The literature on vocational education (VE) in secondary schools was reviewed. The main conclusion of the review of international and Australian policy trends and directions in VE was that, to date, Australian attempts to create a more vocationally relevant curriculum have resulted in a system in which the academic curriculum has remained central and vocational options are offered in only a piecemeal manner. It was therefore recommended that policymakers decide whether to pursue VE as a new and inclusive component of the secondary school curriculum or to retain vocational options for less able students. It was further recommended that policymakers consider the following issues when deciding secondary VE's future: equity, certification, supply-side economics, the relationship between general education and VE, school-workplace links, the value of part-time work experience to secondary school students, and differentiation of the levels of VE. A model for VE in Australian schools was proposed that outlined the goals, features, benefits, and limitations of VE for students during childhood, adolescence, young adulthood, and adulthood. Implications of the literature review for the following areas of school-level practice were identified: coordination, curriculum, assessment, professional development, students, resources, and evaluation. (A 120-item annotated bibliography is included.) (MN)
A report prepared for the Curriculum Corporation as part of its Commonwealth funded project, Vocational Education in Secondary Schools, December, 1993
# Table of Contents

<table>
<thead>
<tr>
<th>ITEM</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction</td>
<td>4</td>
</tr>
<tr>
<td>Part 1 - A Review of the Literature</td>
<td>5</td>
</tr>
<tr>
<td>1.1 Policy Trends and Directions</td>
<td>6</td>
</tr>
<tr>
<td>1.2 Issues for Consideration</td>
<td>9</td>
</tr>
<tr>
<td>1.3 A proposed model for vocational education in Australian Schools</td>
<td>10</td>
</tr>
<tr>
<td>1.4 Some Implications for School Level Practice</td>
<td>16</td>
</tr>
<tr>
<td>Glossary</td>
<td>19</td>
</tr>
<tr>
<td>Part 2 - A Select Annotated Bibliography</td>
<td>20</td>
</tr>
<tr>
<td>Research</td>
<td>21</td>
</tr>
<tr>
<td>Policy</td>
<td>24</td>
</tr>
<tr>
<td>Models</td>
<td>32</td>
</tr>
<tr>
<td>Issues</td>
<td>33</td>
</tr>
<tr>
<td>Practice</td>
<td>36</td>
</tr>
<tr>
<td>Equity</td>
<td>38</td>
</tr>
</tbody>
</table>
Introduction

This literature review is in two parts:

**Part 1**

An attempt has been made here to synthesize the literature under four broad headings:

1.1 Policy Trends and Directions in Vocational Education
1.2 Issues Arising from the Analysis of Policy Trends
1.3 A Proposed Model for Vocational Education in Australian Secondary Schools
1.4 Implications for School Level Practice

**Part 2**

Consists of a selected annotated bibliography of the literature that was reviewed.

It is hoped that the material contained in the two parts will provide some directions for those who have responsibility for implementing vocational education in secondary schools. In order to make it as useful as possible we have attempted to place vocational education in a broader context than envisioned by the present project. It seemed clear to us from the literature that Australian schools, unlike their counterparts in North America and Europe, lack a strong tradition of vocational education in schools. Since traditions cannot be created overnight, we have suggested a model that will help schools place vocational education in a context that is important to all students at all stages of their education. If nothing else, the model will create debate and discussion within the educational community. Hopefully, it might also lead to improved practice and outcomes for the students for whom we have responsibility.
Part 1

A Synthesis of Policy Directions, Issues, Models and Implications for School Level Practice
1.1 Policy Trends and Directions

International

Many industrialized nations are currently grappling with the issue of vocational education and training and its role in the education of 16-19 year olds. For some, vocational education is a well established track chosen by students either early or later in their school careers (e.g., Germany, Denmark, France, Finland). For others, a commitment to comprehensive secondary education has meant the development of vocational streams within the comprehensive high school (e.g., Sweden, England and Wales, Scotland, USA). The most pressing issues for all countries at the moment, especially in the light of increased participation rates in countries like England and Wales, Scotland and the Netherlands but also in countries like Germany, Sweden and Finland where participation rates have been historically high, is to ensure that vocational education is equally valued alongside traditional academic education. There are a number of approaches currently being used to achieve this objective.

Sweden.

- general education component of vocational streams has been increased.
- the number of vocational course options has been decreased.
- access to higher education has been enhanced for students taking vocational courses.

Finland.

- Curriculum collaboration between vocational and senior secondary schools has been encouraged.
- Students have been encouraged to take courses from both types of schools.
- Pathways to universities have been established for students from vocational schools.
- Vocational schools have been upgraded through regional amalgamations.

Scotland.

- Vocational modules are available to all students and it is possible to complete academic course that includes nationally certified vocational modules.
- The modules are available in both secondary schools and colleges of further education.

USA.

- Reforms are seeking to incorporate vocational education into all aspects of secondary school education.
- TECH PREP courses start in high school and are articulated with two year courses in community colleges resulting in the award of associate degrees, and curriculum to full degree courses.
There is little evidence as yet concerning the efficacy of these various reform efforts but the common features seem to be:

1. Breaking down the barriers between vocational and academic education so that elements of each are available to all students.

2. Broadening vocational education so that it focuses on more than a single occupation.

3. Providing pathways from vocational education to further education.

Some of the untested assumptions, about which there is some evidence to cause concern, are as follows:

- Are barriers broken down in reality when vocational courses are included alongside traditional studies in secondary schools?

- Are students able to apply so called generic vocational skills in specific occupations?

- Are alternate pathways to further education able to provide genuine opportunities for students who undertake vocational education courses in schools to transfer "up" to academic post-secondary education?

In Denmark, which in theory provides alternate pathways to higher education from two types of vocational upper secondary school and from gymnasia (academic high schools), only five per cent of school leavers entering University come from the vocational schools.

**Australia**

The Commonwealth made it clear as early as 1987 that skills formation would require a greater emphasis on technical proficiency than schools were currently delivering. The means of achieving this on the Commonwealth's part has been to provide support for a more common approach at a national level to curriculum for the lower secondary school and more emphasis on employment related knowledge and skills for the senior secondary school.

The task has been made more difficult in Australia since there has been an erosion of the tradition in vocational education since 1950. The introduction of comprehensive schools in the 1960s and the separation of state departments for schools and for TAFE was accompanied by strong support for a general liberal education. In the senior secondary school, this became cemented as a traditional academic curriculum dictated by the needs of university entrance. It has only been with the increase in senior secondary participation rates during the 1980s that much thought has been given to transforming the curriculum. Very often, the changes introduced have been seen as alternatives to the traditional academic curriculum and thus two tracks have been established: one leading to university entrance and a second, more vocationally oriented, and intended to lead either to employment or to advance standing in TAFE.
Preface

We would like to thank a number of people who have made the task of preparing this report much easier than it would have been without such help.

The Centre for Educational Research and Development at the University of Southern Queensland made available the services of Ms Penny Young. She conducted the electronic literature searches on national and international databases and skillfully negotiated with library personnel in getting copies of articles in a timely fashion. Her assistance was invaluable.

The Dean's Office in the Faculty of Education made available the services of the Dean's Executive Secretary, Ms Sharon Geise. She negotiated with each of the team members to get their contributions and put together numerous draft copies. She was responsible for producing the final draft. Her negotiation skills, not to mention her word processing abilities, were crucial in the development of the final product.

We trust that education systems, accrediting authorities and schools find the report useful in structuring their vocational education programs.

Kerry Kennedy
Ralph Catts
University of Southern Queensland
Toowoomba Queensland

James Cumming
Educational Solutions
Canberra ACT

November 1993
Since the late 1970s the following vocationally oriented initiatives have become part of most school systems:

1. Work experience programs.
2. School industry links programs.
3. Funding of specific volitional education initiatives (transition education, PEP, AVC).
4. The development of cooperative programs with TAFE often under the umbrella of a common certificate.
5. The integration of employment related competencies into existing curriculum.
6. Formal career education or "World of Work" curriculum.

The breadth of these initiatives could provide a platform for a comprehensive approach to vocational education in schools. Normally, however, these initiatives are not coordinated at the school level and sometimes are seen as options. This practice suggests a lack of clear vision for vocational education but also the lack of an existing platform within secondary schools relating to vocational education. At the same time it indicates that the way is clear for reconceptualising the field based on the needs of students and society.

**Conclusion**

Social and cultural factors will dictate how Australia responds to new imperatives. Lacking a strong tradition of vocational education in secondary schools, Australian education systems are not in a position where they can seek change and reform in the existing system: rather they are in the position of having to create vocational education as a valued component of the secondary school curriculum. This will need to be done in the context of the comprehensive secondary school where general education has been entrenched since the fifties.

Attempts to create a more vocationally relevant curriculum since the late 1970s seem only to have created a system in which the academic curriculum has remained central while vocational options have been added in a piecemeal way. What is more, such options have usually been designed for less able academic students. The vocationally relevant curricula have come to be seen as the way to cater for the increasing number of young people staying on at school. Rarely has the argument been advanced, as it is currently in the United States and as practice seems to be dictating in Scotland, that vocational education is for all students. There are some exceptions such as Electronics courses adopted in the NSW curriculum but these units are marginal to the main developments.

Australian policy makers must now decide whether to pursue vocational education as a new and inclusive component of the secondary school curriculum or to retain vocational options for less able students. The latter represents current practice while the former seems to be in line with international trends.
1.2 Issues for Consideration

There are issues that will need to be considered if the policy issue outlined above is to be addressed.

Equity

Any vision for the future must be capable of being implemented for all students. Groups with special needs in relation to vocational education include students with disabilities and isolated students. The latter did not have access to the range of programs available in most urban settings and the former can benefit from a wide range of training opportunities if they are provided access to them.

Certification

Vocational education courses are usually certified by traditional secondary education authorities so that students exiting from secondary schools can have their studies recognised as part of their secondary education. Yet the National Framework on the recognition of Training (NFROT) provides an alternative certificate process that is now available to secondary schools. Certification in itself does very little: certification that meets NFROT standards is able to provide pathways to further education and training.

This raises the issue of the role of universities and their influence on the secondary school curriculum. Young people need to be encouraged to consider pathways to employment and further education other than that provided by university entrance. Universities also need to consider the legitimacy of vocational education courses as a preparation for university study.

Supply Side Economics

There are strong arguments supported by empirical data that where training is not targeted on an area of labour market demand that the social benefits to students and the economic benefit to the nation will be minimized. This means that extensive work needs to be done to identify those areas of economic growth that are likely to generate employment opportunities in the future. Not to proceed in this way is to put at risk the real contribution that vocational education can make to the lives of individuals and to society.

General and Vocational Education

School education is meant to provide a general education for all students. Vocational education in secondary schools should therefore not imply a narrow education. Rather it implies a broad general education that accompanies
occupational education capable of developing skills and understandings that are valued in the labour market.

While the average per capita cost of secondary schooling is less than the average cost in TAFE, and both are less again than the average in Universities, it does not follow that vocational education in schools will cost less than in TAFE or Universities. In fact it is possible that it will cost more. There is already evidence in the Joint secondary school/TAFE programs of additional costs associated with "double counting" of teaching resources and transport of students between institutions. If vocational education in schools is to be expanded using existing resources then there may be staff training costs, capital costs and costs associated with the possible underutilisation of equipment.

**School/Workplace Links**

There remains a need to foster links between schools and workplaces. Many programs of vocational education will require work experience and all current policies point to the workplace being the most relevant location for developing skills. This may involve the development of relationships that view workplaces as resources and draw on employers as partners in the education of young people. While there is now much experience in this area, the need for the future is to develop programs that can develop skills to acceptable national standards and provide a pathway to further education and training.

**Valuing the Part-Time Work Experience of Secondary School Students**

Recent ABS figures indicate that 26% of students in schools aged over 15 years are in paid employment. Given the lack of a vocational education tradition in Australian secondary schools, this experience of students should be integrated into a coherent curriculum related to skills development and work education. Research is needed on the range of the experiences of work gained by these students.

**Distinguishing Levels of Vocational Education**

Given the various activities that often come under the heading of vocational education it would be useful to develop a conceptual model that distinguished between different levels of vocational education (e.g. between work experience, in an electronics factory, a trades course in electronics and a course in electronics engineering design). At the same time it would be helpful to sequence these activities at appropriate stages in student's career.

**1.3 A proposed Model for Vocational Education in Australian Schools**

**1.3.1 Introduction**

As part of this literature review, a model for vocational education has been developed. This model is an attempt to identify some of the key features of vocational education as they exist in the early 1990s, while simultaneously conceptualising them in a way that encompasses
current policy initiatives and emerging trends. It is a way of viewing 'what is' in a context of 'what could be', by means of a framework that reflects sequential, coherent and holistic perspectives.

An outline of the model is provided in Table 1. The vertical columns on the right-hand side of the table (ie. examples, goals, features, benefits and limitations) represent an analysis of contemporary vocational education practice. The horizontal rows represent four sequential phases of growth and development (ie childhood, adolescence, young adulthood and adulthood). A significant feature of the model is the changing focus for vocational education that can be generated and maintained as young people reach new levels of physical, intellectual and social maturity.

1.3.2  Four Phases of Development

The concept of sequential phases of personal development linked to an evolutionary approach to vocational education provides a useful framework for review and development. It is certainly in line with current proposals that seek to change traditional patterns of structural rigidity associated with many schools, colleges and institutions. A recommendation from the Schools Council's final report on the Compulsory Years Project Five to Fifteen (1993), for example, was that the 'primary/secondary' description for the stages of schooling be relinquished in favour of a categorisation that reflected phases of individual development.

The childhood phase involves children from five to nine or ten years of age and coincides with the early years of schooling (Kindergarten through to Year 5). During this phase the focus for vocational education is on exposing children to people and activities that lie beyond the classroom and the home. The general aim is to establish links and connections with the community and to raise awareness of the world of work. For many teachers in the early years, visits to nearby work places (eg. the local bakery) or guest speakers (eg. the local police person) have long been an established part of learning and teaching practice. More recently, a number of school communities have introduced activities that engage parents, business people and community representatives actively in ways that stimulate and support children's learning. The significance of the early years in developing student attitudes and behaviours is well documented and many teachers have adopted affirmative action approaches designed to counter stereotypical images, perceptions and preferences among young children with regard to the world of work. As teachers in the early years of schooling have noted, many children come to school with relatively well-formed views with regard to issues such as: men's versus women's work; high versus low status work; as well as expectations regarding their own futures — both at school and beyond.

With the onset of adolescence comes significant physical, emotional, intellectual, psychological and social changes for students in the age range ten or eleven to fourteen or fifteen. The main emphasis for vocational education during the middle years of schooling (ie. Years 5/6 - 9/10) is on implementing a curriculum that is relevant and responsive to student needs. Essentially, the thrust is on providing an 'orientation' to the world of work through a range of practical experiences and experiential learning. Given that significant numbers of
young adolescents are already participating in part-time employment and that the choices regarding possible courses, careers and lifestyles are on their minds (and those of their parents), opportunities are often concerned with expanding student horizons and encouraging them to accept greater responsibility for their own learning and development. Contact and interaction with adults other than teachers (e.g., through mentoring, work experience, community and action research projects) has proven to be not only an effective motivational strategy for young adolescents but also a means of increasing their personal and social skills.

In young adulthood, the focus for vocational education is on the construction of pathways that will lead to productive and fulfilling lives in the future. The final years of schooling (i.e., Years 10/11 - 12/13) provide a setting within which older adolescents can construct approved courses from a diverse range of accredited modules, units and subjects. The convergence of vocational and general education should be most clearly in evidence for students aged 16-17 years, especially in terms of flexible entry and exit points. The concept of 'workplace learning', where students participate in some form of structured learning by means of a vocational placement, is becoming a more common feature of courses and programs in the final years of schooling. By the end of their formal schooling, these students need to be able to demonstrate that they have acquired a comprehensive range of general understandings and employment-related competencies, and that they possess the capacity for further training and development. It should be noted that in order for this age-group to have access to appropriate vocational education and training opportunities, high level collaboration and cooperation among major interest groups and providers is required.

Once students have reached the age of 17 or 18, and have completed their formal schooling they are deemed to have reached the status of adulthood. The focus is now on vocational training and formal preparation for paid employment. By this stage in their lives, these young people should be advancing along a pathway that is linked to an employment-related destination in the short or medium term. A variety of pathways has been developed including apprenticeships, traineeships, cadetships and internships which are designed to provide individuals and groups with the skills, knowledge and attitudes that will prepare them for employment in a specific occupational area or industry sector. Entry level training generally combines both on-the-job and off-the-job training with a view to producing a more highly skilled and productive workforce. The implementation of the Australian Vocational Certificate Training System, with its emphasis on training which is competency-based, work-based and outcome-based, will ensure that adults are better prepared not only to enter the workforce, but also to undertake higher levels of training with a commitment to life-long learning.
<table>
<thead>
<tr>
<th>PHASE</th>
<th>FOCUS</th>
<th>EXAMPLES</th>
<th>GOALS</th>
<th>FEATURES</th>
<th>BENEFITS</th>
<th>LIMITATIONS</th>
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<tr>
<td>Childhood</td>
<td>Vocational Awareness</td>
<td>• visits and excursions&lt;br&gt;• guest speakers&lt;br&gt;• intro. to technology&lt;br&gt;• adopt-a-class&lt;br&gt;• 'winning'&lt;br&gt;• sponsorship</td>
<td>• establish links and connections with local community&lt;br&gt;• raise awareness of the world of work</td>
<td>• high level of parental interest/involvement&lt;br&gt;• focus on various aspects of work (eg. 'who, what, where, how and why?')</td>
<td>• prevention of stereotypical student views and choices&lt;br&gt;• rapport established with people other than parents/teachers</td>
<td>• limited only by the imagination of teachers, parents, students &amp; local community reps.</td>
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<td>Adolescence</td>
<td>Vocational Orientation</td>
<td>• work experience&lt;br&gt;• work shadowing&lt;br&gt;• work simulation&lt;br&gt;• mentoring&lt;br&gt;• mini-enterprises&lt;br&gt;• student researchers&lt;br&gt;• careers education&lt;br&gt;• counselling</td>
<td>• actively engage students in meaningful activities&lt;br&gt;• integrate 'key comps.'&lt;br&gt;• expand student horizons through greater access to the world of work</td>
<td>• focus on 'relevance'&lt;br&gt;• raft of activities often classified as 'school-industry links'&lt;br&gt;• potential to build on parttime employment&lt;br&gt;• outcomes recorded in student portfolio</td>
<td>• increased student motivation&lt;br&gt;• students gain 'real world' experience&lt;br&gt;• interaction with AOTs (non-teachers)&lt;br&gt;• personal &amp; social development (all)</td>
<td>• can be 'one-off'&lt;br&gt;• may not be mainstreamed&lt;br&gt;• fragmentation&lt;br&gt;• quality assurance&lt;br&gt;• structures &amp; time (ie. flexibility required)</td>
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<tr>
<td>Young Adulthood</td>
<td>Vocational Preparation</td>
<td>• courses (eg. 'HSC Pathways', 'VCE', 'E', 'Vocational pilots')&lt;br&gt;• structured programs (eg TRAC, TVEI)&lt;br&gt;• vocational subjects (eg. tourism, SBM, industry studies)</td>
<td>• formulate effective pathways/destination&lt;br&gt;• converge 'general' and 'vocational' approaches&lt;br&gt;• demonstrate student performance in authentic contexts</td>
<td>• wide student choice&lt;br&gt;• multi-tracking&lt;br&gt;• flexible entry &amp; exit&lt;br&gt;• extension of time for completion of course&lt;br&gt;• sharing of sites and facilities/equipment</td>
<td>• customisation of courses by students&lt;br&gt;• formal accreditation and credit transfers&lt;br&gt;• synergy between sectors &amp; providers&lt;br&gt;• greater potential for equity (eg. outcomes)</td>
<td>• preferred student destination may not always be reached&lt;br&gt;• high and low status subjects can emerge&lt;br&gt;• limited availability of placements&lt;br&gt;• admin. complexity</td>
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<tr>
<td>Adulthood</td>
<td>Vocational Training</td>
<td>Apprenticeship&lt;br&gt;• Trade (eg. food, building, printing etc)&lt;br&gt;Traineeship&lt;br&gt;• Non-trade areas (eg. service, retail etc)&lt;br&gt;Cadetship&lt;br&gt;• Para-professional (eg. defence, commerce)&lt;br&gt;Internship&lt;br&gt;• Professional (eg. medical, legal)</td>
<td>Apprentice training + technical education&lt;br&gt;• minimum of 15 years&lt;br&gt;• four years training</td>
<td>• on-the-job training + off-the-job training&lt;br&gt;• school leavers &lt;19&lt;br&gt;• 12 months (13 weeks minimum off-the-job training)</td>
<td>• linked directly to employment&lt;br&gt;• 4 year indenture&lt;br&gt;• wage for apprentice&lt;br&gt;• access and equity (preference to those without Yr 12)&lt;br&gt;• provides a 'foothold' to increase prospects&lt;br&gt;• employer incentives</td>
<td>• sensitive to changes in the economy (reduction in downturns)&lt;br&gt;• no guarantee of employment&lt;br&gt;• limited availability of appropriate work placements</td>
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1.3.3 Common Principles

Emerging from the literature and underpinning the conceptual model for vocational education is a set of common principles (see Table 2). The nine statements of belief are generic, applicable to each of the four phases outlined above as well as to contemporary practice cited as examples in Table 1. They could also serve as criteria by which the quality or effectiveness of vocational education might be measured.

The principles can be grouped under three broad headings. The first is equity and social justice, which is based on the proposition that all students have the right to participate in and derive significant outcomes from high quality vocational education. Traditionally, certain groups (e.g., girls and young women, those with disabilities and the geographically isolated) have not been well represented in the full range of vocational education and training activities that have been offered. While significant efforts have been made to increase the participation of young people from various backgrounds and experiences (e.g., girls and young women entering non-traditional occupations) there is still a long way to go.

The second is teaching and learning, and focuses on integrated approaches that result in worthwhile outcomes for all parties involved. The convergence of vocational and general education as well as work and learning has been advocated universally in the 1990s. If this convergence is to be achieved, then teachers in the early, middle and senior years of schooling together with trainers and adult educators need to work towards a shared vision that encompasses a commitment to 'life-long' and 'self-directed' learning for all. There is a particular need to ensure that learning experiences are connected to students' past experiences as well as their intended destinations.

The third is structures and organisation which emphasises the importance of flexibility and productive partnerships. Much has been written recently about the need for organisations to overcome the rigidity (e.g., with regard to the use of time, facilities and other resources) that has tended to limit the potential for skill and knowledge enhancement in many individuals and groups. High level cooperation is required between sectors and providers to ensure that they share common goals and objectives and that resources are used to maximum effectiveness.
### Table 2: A Selection of Principles for Vocational Education

Vocational Education should:

- **be accessible to all students**
  - Factors such as intellectual or physical ability, socio-economic status, gender, geographical location or ethnicity should not restrict any student's participation in vocational education.

- **lead to worthwhile outcomes for all participants**
  - At the completion of vocational education activities all participants should be able to demonstrate an enhanced level of competence in ways that reflect an inherent as well as an instrumental value.

- **be resourced adequately**
  - Well-trained personnel with access to quality facilities and equipment should be engaged to guide and support young people in safe and challenging environments.

- **be integrated across each phase of an individual's development**
  - There should be a convergence of general and vocational approaches to education rather than a separation of roles and functions which begins in childhood and extends through to adulthood.

- **be connected to both prior experiences and intended destinations**
  - Activities, programs and courses should build on existing student understandings and competencies, while at the same time be explicitly linked with higher order education/training/employment opportunities.

- **incorporate assessment techniques that are fair, valid and reliable**
  - Students, parents, teachers, employers and other interest groups should understand the purposes, outcomes and currency of competency-based and other forms of performance measures and records.

- **be developed within a flexible framework**
  - Maximum structural and organisational flexibility should be maintained to enhance student learning and progression (e.g., multiple entry and exit points, credit transfer and articulation arrangements).

- **be built on productive partnerships involving key sectors & providers**
  - Education, training, industry and community groups should work cooperatively in ways that generate a mutually beneficial sharing of goals, expertise, resources and outcomes.

- **be subject to regular monitoring and evaluation**
  - There should be an emphasis on quality assurance and continuous improvement through regular review and development activities focused on outcomes and processes.
1.4 Some Implications for School Level Practice

When vocational education is conceptualised as a long-term process that extends from childhood to adulthood — as distinct from a particular option that is offered to a targeted group of senior secondary students — there are significant implications for a range of key players. Given the scope of this literature review, the school community will be the focus in this section, however, it needs to be recognised that many other sectors including business and industry; TAFE and higher education; research agencies and professional associations; and municipal/shire groups and community organisations also need to be considered.

For many practising teachers and school administrators, the integration of vocational education across the various phases of young people's development will pose a number of potential problems and difficulties. In cases where no established tradition of vocational education exists, for example, or where its status has been relatively low, individuals might well raise a number of fundamental questions, including:

- **Coordination:** Whose responsibility is it and where should it be implemented?
- **Curriculum:** What are its objectives and what level of priority does it have?
- **Assessment:** What should be assessed and reported, plus when and how?
- **Professional Development:** Who should teach it and what expertise is required?
- **Students:** What are their roles, rights and responsibilities?
- **Resources:** What kind of facilities and materials are required?
- **Evaluation:** What criteria should be used to measure its effectiveness?

One way of approaching these questions is to apply the set of common principles to the various phases of development identified in the preceding section. The aim of such an exercise is to identify not only the observable gaps, but also the strong points pertaining to vocational education. Essentially, it is a strategy for constructing an action plan designed to plug the gaps and build on the strengths. An illustration of the way in which this strategy might be pursued (eg. in a workshop or staff meeting) is shown in Table 3.

In the early years, for example, it may be that integrated teaching and learner-centred approaches are firmly established and that more attention needs to be placed on the formulation of whole-school policies that promote a common sense of purpose and direction for vocational education. In dealing with young adolescents, while a number of work experience and related programs have had very positive outcomes to date, greater emphasis could be placed usefully on making much stronger and more practical connections with employers of teenagers and other youth service providers (eg. health, welfare and sport).

In the final years of formal schooling, there are a number of encouraging developments regarding more flexible structures, however, there are still perceived shortfalls in relation to students who are dropping out or who are not well represented in contemporary programs and courses. For students who have left school and are engaged in entry-level training programs, there has been significant progress with regard to competency-based assessment and course articulation, however, there would appear to be room for improvement in the sharing of sites, facilities and resources.
This very brief consideration of some of the implications for school communities has been designed to highlight the need for a comprehensive approach to vocational education. If schools are to respond to the challenge of integrating vocational education and general education then significant change will be required. While schools have a major responsibility for bringing about this change it is unlikely that they will be able to achieve it on their own. Most people would agree that productive partnerships are the way of the future, however, vigilance will be required to ensure that each partner contributes in ways that are not only mutually beneficial, but that also lead in very practical ways to high quality learning outcomes for all young people.
Table 3: Applying Vocational Education Principles to Different Phases of Development: Some Implications for School Communities

<table>
<thead>
<tr>
<th>EQUITY AND SOCIAL JUSTICE</th>
<th>CHILDHOOD</th>
<th>ADOLESCENCE</th>
<th>YOUNG ADULTHOOD</th>
<th>ADULTHOOD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accessible</td>
<td>• establish the world of work as a theme, project or activity for all students</td>
<td>• pay particular attention to 'at-risk' students (e.g. truants)</td>
<td>• ensure 'special needs' students participate (NB. both ends of ability spectrum)</td>
<td>• provide parity of esteem (e.g. common credential)</td>
</tr>
<tr>
<td>Outcome-Based</td>
<td>• capitalise on parental interest and enthusiasm</td>
<td>• work on key competency development</td>
<td>• provide opportunities to allow for student demonstrations of performance in 'real' contexts</td>
<td>• avoid reinforcing 'high' versus 'low' status courses through skewed resource allocations</td>
</tr>
<tr>
<td>Adequately-Resourced</td>
<td>• capitalise on parental interest and enthusiasm</td>
<td>• gain support of employers of teenage part-time workers</td>
<td>• promote 'work-based learning in a broad range of settings</td>
<td>• raise status of vocational ed.</td>
</tr>
<tr>
<td>QUALITY TEACHING AND LEARNING</td>
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<tr>
<td>Integrated</td>
<td>• provide in-service education for teachers — network within and between schools</td>
<td>• promote experiential learning and student participation</td>
<td>• generate curriculum breadth and depth</td>
<td>• generate open and flexible learning</td>
</tr>
<tr>
<td>Connected</td>
<td>• provide in-service education for teachers — network within and between schools</td>
<td>• increase challenges and maintain high expectations</td>
<td>• promote networking &amp; exchanges (e.g. other sectors/industries)</td>
<td>• promote networking &amp; exchanges (e.g. other sectors/industries)</td>
</tr>
<tr>
<td>Adequately Assessed</td>
<td>• provide in-service education for teachers — network within and between schools</td>
<td>• build on student part-time work experiences</td>
<td>• apply NFROT and NTB standards</td>
<td>• apply NFROT and NTB standards</td>
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<tr>
<td>EFFECTIVE STRUCTURE AND ORGANISATION</td>
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<tr>
<td>Flexible</td>
<td>• promote multi-age and mixed ability grouping to foster cooperation and teamwork</td>
<td>• work with other youth services (e.g. health, welfare &amp; sport)</td>
<td>• promote modular approaches</td>
<td>• promote sharing of sites, facilities and resources</td>
</tr>
<tr>
<td>Cooperative (partnerships)</td>
<td>• exercise care (e.g. sponsorship) to ensure ethical and moral responsibility is maintained</td>
<td>• exercise care (e.g. sponsorship) to ensure ethical and moral responsibility is maintained</td>
<td>• expand use of ed. technology</td>
<td>• recognise prior learning</td>
</tr>
<tr>
<td>Continually Evaluated</td>
<td>• develop a whole-school policy with criteria to measure performance and progress</td>
<td>• develop 'learning how to learn'</td>
<td>• create 'la'lders' and 'bridges'</td>
<td>• endavour to establish assurances with regard to intended destinations</td>
</tr>
</tbody>
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20

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21
## Glossary

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Full Form</th>
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<tbody>
<tr>
<td>ACTRAC</td>
<td>Australian Committee for Training Curriculum</td>
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<td>ANTA</td>
<td>Australian National Training Authority</td>
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<tr>
<td>ASF</td>
<td>Australian Standards Framework</td>
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<td>ATS</td>
<td>Australian Traineeship System</td>
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<td>AVCTS</td>
<td>Australian Vocational Certificate Training System</td>
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<td>CSB</td>
<td>Competency Standards Body</td>
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<td>DEET</td>
<td>Department of Employment, Education and Training</td>
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<td>ESFC</td>
<td>Employment and Skills Formation Council (A Council of NBEET)</td>
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<tr>
<td>ITAB</td>
<td>Industry Training Advisory Body</td>
</tr>
<tr>
<td>MOVEET</td>
<td>Ministers of Vocational Education, Employment and Training</td>
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<tr>
<td>NBEET</td>
<td>National Board of Employment Education and Training</td>
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<td>NFROT</td>
<td>National Framework for the Recognition of Training (August 1992)</td>
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<td>NOOSR</td>
<td>National Office of Overseas Skills Recognition</td>
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<tr>
<td>NTB</td>
<td>National Training Board</td>
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<tr>
<td>RPL</td>
<td>Recognition of Prior Learning</td>
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<td>TAFE</td>
<td>Technical and Further Education</td>
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<tr>
<td>VEETAC</td>
<td>Vocational Education, Employment and Training Advisory Committee</td>
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Part 2

Vocational Education in Secondary Schools

A Select Annotated Bibliography

A report containing information about current patterns and trends together with suggestions for the future with regard to secondary students in part-time work in Australia.


A report in which data reflecting the dynamic links between the background, education and training and employment of young people are presented and analysed.


A report of a research project which sought the advice of those groups or sectors which employ, train or educate school-leavers, and also of those people who are the direct clients of schools. The skills asked for by each user groups are identified and the implications for schools and the business sector discussed.


A report in which the views of a sample of business people from member companies are collated and analysed. Concerns about the written communication skills, business knowledge and understanding of work sought by recruits direct from school are raised.


A study of school students' views of TAFE as a post-school option.


In this article the authors report on their investigation of the perceptions of students working at McDonalds and find that many aspects of students' lives improved as a result of their work.


A report of a research project focussed on a group of Year 11 students in part-time employment in South Australia.


A report of the first major evaluation of the work experience program in Victoria since its inception in the late 1960s.


The report concludes that the majority of students undertake their first paid employment while still at school, but know little about the mechanisms which exist for the protection of workers.


This article contends that the fundamental changes in wages, jobs, and future opportunities in the labour market since 1980 have had negative effects on non-college bound students' school outcomes and motivation and discipline as new workers and that the literature and the author's case study suggest that these economic changes have played a major role in shaping the current 'educational crisis'.


A report which focuses on links between schools and businesses. It claims to be the first major attempt to survey links at the international level.

This study records messages given to students about work within three high schools in New Zealand. Attention was given to overt and covert messages, and to those messages embedded within the structure of schooling itself.

Workplace Learning in NSW Senior Secondary Courses (1993). Produced by Barbara Lepani and John Currie, Australian Centre for Innovation and International Competitiveness at the University of Sydney, Sydney.
POLICY

1 Vocational Orientation of Secondary Education


Seen as a seminal document which influenced the development of the current national training agenda.


Traces the history of vocational education in the US and argues the need to redefine it so that it can meet current needs.


Argues the need for coherent education and training policies that will promote lifelong and recurrent learning.


A report in which a new entry level training system for Australia is proposed.


A paper in which the need to reform vocational education in Australia and to transfer the principles of the National Industry Education Forum (NIEF) into action is advanced.


A paper in which the following topics are presented: an overview of the current education and training system; the rationale for government's role in education and training; assessment of the system's outcomes; and a review of mechanisms for improving overall assessment.

A report in which the outcomes of a national forum on assessment and reporting for education, training and work conducted in 1992 are documented.


Analyzes school to work transition policy in the context of the need to coordinate the contribution of (E) education, the (H) household and (W) work relations.


A set of six key goals for the year 2000 focussed on schools which have been developed as a result of the NIEF's desire to work with all stakeholders to assist with the development of the best possible education system.


Briefly describes a new initiatives of the Clinton administration in which the last years of school and the first years of work are integrated.


Compares the relative advantages of general and vocational education in the Netherlands and highlights the important role of dedicated vocational education and training institutions.


A statement comprising broad objectives for education and training and a range of policies and initiatives.


A publication in which details of apprenticeship and the Traineeship system are presented and current policy directions in vocational education and training are discussed.

*Examines three different approaches to integrating academic and vocational education in the US: the development of schools within schools, occupational high schools and the use of occupational clusters as administrative units.*


*Criticises the apprenticeship system and the perceived lack of flexibility of TAFE and supports an integrated approach between schools.*


*Describes the Scottish modular system of vocational awards that allow students to take academic and vocational modules within the same system.*


*This document provides advice to schools on the implementation of the HSC Pathways provision from Year 11, 1994.*


*The paper looks at trends in Victorian post-compulsory education and training, with an emphasis on vocational education and training. Following an overview of recent trends, the paper turns to three scenarios outlining the possible shape of Victoria's post-compulsory education and training system by 2001.*


*Describes existing provisions and recommends policy.*


*A document in which a system for developing and endorsing competency standards for occupations and industries on a national basis is outlined.*

A report containing a series of recommendations on vocational education and training for Australia.


This report has been developed by a Working Party of VEETAC and proposed a system for national consistency in the recognition of accredited courses, training programs, training providers, and competencies held by individuals.


Key Competencies (1992) Report of the Committee to advise the AEC and MOVETT on employment-related key competencies for postcompulsory education and training, ACE and MOVETT 140p.

A report in which a set of key competencies considered essential for all young Australians are identified and a means of describing them are presented.

Key Competencies Industry Validation Project: Stage 1 Report (May 1993) Australian Centre for Best Practice, 47p. A report prepared for DEET following consultations with a range of industry representatives to establish whether the Mayer competencies are appropriate and relevant to industry requirements.


Outlines support provided by US Senate for Vocational Education.

Lankard, B.A. (1992). Integrating Academic and Vocational Education: Strategies for Implementation. ERIC Digest, No. 120.

Refers to Carl D. Perkins legislation in the US requiring vocational and general education to be conducted together under a special funding program.


Analyses the World Bank's policy on vocational education and training in which general education and private sector training are given precedence.
Naylor, M (1987). Articulation between Secondary or Postsecondary Vocational Education Programs and Proprietary Schools. Overview. ERIC Digest No. 64.

*Argues the necessity for links between general and vocational education.*


*Argues the need for academic credit to be granted for vocational education courses.*


*Describes the establishment of Training and Enterprise Councils in Great Britain and identifies problems that might prevent them from achieving their goals.*


*Outlines the AVCC response to Finn including a proposal to offer a joint TAFE/University two year module as a pathway to higher education in TAFE.*


*Argues that current reforming of vocational education in the US have the potential to restructure secondary educators.*


*Reports on the rationale and objectives of US legislation (Carl D Perkins Vocational and Applied Technology Education Act) designed to bring about an integration of academic and vocational education.*


*Points of that national curriculum and assessment policies in the UK are in many ways minimal to the vocational courses that grew up under the Technical and Vocational Education Initiative. Much the same could be said about the Australian situation in which the eight national curriculum areas reflect very much an academic curriculum orientation.*


A report prepared in response to a request for advice on the level of skills required to enter employment and acceptable levels of proficiency for them.


An article in which the structure of Chinese senior secondary education and recent moves to restore balance to the system by the introduction of more technical and vocational elements.


Describes the objectives of a new Federal law in the US designed to bring about the integration of vocational and general education.


Highlights two approaches: the Swedish that is seeking to insert more general education into vocational education and the Finnish that is seeking more opportunities.


A report in which the importance of vocational education is re-emphasised and the increasing convergence with general education is recognised. New national targets for post-compulsory education and training are recommended and key competencies identified.

Resources


*Occupationally specific education pay off for students if they secure jobs related to the areas in which they have been trained less than half of vocational education students end up working in their training related area.*


*This paper argues that training must be adjusted to specific labour market demands if it is to meet economic equity objectives.*


*Provides data that suggests formal education and on-the-job training are to some extent substitute methods for skills formation.*


*Provides data indicating that where vocational, education and labour market placement are matched there are medium to long term benefits for the participants.*


*A contemporary view of the youth labour market in an historical context.*


*Provides data based on a seven year study to indicate that there were no significant differences in the earning capacities of graduates from three different training modes: vocational schools, factory based apprenticeships and a year long ministry of labour teenage course. The most expensive training model, vocational schools, offered no earning advantages. The point is also made that non formal training modes do not offer one of the main advantage of the vocational schools, in broad general education.*
Ayalon, H. The social impact of non-regular education in Israel. Comparative Education Review. 34(3) 302-313.

Provides data indicating that Israel’s vocational education schools is dominated by ethnically disadvantaged groups and that these groups are over represented among high school dropouts. Yet second-change education provided through external high schools still tends to favor elite rather than disadvantaged groups.
MODELS


A research report that assesses the feasibility of the youth apprenticeship model in the US by examining US programs that include some components of the model.


In this article initiatives taken by the government of Western Australia to facilitate the transition of students from school to the world of work are reviewed and the reaction of members of the community to one initiative - competency-based training - in the state's secondary schools is discussed.


A paper in which it is argued that there is a need to focus on schools and to bring the two cultures of education and training closer together.


A paper in which current developments in education and training in Western Europe are discussed.


A paper in which models of work place learning are discussed and policy directions considered.


A report on a three year project to develop a new national model of vocational preparation for Australia's youth.


A guide that aims to help schools and enterprises to work together to enrich students' learning.
ISSUES

Boomer, G (1991) "Who Skilled Cock-Robin?"

A paper drawing distinctions between training needs and educational processes.


This report forms part of a major national project commissioned by the Advisory Committee to the Ministers of Vocational Education and Training (VEETAC). It tackles the critical issues in competency-based assessment.


A paper in which it is argued that rather than 'connecting' education and industry, the challenge is to create a new culture by developing knowledge and practical approaches from the basis of shared understandings and genuine cooperative effort.

Eltis, K. The Finn edge of the wedge for Schools - (to be advised)


Introduces a series of papers on the changing needs of post-compulsory education.


This report is designed to draw together ideas and experiences gained in building education business partnerships, compacts and coalitions in twenty countries.
It draws on evidence from a series of International conferences and reports and particularly the first International Partnership Conference held in England in June 1992.


This paper emphasises the need for a continuous management commitment for the successful implementation of quality assurance in vocational education.

Questions competency based approaches to training as the only solution to current problems.


A comprehensive examination of school-industry links together with a discuss of the benefits of increased interaction for students, teachers, employers, unionists and parents.


A paper in which it is argued that there is a need to come up with a new model of education and training for young people that will make them a part of a post-industrial technological world.


Based on a case study on a particular US School/Industry partnership, the paper highlights conflicting conceptions of the problems facing labour market restructuring.


Agrees that many work education programs discourage independence and creativity.


In this article is it argued that if the principle of 'entitlement' is not built into work-related provision, its key messages - on relevance and incentives - are likely to be unrealised. That work-related curriculum needs to be developed through partnership between education and industry is now almost a truism; but partnership is harder to achieve than to eulogize.


*A paper in which it is argued that Australia's schools have been slow to listen to the enduring theme in recent Australian educational research that young peoples desire for a curriculum that makes better connections to working life after school, not just to university study.*


*Questions the efficacy of a vocationally oriented secondary education to provide specific vocational skills.*

Turner, D (1988) *It means a lot more than business: Young people and enterprise skills,* Bulletin of the National Clearinghouse for Youth Studies. 7 (2) pp2-6.

*This article examines the meaning and application of enterprise skills development to the education and training of young people. A number of reasons are put forward as to why enterprise development should be promoted to young Australians by secondary schools and training agencies.*

Describes a project that developed an integrated basic skills instructional program to service grades 7-12 vocational students in 13 rural school districts in Arkansas. The program was based on a vocational assessment process. The project was then refocussed on average students in grades 7-12 across 5 different schools district. This involved restructuring the vocational education curriculum to include hands on as well as college preparatory course.


Provides practical examples showing how vocational and general education are being integrated in classrooms.


Material to support a program designed to provide junior secondary school students with a practical introduction to the Australian business system as a supplement to formal commerce studies.


A report in which fifteen case studies presented at a Statewide Best Practices Forum are documented.


A series of nine case studies of school-industry links in South Australia.


A report documenting the outcomes of a DEET-funded project conducted by the National Industry Education Forum. Contains models for past practice and lessons for schools seeking to develop school industry partnerships.


A report in which the outcomes of a two-day workshop concerned with a range of "learning partnerships" are documented.

A book about establishing 'community-based partnerships between education, business and other groups in rural Australia. While a major focus of the book is on best practice, the impact of current theories, concepts and recommendation (e.g. Finn, Mayer and Carmichael) is also considered.


A practical guide to successful strategies on strengthening the links between the school and technical education sectors.


An updated report in which the key features of a pilot program designed to improve young people's transition from school to full-time employment in the retail, commercial and service industries in the Newcastle area are discussed.


A report in which the key features of a pilot program designed to improve young people's transition from school to full-time employment in the retail, commercial and service industries in the Newcastle area are discussed.


Provides a working model for school-industry partnerships based on two years of practical experience.
EQUITY


Examines special issues related to the post-schooling training needs of NESB students.


Provides a preparation and placement program for post-secondary handicapped individuals.


Describes problems facing many exceptional students in gaining employment and highlights the role career education can play in facilitating the transition process.


Report on the successful use of a model designed to develop social skills for youth with learning disabilities.


This book records and describes various 'accompanying' mechanisms recently developed, mainly transitional arrangements applied on a case by case basis. Studies from OECD countries show concrete examples of implementation while illustrating the specificity of national approaches.


Suggests an approach to career education for exceptional students.
The results of this research suggest that postcompulsory vocational education does have significant effects on individual economic outcomes, but those effects are not found among all who are targeted by the equity rationale. In particular, men from lower socioeconomic backgrounds do not appear to benefit appreciably. The analysis, however, provides striking support for the equity rationale as it applies to women.


Reports the results of a survey indicating that while students with disabilities were gaining access to vocational education programs, they were often denied access to the full range of programs and services. Also highlighted in the data, an indication that vocational education enhances employment prospects for students with disabilities although males are liable to benefit more than females.


A research report in which findings on what women want from work and how women learn about work are documented.


Describes resources available for rural schools but also highlights the fragmented nature of that provision.


Provides background on social skills and employability project that was set up in South Australia. Highlights the needs for close cooperation with industry and the identification of training environments in high growth occupations.

*Reports on current practices of vocational educators in grading students with disabilities.*


*Describes project worth, a comprehensive set of activities for junior and senior high school handicapped students designed to ensure career awareness as specific training on job related skills.*