employ full-time coordinators to administer placements. Such co-ordinators may or may not be associated with outside agencies such as group training companies. Some are large regionally based operations, such as the Mackay Region School–Industry Links Scheme, which in 1998 organised placements for around 1700 students from nine schools (Malley et al. 1999). Regardless of the scale of the program, the importance of a co-ordinated approach to employers to minimise their feelings of being 'pestered' is well recognised. An ideal model would therefore seem to be the combination of a centralised regional database with teacher input into matching students and placements, and also involving teachers in workplace visits (Spark 1998).

Relationships with employers

This is a crucial aspect of work placement, and has been the focus of much attention. Various studies have investigated employers' awareness of the training reform agenda, their perceptions of how workplace learning programs operate, their reasons for participating and the benefits they see flowing from their involvement. Such research has revealed considerable goodwill and support for workplace learning on the part of employers (Figgis 1998a; Lepani & Currie 1993; Malley et al. 1999; Monckton 1994; Spark 1998). A key point, noted by Lepani and

reinforced in later studies, is that the quality of a placement depends on local relationships between enterprises and schools, not on system-level factors; that is, on how well local enterprises and schools work together, rather than on relationships between peak industry associations and education authorities (Lepani & Currie 1993; Ryan 1997; Sweet 1996).

Employers are generally united in their reasons for participating in workplace learning programs. They want to help young people by providing them with the opportunity to learn from experience. They see that students benefit personally and socially in developing improved attitudes, maturity, increased self-esteem, and motivation, as well as acquiring vocational skills. Employers also want to support their local community, and regard their involvement as being good public relations. They also realise that they derive other benefits from work placement programs in that such programs provide a mechanism for future recruitment, and help to develop improved communication and supervision skills among their own staff (Figgis 1998b; Lepani & Currie 1993; Misko 1998; Monckton 1994; Smith 1994; Strickland 1998).

However, while employers might recognise the value of workplace learning and be willing to provide work placements to students, the research indicates that much remains to be done in this area. One of the barriers to be overcome is that many employers see teachers and business as 'not speaking the same language' (Figgis 1998b). Among employers as a whole, the level of understanding of the training reform agenda and of VET programs is low (Figgis 1998b; Helms & Nelson 1997; Kirkwood 1997; Spark 1998). And, in the main, VET programs remain education- rather than industry-driven, as schools frequently have difficulty in securing active employer involvement on program management committees. For instance, employers have a minimal role in the organisation of work placements, with only a few actually interviewing students for selection purposes (Malley et al. 1999; Misko 1998).

Assessment and recording of workplace learning

A survey of practice in 1997 (Misko 1998) indicated that student performance was generally assessed by workplace supervisors, as well as by managers or other senior workers, although teachers were also involved. Nevertheless, very few of these workplace supervisors had received training to assess student competencies, or had requested training in order to help them do so. Logbooks were found to be the most common means of recording student performance, with supervisor reports or supervisor-completed checklists also used. However, some studies report that employers have reservations about logbooks, regarding them as complex, bureaucratic and time-consuming (Cumming & Carbines 1997). There is concern also about the validity of assessments, with competencies often being ticked off, yet not achieved. This was especially seen to be a problem in small businesses and in the hospitality area (Spark 1998).

Hence, there are significant questions to be resolved relating to who conducts workplace assessment and how it is reported. It has been shown that most students undertaking placements are doing so in workplaces where there are no qualified staff or staff experienced in workplace training and assessment (Gillis et al. 1999). This has implications for the introduction of training packages, which stipulate that assessments of competency standards must be undertaken by people who have recent industry experience and appropriate assessor qualifications. In the absence of qualified personnel in the workplace, it will be necessary for assessments to be conducted by teachers or the registered training organisation (RTO) (Keating et al. 1998).

Purpose of work placement

While this is the most basic issue, there is not a shared understanding within schools of what the goals of work placement should be, and there is evidence that employers believe that schools need to clarify the objectives of placements, and for students to be clearer about what they want to achieve (Misko 1998; Strickland 1998). Spark (1998) outlined a number of

possible purposes, ranging along a continuum, from gaining familiarity with workplace culture, the practice of skills learnt off the job, the performance of key competencies, and skills development, through to performance to national competency standards. Based on the case studies, it was concluded that there was some tension between policy and practice in this regard. While placements tended to satisfy the purposes at the lower end of the continuum, policy assumes that placements should also provide the upper end. Yet there was little indication of extensive formal learning and assessment occurring only in the workplace. It may be that, in this respect, policy is misdirected, in that placements may have a different role for school students compared with adult learners. However, there was no evidence that debate about this fundamental question of purpose was occurring at the school level (Spark 1998).

Costs and constraints

In most States there is no payment for work placement students, although in Victoria they receive the work experience award rate of \$5 per day. Travel costs may be a barrier to participation for some students (Spark 1998), while teacher–co-ordinators often also incur additional expenses which they sometimes meet out of their own pockets (Malley et al. 1999). In some cases insurance arrangements for students in the workplace—and these vary from State to State, and between systems within States—limit the kinds of placements that can be undertaken. This is particularly an issue for students wanting to gain experience in what are considered to be high-risk areas excluded from insurance coverage (VECO).

Addressing workplace learning issues

On the basis of the research, specific strategies have been suggested to improve the provision and quality of workplace learning programs (Figgis 1998a; Misko 1998; Strickland 1998). These recommendations include:

- involving employers in the selection process
- encouraging schools to better prepare students: trying to ensure that students create the right impression, through appropriate personal presentation and attitude, and with students visiting employers prior to placement
- schools giving greater attention to support and training protocols (for instance, so that all employers have the option of one information session per year)
- implementing minimum standards in respect of employer contacts in terms of timing, frequency of visits, and post-placement follow-ups, particularly providing feedback to employers on how useful the placement has been for the student
- ✤ improving information flow to employers, through processes such as regional newsletters
- improving consultation between schools and industry regarding assessment, with logbooks to be reviewed annually for relevance and effectiveness
- encouraging schools to publicly recognise the goodwill and contribution of employers and supervisors

Intersectoral initiatives

A partnership approach to the delivery of VET in schools is widely used, although there are differences between the States in how these arrangements operate. Schools enter partnerships with TAFE or other private providers, both because programs have small numbers of students, and because schools lack the infrastructure. In relation to the latter, a recent Victorian report noted that inadequate facilities (particularly insufficient or outmoded equipment) was as great a barrier to VET delivery as the availability of suitable staff. For programs where student numbers are larger, for instance, in office administration, information technology, and hospitality, it was found that schools generally used their own

trained staff, as these are areas which have mainstream subject equivalents (Keating et al. 1998).

Some tensions have been identified between schools and TAFE, arising most often from concern about the quality of delivery. TAFE teaching has been seen by some schools as not pitched at the appropriate level, involving staff who are not the most suited to teaching adolescents and lacking in the duty of care that is expected in schools (Keating et al. 1998; Spark 1998; Tregenza et al. 1997). In the Victorian context, these problems can be partly attributed to the calibre of sessional staff, who are used because they are cheaper. There are questions also about the capacity of such staff to deal with the extensive record-keeping requirements of the Victorian Certificate of Education as well as VET outcomes (Keating et al. 1998). The nature of the ongoing relationship between schools and TAFE will be influenced by a number of factors, and will depend particularly on the establishment of mutually satisfactory funding arrangements that must be negotiated at Commonwealth and State levels. Another factor is the extent to which RTOs will be willing to auspice school delivery, and the fees that they will charge (Keating et al. 1998).

A further practical obstacle to the use of RTOs for the delivery of VET in schools is the tyranny of distance, with access being a problem, especially for many rural students (Keating et al. 1998; Tregenza et al. 1997). To help to address such problems, innovative approaches are being developed, involving the use of a combination of various methods of delivery and communication technology to increase provision (Malley et al. 1999).

Addressing intersectoral issues

In some States (NSW and Tasmania, for instance), restructuring is occurring to break down barriers between schools and TAFE, and former education and training administrations are being integrated into single bodies. From the bureaucratic viewpoint, a major advantage of such restructuring is seen to be the integration of facilities and staffing, enabling improved student access to specialist facilities and trainers, thereby addressing industry concerns about the quality and experience of teachers, and the standard and relevance of school facilities (Boston 1998).

Resources

As well as the question of funding referred to previously, there is a considerable human cost associated with implementing VET in schools. Teachers report an increased workload. Where national modules are embedded into board subjects, two assessments are required and the additional time spent assessing and recording competencies, and the amount of paperwork that this involves can be onerous (Dudley 1997; Spark 1998). High levels of commitment seem to be demanded, particularly of VET co-ordinators, resulting in concern about the issue of burnout (Malley et al. 1999; Ryan 1997; Spark 1998).

Implementation issues at the student level

The status of VET

Although there is evidence, in some courses and in some States, that a small number of VET students may be higher achievers are taking on VET as another string to their bow to impress future employers and perhaps to gain a TER bonus (Malley et al. 1999; Tregenza et al. 1997), the general image of VET is that it is for academically less able students. The academic orientation of those who undertake VET programs is indicated by data from a recent Victorian study. A comparison of the mean scores of VET and non-VET students for VCE Unit 3 English in 1996 showed VET students to be lower achievers, and they were also less likely than non-VET students to apply for a place at university (Polesel & Teese 1997). Other data based on a large sample of Year 12 students from most States confirm these associations, in that the

students having difficulty with academic work were more likely to participate in work placement programs than those who were doing very well, and those planning to go to university were much less likely to participate in such programs than those intending to go to work or vocational training (Teese et al. 1997).

Consequently VET has a status problem, because it is seen as being a 'soft option'. In some schools, this perception may be exacerbated if VET students do a discrete course and are segregated from other students. While this may be administratively easier, VET is further marginalised, and there are difficulties for students wanting to change courses (Spark 1998).

Addressing the status issue

A number of observations have been made in the literature about dealing with the issue of parity of esteem between vocational and general education.

On the national stage, there have been efforts to enhance the status of VET, to try to ensure that VET is not targetted at a particular group. MCEETYA adopted recommendations in June 1997 that called on the State boards of studies to develop consistent approaches to the integration and certification of VET and senior secondary curriculum that would avoid the streaming of students into vocational pathways and allow articulation with a range of courses. Coinciding with this move, senior school certification arrangements have being reviewed in some States, in order to better accommodate and raise the status of VET. When proposing reform of the HSC in NSW, McGaw (1997) rejected the view that VET should be only for nonacademic students, instead arguing that it was potentially appropriate for all students, and that vocational courses be accredited by both secondary and vocational education authorities and include a workplace component. More specifically, the review recommended that a variety of courses be offered which could be taken over one or two years and be based on industry training standards; that components of HSC subjects be used to satisfy national training module requirements; and that students be able to choose VET courses in ways that kept open pathways to higher education and further vocational training. The government's subsequent white paper, Shaping their future: Recommendations for the reform of the Higher School Certificate (McGaw 1997) endorsed this approach, which sought to promote the need for vocational outcomes from all schooling (Boston 1998).

At the same time the review of the Victorian Certificate of Education (Lee Dow 1997) was underpinned by the desire to better meet the needs of an ever-widening student population within a single certificate structure. Proposed changes to the VCE put greater emphasis on the provision of multiple pathways for students, with one way of doing this being to more fully integrate VET into the VCE. This is to be achieved through a number of recommendations: satisfactory completion of VCE VET units being based on national industry competency standards; VET units could count for up to eight of the 16 units required for satisfactory completion of the VCE; the availability of graded assessment of VCE VET units regarded as units 3 and 4 for those students who wish a scored assessment; and procedures to enable the direct scoring of VET programs into the tertiary entry score. The enhanced role of VET also ensures that the VCE is able to respond to federal government initiatives, namely new apprenticeships.

A second point relating to the status of VET emerging from the literature concerns changing community perceptions of VET as a post-school study option. Dwyer et al. (1997) cited a number of studies which indicate that, in the past, students have seen VET as a less desirable post-school option than university (Mageean 1991; Sweet 1992; DEET 1993, for instance) and claimed that school students have been exposed to a bias against VET which reinforced expectations that Year 12 completion led to university. However, based on consultation with stakeholders (such as VET providers and careers teachers), Dwyer et al. concluded that senior school students are now more likely to have direct experience of VET at the school level, and greater access to good quality information about post-school VET courses, so that both students and parents are paying more attention to those courses as viable post-school options. Similarly, Polesel and Teese (1997) referred to survey data on Victorian students' attitudes in

1995 to dual recognition programs which showed that VET in schools had done much to improve the status of VET and that perceptions of TAFE had changed for the better.

A third issue in terms of the status of VET relates to the structural arrangements for program delivery, and the advantages of the senior college system, where VET is more likely to be regarded as a natural part of the school's program, not just an addition to it (Malley et al. 1999; Spark 1998).

Equity issues

While VET is somewhat marginalised, and not a common selection of academic highachievers, it nevertheless provides fewer benefits to disadvantaged students than it might (Ryan 1997). Research on students at risk shows that dissatisfaction with subjects and with school culture are often the reasons for leaving school. VET has the potential to help those students. But in order to meet employer expectations, many VET programs are selective, so that students who may be seen as 'difficult' miss out (Malley et al. 1999). Furthermore, VET as it is offered in some States, for instance within the VCE in Victoria, requires considerable maturity, organisation, and energy on the part of the student, and therefore may not be appropriate for those who are having problems in coping with school work.

Nevertheless, there is emerging evidence that VET in schools can cater for the needs of students who may otherwise have left school. This can be seen, for example, in the success of the Certificate in Work Education in promoting school retention both from Year 10 to Year 11 and within Year 11 in Tasmanian colleges (Cumming & Carbines 1997; Malley et al. 1999). VET in schools is also beginning to provide an option for other disadvantaged groups, particularly Indigenous Australians, rural and isolated students, as well as students with disabilities.

Other equity issues also remain to be addressed. For instance, while there is an awareness of the marked gender stereotyping in program choice (such as the preponderance of females in retailing and office, and males in automotive and electronics), this has not as yet been challenged, as schools focus on the more immediate issues of ensuring sufficient student numbers (Tregenza et al. 1997).

General student-level issues

A number of other more general student-level issues has been noted in the literature. Perhaps the most important relates to the question of what constitutes a successful outcome for a student. While most schools encourage students to complete their studies, the offer of employment before completing, especially in areas where job prospects may be limited, creates a dilemma for the school and the student (Kirkwood 1997; Tregenza et al. 1997). In some States, notably Victoria, VET students take on an additional workload, which may be seen as putting them at a disadvantage by comparison with other VCE students. Another possible concern is that students may have difficulty in juggling the different roles of students and employees, where there is incompatibility between school and work cultures (Tregenza et al. 1997), although, because so many students are already part-time workers out of school hours, this seems to be of less importance.

Evaluations of the outcomes of VET programs

There is an accumulating body of empirical evidence about the outcomes of VET programs, and this evidence can be classified in a number of ways. In one category are the perceptions of those involved. These stakeholders can be students, parents, teachers, schools, and employers, and their perceptions are of the benefits of VET programs broadly defined, and of the workplace component of such programs. In addition, there are outcomes that can be more objectively measured, for instance in terms of students' transition rates to employment, or productivity benefits for businesses.

Perceived benefits

For students

Many studies have identified a range of benefits to students. Grosse (1993) found that they gained portable skills and personal confidence, as well as developed an understanding of the workplace and its links to their own learning careers. An evaluation of the TRAC program also highlighted the learning benefits for students, concluding that they developed knowledge and skills that were both generic and specific, were based on reflection and action, integrated theory and practice, and had both enduring and immediate value (Scharaschkin 1995).

The ways in which students benefit from VET have been examined from a number of perspectives—from that of the students themselves, as well as from their teachers, parents and employers. Students have very positive views of their experience of VET generally, and work placements in particular. For instance, when asked to make a global evaluation of their vocational placement, 58% of Year 12 students surveyed in 1996 across a number of States nominated 'challenging and interesting most of the time'. Students were most likely to endorse the placement as a means of 'gaining useful job skills', 'building self-confidence' and 'enhancing confidence in finding work' (Teese et al. 1997). Another national study found that very few students thought they had learned little or nothing from their placement, and a majority believed that the placement had been worthwhile. Self-reported benefits to students were that it was enjoyable, fun, and interesting, that it provided them with valuable experience of the real world of work, and knowledge and skills that helped prepare them for future employment (Misko 1998).

The views of others confirm that students benefit from VET in schools. According to teachers, parents, and employers, the major advantage for students may not be the vocationally specific skills but the social and personal skills, especially confidence, self-esteem, maturity, independence, and self-reliance, that they develop. Teachers also see other benefits for students in increased motivation to learn, which is reflected in improved school attendance and behaviour and lower attrition, as well as in the acquisition of key competencies for lifelong learning (Kirkwood 1997; Lepani & Currie 1993; Malley et al. 1999; Spark 1998).

For employers

A number of recent studies which have canvassed employers' opinions of structured workplace learning programs (Malley et al. 1999; Misko 1998; Spark 1998) provide a listing of what employers consider to be the benefits of those programs. These include the belief that involvement in work placement programs is valuable because it enhances the image of the enterprise in the community. Figgis (1998a) concluded that offering work placements satisfied the desire of business to be seen as a 'good corporate citizen' and that employers also gained personal satisfaction from being able to help students.

Employers acknowledge that VET in schools provides a pool of work-ready students, and sometimes use work placement as a screening mechanism for recruitment, the practice of 'try before you buy' being used to circumvent other often unreliable selection processes. They also realise that having a student on placement can raise the awareness of training within their organisation. It may cause supervising staff to rethink their own jobs, and lead to improved skills and commitment, and in some cases staff may undertake training at no cost to the company. Furthermore, employers report that students on placement contribute to the productivity of the business, in that they represent 'another pair of hands' and thereby free staff to do other work.

In the view of teachers, VET in schools offers benefits to industry, because it provides an opportunity for industry to have a say regarding its skills needs, and at the same time VET programs contribute to training, thereby reducing the training demands on industry (Spark 1998).

For teachers

Despite an increased workload, many teachers report positive outcomes from their involvement in VET: their work is professionally rewarding as they are using different teaching approaches, learning the value of the practical as well as the academic, and working with motivated students. An important additional benefit is that VET widens their perspective, and provides the opportunity to establish contacts with industry (Malley et al. 1999; Spark 1998).

For schools

Both VET and non-VET teachers have noted improvements in the attitudes of vocational students, and the flow-on from this for the school in terms of student behaviour. The impact that VET can have on school retention is beginning to be seen. Furthermore, if schools can develop VET programs to attract students, these can be used as a marketing tool to enhance the profile of the school. For instance, one of the objectives at the time of the establishment of the sport program at Box Hill Senior Secondary College, was to attract students into the college. The subsequent success of that and other programs now acts as a magnet for students over a wide area of metropolitan Melbourne (Malley et al. 1999).

Yet it has been observed that a possible negative consequence of this success could be that schools may feel compelled to withhold rather than share information about the development of programs (Tregenza et al. 1997). There is some recent overseas experience to indicate such a trend, as the following remarks about a school in the US illustrate:

The teachers had developed innovative and popular courses, and the school had seen these as having market potential. Consequently, the principal had decided that no 'visitors' were to see what they were doing nor view any materials, as this would remove the competitive advantage. After all, why would any business give its business secrets away to its competitors?

Now this attitude is quite unlike the collegial sharing of information which teachers are happy to do. It has arisen as a consequence of market forces acting on schools, and one source of those market forces is the Vocational Education area (where schools and industry meet).

One of the teachers asked rhetorically, 'Will this Voc Ed stuff eventually destroy the traditional generosity of spirit between educators?' I am still unsure of the answer; it seems that Australia is relatively free of the problem so far, but once individual schools become well-known for their vocational courses, is the 'business secret' issue likely to appear? Or if not, why not?

(Ken Price, contribution to VECO, 16 Nov 1998)

Measured outcomes

Increasing attention is being given to the measurable benefits of VET in schools, especially in providing students with access to further study and employment. Part-time employment is the most commonly reported immediate benefit. Over one-third of vocational placement students surveyed in 1997 indicated that they were offered a part-time job as a result of their placement, although few were offered full-time employment or apprenticeships or traineeships (Misko 1998), and this finding is supported by other studies (Cumming & Carbines 1997; Malley et al. 1999).

A number of research studies has begun to investigate longer-term outcomes by examining students' post-school destinations. Evaluation of these involve consideration of measurement issues, such as how VET participation and 'successful' outcomes are defined. For instance, should the latter be a specific length of time in a job? The validity of findings concerning outcomes for VET students also depends on the availability of comparative data for non-VET students.

Sweet (1995) noted the relatively positive outcomes for TRAC program participants. In the following year students who had been in the 1993 TRAC program had lower unemployment rates and higher rates of participation in further education and training than school leavers in general. More recent evidence of a similar kind, but without a comparison group, is available from an ongoing Victorian study of the implementation of dual recognition (now called VET-in-Schools). This involved the annual tracking of the more than 880 Year 12 students in that State who were enrolled in VET subjects in 1996. Successive reports have documented their 1997 and 1998 destinations (Polesel & Teese 1997; Polesel et al. 1998a). In 1997 more than half—53%—were in further study (20% at university, and 33% in VET, mainly TAFE), and 7% had returned to school. Of those who had entered the labour market, 11% had taken on apprenticeships or traineeships, 8% were in full-time work, 7% were in part-time work, and 5% were unemployed. If participation in further study or full-time work are regarded as criteria of success, then it was concluded from these data that a very large majority of VET students could be considered to have achieved that goal (Polesel & Teese 1997).

The destinations of more than 700 of the 1996 VET cohort in their second year out of school showed a change from 1997, with a higher percentage in the labour force and a lower percentage in study in 1998. Of those who were studying, 15% were at university and 23% at TAFE. Among labour force participants, 26% were employed full-time, and 12% part-time, 17% were in apprenticeships, and 7% were unemployed. For 1996 VET students as a whole then, there were positive outcomes two years later for about 80%: almost 40% were in tertiary education, and over 40% in full-time work or on-the-job training. These data provide the basis for the conclusion that VET in schools has longer-term positive outcomes (Polesel et al. 1998a).

Another recent research study used longitudinal data to compare the post-school destinations of VET and non-VET students at age 19. However, because of the nature of these data, and the time lag involved in investigating such outcomes, the definition of what constituted a VET program at school was different from that which VET students currently experience. For the purpose of the study, VET students were defined as those who did subjects that could be classified as vocational (such as secretarial studies and manual arts) when they were at school in Years 11 and 12 in 1991–93. They were found to be less likely to enter university, more likely to go on to post-school study in the VET sector, and more likely not to undertake any further formal study after school, than students who did not take any VET subjects at school (Lamb, Long & Malley 1998).

As well as this interest in outcomes for students, there is also a current emphasis on the measurement of outcomes for business. One report concluded that the bottom line; that is, business profitability, did not suffer as a result of VET in schools, that, although costs were not calculated, employers did not feel they were losing by it, because of both the tangible and less tangible outcomes that contributed indirectly to business profits (Figgis 1998a). Nevertheless, the rationale for new research, initiated by the ASTF, to examine costs related to workplace learning is the belief that companies will be more willing to participate in workplace learning programs if the latter can be shown to add to productivity.

Directions for further research

Ryan's earlier (1997) review of the literature concluded, somewhat cautiously, that current research indicated it was possible to deliver educational benefits from VET in schools and that while some programs were achieving some benefits, there were also difficulties. The present survey, although pointing to numerous obstacles that must be overcome in the planning and implementation of VET in schools, reveals that there is growing cause for optimism as schools and communities increasingly recognise the positive results to be gained from programs that involve partnerships and co-operation between education and industry.

There are various gaps in the research literature that can be identified as areas requiring further investigation. At the most fundamental level, there is the question of the purpose of VET in schools. There is still confusion about its aims, and uncertainty regarding curriculum and teaching, in particular, should the curriculum be aimed at entry-level skills or developing the capacity for lifelong learning, or both? What are the most appropriate teaching methods?

What is the purpose of work experience? How compatible is VET in schools with traditional curriculum and assessment (Gonczi 1997)?

At the school level, it is important to identify school structures that contribute to the successful delivery of VET, to identify issues and barriers as perceived by non-VET teachers and to focus on ways of embedding VET into general subjects, with one assessment plan (Spark 1998).

Other researchers have indicated the need for a shift beyond the macro and meso level, and emphases on structural arrangements, to the micro level. There is a need, for instance, for research that analyses the relative merit of on-job and off-job learning, and what can be learned best in which environment. Such research would focus on the nature of the learning experience of VET students in the classroom and in the workplace (Harris et al. 1998; Ryan 1997). It would also be concerned with the practice of VET teaching—documenting the questions and answers that practitioners are generating, and helping to develop a shared understanding of emerging pedagogy.

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