

Competing needs – dilemmas

The role of vocational education in schools

- 7.1 The recent growth in VET in Schools has had several objectives. It is part of a drive to prepare students in secondary schooling more effectively for employment. As previously discussed, vocational education in schools also forms part of a number of other reform agendas; for example, addressing broader concerns about the relevance and effectiveness of the senior secondary school curriculum, improving the transition from school to further education and training, and the promotion of lifelong learning.
- 7.2 The enthusiasm of students in embracing vocational education indicates in the early stages that the programs are successful. However, a definitive view is not yet possible on whether the goals of the reforms are being met. The multiple agendas have created considerable challenges for schools to respond to within their curriculum. This chapter provides a review of the dilemmas faced by schools in trying to address the multiple and not always compatible purposes of vocational education in schools and meeting various stakeholders' needs. The chapter revisits the purpose of vocational education in schools, and then considers the issue of generic workplace and industry-specific skills. Employability skills are discussed in relation to skill shortages and meeting the needs of new and emerging industries. Finally the outcomes of vocational education for future pathways are briefly discussed.

The purpose of vocational education in schools

- 7.3 During the course of the inquiry the Committee received differing views on a range of issues such as work placements, tertiary entrance, industry specific or generic curriculum, management of funding and employability

skills. As one would expect, the different views clearly reflect the varied stakeholder perspectives on the purpose of vocational education in schools, which was discussed in Chapter 2. The Committee believes, however, that the significance of these perspectives did not appear to be widely acknowledged in the school sector.

- 7.4 Dr Tom Karmel from the National Centre for Vocational Education Research (NCVER) highlighted one debate following a comment from the Committee on the clarity of purpose of vocational education in schools:

In terms of the purpose, you are quite right about the complexity of it. There clearly is tension between the technical part of vocational education and what one might describe as the generic part. In recent years, the generic part has received a lot of attention. We have done quite a bit on generic skills, such as employability skills or whatever you want to call it. There are debates about whether they should be embedded within subjects or taught as separate subjects. You talk about the difficulties with clarity of purpose. This is a debate that is developing. People are now realising that there is more to employability than just the technical skills. Given the way the world is changing, perhaps some of these basic foundational skills are really very important.¹

- 7.5 In evidence to the Committee the Enterprise and Career Education Foundation (ECEF) identified this need to clarify and prioritise the objectives and expectations for the various levels of activity that occur within the broader vocational education agenda.² Policy implications flow from this prioritisation. The resolution of this issue cannot be achieved until the primary purposes of vocational education at different levels of schooling are identified. The first debate to address is the distinction between generic workplace and employability skills, and industry focussed technical skills. This has never been fully resolved.

Generic and/or job-specific skills

- 7.6 The work environment of the 21st century is characterised as competitive and changing, with implications for preparing today's students for post-school options. Surveys of employers indicate that to gain and maintain employability, broader generic workplace skills are needed, in conjunction

1 Dr Tom Karmel, Managing Director, NCVER, *Transcript of Evidence*, 7 August 2003, Adelaide, p. 1066.

2 ECEF, *Submission No. 84*, p. 3.

with occupation or job-specific skills.³ To the extent that the vocational education and training system's aim is to be responsive to employer needs, providers need to support generic workplace skills development.

- 7.7 Generic skills apply across a variety of jobs and are not specific to a particular industry or vocation. There is no consensus on what these are specifically, but they generally include skills such as interpersonal communication, problem solving and teamwork skills. The terms generic skills and employability skills are often used interchangeably; however, for the purposes of this report, when the term employability skills is used it will be for the Australian Chamber of Commerce and Industry (ACCI) and the Business Council of Australia's interpretation of employability skills. These skills will be discussed in more detail later in this section.
- 7.8 Some students in the broader VET system have indicated that they want broad skills that would allow them to change jobs, but others want to learn only skills that are relevant to the industry in which they want to work. This suggests that some students are often narrowly focussed upon the more technical skills and do not appreciate how generic workplace skills can support the development of technical job-specific skills.⁴ The implication for schools is that a greater focus on generic skills is warranted, to provide the building blocks for later specialisation.
- 7.9 The development of generic skills within the National Training Framework (NTF) is not explicit, and it has been recommended that generic skills need to be made more explicit in Training Packages.⁵ Within the range of Certificate I and II qualifications there is considerable overlap in some of the competencies which would be considered generic, and efforts are currently being made to introduce a flexible Certificate I within the NTF.⁶

Generic skills

- 7.10 In evidence to the Committee it appeared that activity that sits outside the National Training Framework, such as generic work-related learning experiences, both within the school and through work placements and other experience-based opportunities, is less well developed and implemented than VET programs within the NTF. These non-NTF activities enable students to develop, for example, enterprise skills and

3 Kearns, P., 2001, *Review of research: generic skills for the new economy*, NCVER, p. 2.

4 Callan, V, 2003, *Generic skills: Understanding vocational education and training teacher and student attitudes*, NCVER, p. 5.

5 Callan, V, 2003, *Generic skills: Understanding vocational education and training teacher and student attitudes*, NCVER, pp. 6-7.

6 ECEF, *Submission No. 84*, p. 23.

employability skills. In principle this should apply throughout all the years of schooling. There is much development work under way in this area, as discussed in Chapter 3, and the links between components are less formally defined. In addition, vocational preparation programs are available to assist disadvantaged and 'at risk' groups to access pathways for further study and work readiness for employment.⁷ (See Figure 2.3 to review components of a framework for vocational education.)

7.11 All these groupings of programs to some extent provide generic skills (such as employability skills and life skills). Therefore, part of the debate is based on the extent to which the schooling sector should be focussed on the provision of explicitly industry focussed technical skills, compared to such generic skills.

7.12 The Western Australian Department of Education and Training provided a view on the primary purpose of vocational education in schools: a focus on giving students generic workplace skills as opposed to getting jobs as a result of VET in Schools.⁸ Generic skills equip students to make a successful transition from education to the world of work. Conversely, the other stated purpose of vocational education is to meet industry skill requirements for employment. This is an acceptance of industry as a client group that was not acknowledged so readily twenty years ago. That acceptance of an industry focus relates to:

the blurring of the boundaries between the old traditional liberal view of education and the emergence of a more sophisticated technical education.⁹

7.13 The Committee notes that ideally, if there were sufficient resources and time to allow greater flexibility multiple objectives could be met. However, even with improved funding and administrative arrangements, a degree of prioritisation will still be required. Up to 2003 the major focus was on the adoption of post-secondary schooling vocational education and training models into the secondary school system. As an educational and integrated process many school systems embedded the competencies to improve the integration of the work into available curricula. However, criticism of this approach by industry and the lack of adherence to a competency based training and assessment approach has resulted in industry advocating 'stand-alone' delivery.

7 ECEF, *Submission No. 84*, p. 20, Southside Education Centre, *Submission No. 23*, pp. 1-7.

8 Mr Malcolm Goff, Acting Deputy-Director General, Training, WA Department of Education and Training, *Transcript of Evidence*, 5 August 2003, Perth, p. 909.

9 Mr Gregory Robson, Executive Director, Teaching and Learning (Curriculum Policy and Support), WA Department of Education and Training, *Transcript of Evidence*, 5 August 2003, Perth, p. 915.

- 7.14 Some education sectors feel more comfortable with the focus on generic workplace skills rather than the provision of specific industry training. For instance, the Catholic Education Office in Western Australia indicated that specific VET needs to be juxtaposed against a broad general education. It cited examples of the encouragement of trainees into programs which were quite inappropriate for their age. The Catholic Education Office has the belief that a wider general education, employability skills and work readiness are just as important as quality VET.¹⁰
- 7.15 It has been suggested that generic programs should be recommended up to Year 10 and specialisations with industry-specific programs be supported in Years 11 and 12. Where greater specialisation, for example to Certificate III level, is sought, community and industry demand needs to be considered. The content of the certificates has also evolved and the higher standards required are creating concerns for some staff.

Level of qualification

- 7.16 Associated with the discussion of generic and industry-specific curriculum there has also been debate about the suitability of offering Certificate III programs as part of school-based VET:

Despite fears from some employers and RTOs (including TAFE institutes) that there is an agenda for schools to assume responsibility for a wide range of VET at above Certificate level II, the evidence is that the overwhelming majority of VET offered in schools is at Certificate I and Certificate II levels...

In the ACT some teachers interviewed for the AEU project reported that with each revision some National Training Packages are becoming increasingly complex and demanding at Certificate I and II levels. As they do so, their purpose within the school curriculum changes and the opportunity for students to gain a certificate level qualification at school recedes. A co-ordinator interviewed in Tasmania commented that Certificates I and II were once entry-level courses but that the bar had been raised by the National Training Packages and that this was a problem for schools and some students.¹¹

- 7.17 This suggests that Certificates I and II are considered appropriate level qualifications for schools, and that the certificates meet the needs of students without becoming increasingly complex. For higher certificate

10 Mr John Nelson, Post-Compulsory Education Consultant, Catholic Education Office of Western Australia, *Transcript of Evidence*, 5 August 2003, Perth, p. 945.

11 AEU, *Submission No. 72*, p. 20.

levels, the teaching and resource expertise required is more specialised and carries associated costs. Successful programs are run at Certificate III levels but this is usually in partnership with other providers.¹² The Committee suggests this occur in conjunction with local industry to demonstrate that they can support the work placement requirements and contribute to infrastructure costs.

- 7.18 The Committee considers that there needs to be further discussion to resolve 'vocational equivalence' in the senior secondary certificate. The stated aim of educational authorities is for students to complete Year 12 or its vocational equivalent. The Year 12 Certificate is considered to be equivalent in its demands to a Certificate III level qualification.¹³ Most VET qualifications undertaken at schools are at Certificate II level. VET programs undertaken by school students thus do not necessarily provide an equivalent alternative to mainstream upper secondary studies if they do not receive their senior secondary certificate. However, comments to the Committee suggested that some Certificate II courses are as challenging as senior secondary certificate courses.

Employability skills

- 7.19 In addition to the generic skills, considerable discussion in this report has focussed on the set of skills described as employability skills. Employability skills are defined as 'skills required not only to gain employment but also to progress within an enterprise so as to achieve one's potential and contribute successfully to enterprise strategic directions'. Employability skills have been given recent prominence with the publication in 2002 of *The Employability Skills for the Future*, produced by the Business Council of Australia in collaboration with the Australian Chamber of Commerce and Industry and other peak industry associations, and jointly funded by the Australian Government Department of Education, Science and Training (DEST) and the Australian National Training Authority (ANTA).¹⁴
- 7.20 The employability skills build on the Mayer Key Competencies¹⁵ and have been influenced by the latest international research from the United

12 Western Australian Curriculum Council Secretariat, *Submission No. 65*, p. 7.

13 NCVET, *Submission No. 82*, p. 4.

14 ECEF, *Submission No. 84*, p. 26, ACCI, *Exhibit No. 63*, p. 1.

15 Mayer, E, 1992, *Putting Education to Work: The Key Competencies Report*, Melbourne, Australian Education Council and Ministers of Vocational Education, Employment and Training. The Mayer Key Competencies are: collecting, analysing and organising information; communicating ideas and information; planning and organising activities; working with others and in teams; using mathematical ideas and techniques; solving problems; and using technology.

Kingdom, Canada and the United States. The report presents an employer view of the employability skills necessary for Australian business, industry and employees to succeed. It proposes a framework of employability skills with the potential to link the range of activity in generic skills across the education, training, business and industry sectors. These skills are:

- communication skills that contribute to productive and harmonious relations between employees and customers;
- team work skills that contribute to productive working relationships and outcomes;
- problem solving skills that contribute to productive outcomes;
- initiative and enterprise skills that contribute to innovative outcomes;
- planning and organising skills that contribute to long-term and short-term strategic planning;
- self-management skills that contribute to employee satisfaction and growth; and
- learning skills that contribute to ongoing improvement and expansion in employee and company operations and outcomes; and technology skills that contribute to the execution of tasks.¹⁶

7.21 In addition to the skills outlined above, the report included a set of thirteen personal attributes that were specified as contributing to overall employability. These personal attributes include items such as loyalty, reliability, commonsense and a sense of humour. The response to the inclusion of personal attributes has been cited as problematical,¹⁷ with divergent views on whether they have a place in education and training programs.

7.22 ACCI indicated that further work is to be undertaken to investigate how employability skills might be developed, assessed, reported and universally recognised. This will take into account the associated policy work in the schools, VET and youth sectors.¹⁸

7.23 The response by employers to the identification of employability skills has been reported to the Committee as positive, as it aids in the identification of industry needs. The vocational context provides a framework for the focus of teaching and learning programs in schools to improve the foundational communication skills of students, the capacity of young

16 ACCI, *Exhibit No. 63*, p. 7.

17 NSW Department of Education and Training, *Submission No. 94*, p. 32.

18 ACCI, *Submission No. 95*, p. 20, see also DEST, *Submission No. 75*, p. 36.

people to work in teams, and improving their capacity to solve problems in a range of contexts.¹⁹

- 7.24 The Committee notes that the value of these skills has been recognised by teachers for a long time in contributing not only to students' progress in academic subjects but also to their personal development generally. Teachers have been incorporating them into a range of general education courses for many years. The Committee does note, however, the further dimension to the value of these attributes in vocational education and as employability skills.

Incorporation of employability skills into school curriculum

- 7.25 Overwhelmingly, in the evidence to the Committee, stakeholder groups indicated that the greater specification of employability skills greatly benefits students in their post-school options.
- 7.26 For example, in Tasmania the articulation of the employability skills has assisted in developing a holistic approach to education and training.

The integration of VET within the College program allows us to include the education of the whole person with the specific training associated with the VET program. The key competencies, which are part of every TCE (*Tasmanian Certificate of Education*) program can be directly mapped onto the employability skills identified by the Business Council of Australia, while the development of the personal attributes identified as being important for employment is central to the educational goals of the College.²⁰

- 7.27 Similarly, in Western Australia employability skills is an area that has been built specifically into the curriculum framework.²¹ From an industry view, the Victorian Automobile Chamber of Commerce (VACC) is supportive of the mix of the general and vocational curricula as it assists with the development of competency that allows the transition from school to work. Whilst students are undergoing workplace training they are learning some employability skills, which the VACC describes as essential for any vocation that students choose to enter in the future.²²

19 Mr Gregory Robson, Executive Director, Teaching and Learning (Curriculum Policy and Support), WA Department of Education and Training, *Transcript of Evidence*, 5 August 2003, Perth, p. 915.

20 Don College, *Submission No. 104*, p. 3.

21 Mrs Norma Jefferey, Chief Executive Officer, Curriculum Council of Western Australia, *Transcript of Evidence*, Perth, 5 August 2003, p. 922.

22 Mrs Leyla Yilmaz, Industrial Relations Manager, VACC, *Transcript of Evidence*, 3 September 2003, Melbourne, p. 1228.

- 7.28 The Construction Industry Training Board in South Australia suggested that a context for employability skills is required, with work placements giving students the opportunity to experience and understand the culture and working conditions of an industry. The South Australian system delivers a Certificate I in Employability Skills which includes a work placement component in construction, that provides the context for these skills.²³ The Australian Industry Group (Ai Group) agrees with the need for a context for learning through carefully designed vocational programs. A broader employability skills approach would also minimise the requirement for access to specific occupations.²⁴
- 7.29 The Smart Geelong Local Learning and Employment Network also identified that employers are seeking employees who can demonstrate a range of employability skills, only one of which is technical competence.²⁵

Generic competencies and employability skills in Training Packages²⁶

- 7.30 Research reported in a review of Training Packages strongly supports the strengthening and recognition of generic workplace skills, as well as employability skills that can be formally and informally developed in training and education, in the workplace and in a range of broader life activities. In terms of Training Package structure, employability skills are increasingly being embedded within units of competency.²⁷
- 7.31 These generic workplace and employability skills may provide a foundational link as a pathway through education and into employment. The generic skills are a common focus across the sectors, and may facilitate negotiation of the processes and outcomes of courses and programs. An ANTA review recently suggested that Training Packages should place equal emphasis on generic skills and performance outcomes.²⁸
- 7.32 For schools, meeting the diversity of student needs is vitally important. A broader stream of programs within the National Training Framework could be provided to improve the linkages with other training, including VET in Schools and School-based New Apprenticeships, and provide

23 Ms Catherine Carn, Entry Level Training Manager, Construction Industry Training Board, *Transcript of Evidence*, 7 August 2003, Adelaide, p. 1081.

24 Ai Group, *Submission No. 76*, p. 5.

25 Smart Geelong LLEN, *Submission No. 47*, p. 5.

26 The term 'skills' rather than 'competencies' was generally used in the inquiry, however the Committee acknowledges that skills, knowledge and attitudes are required for competence.

27 ANTA, 2003, *High Level Review of Training Packages: Current Realities of Training Packages, Summary of key themes emerging from Phase Two*, p. 15.

28 ANTA, 2003, *High Level Review of Training Packages: Phase 1 Report, An analysis of the current and future context in which Training Packages will need to operate*, p. 37.

pathways into other Training Package qualifications. ECEF indicates that this is a priority for ANTA:

Developing entry-level qualifications and pathways into Training Packages, including links to prevocational learning and vocational learning in schools is a priority for ANTA. The new approach is being based on developing a new class of flexible Certificate Ones incorporating competencies that may operate across a range of related industries that will focus on benchmark skills for employment. This approach will ensure all skills necessary for employment outcomes are explicit and available in the pool of units for Certificate 1, with the packaging guidelines providing a balance between the flexibility and the rigour necessary for achieving employment outcomes that enables training programs to cater for a wide diversity of young people.²⁹

- 7.33 The target group for generic workplace skills might more appropriately be students younger than the current VET industry Training Package focus. DEST reports that activities are being broadened to support the goal of providing students in the compulsory years of schooling, especially in Years 9-10, with programs of vocational learning that develop generic workplace skills and a knowledge and understanding of the world of work.³⁰
- 7.34 Other client groups that may benefit from the development of generic workplace skills certificates are at-risk school students. However, some teachers interviewed for the AEU VET in Schools project expressed concerns about the over-representation of 'low achieving/at-risk/special needs/behaviour problem' students in these subjects, fearing that they reinforced a view of VET as a low status option.³¹ While this view is understandable, the Committee believes that these courses do provide valuable, achievable options for students who might not be successful in more academic streams. The challenge is to ensure that the standard of VET courses is maintained in order to ensure industry and employer confidence in VET qualifications.
- 7.35 The Smart Geelong Local Learning and Employment Network group believes that there is a need for a policy that mandates vocational learning for all secondary school students from Year 7, and that the generic competencies or employability skills developed by Year 10 be acknowledged in Year 10 reports. It also recommended that all intending

29 ECEF, *Submission No. 84*, p. 23.

30 DEST, *Submission No. 75*, p. 37.

31 AEU, *Submission No. 72*, p. 40.

school leavers have job seeking skills, including resume writing and interview skills and ready-for-work ethics (attitude and discipline).³²

- 7.36 Dr Erica Smith, a national researcher on vocational education and training, indicated that there is a need for both generic skills development and industry-specific VET programs. She suggested that there needs to be support for students who are not doing VET programs, to help them develop employability skills. Within the VET programs it is expected that those key competencies are developed. The high increase in demand for specific VET programs shows that some students are clear about their career interests and want to get started on that path.³³
- 7.37 The Committee agrees there is a strong case for the development of a Certificate I in generic workplace or employability skills to be taken by all students. For those interested in particular industry skills the pathway would then lead to specific vocational education and training through Training Packages. This needs to be supported by non-National Training Framework activity.
- 7.38 This approach then provides support for training in specific industry areas at higher levels of qualification.

Recommendation 24

The Committee recommends that enterprise and employability skills be made a higher priority and developed through a range of strategies across the curriculum in addition to the VET in Schools pathway, to maximise the effectiveness of vocational education in preparing students for post-school options.

Skill needs and shortages in established, new and emerging industries

- 7.39 Discussion of generic and technical skills and the emphasis schools should give to them leads to a consideration of the preparation of students for new and emerging industries, and addressing skill shortages. By way of introduction, ACCI suggested that rather than schools attempting to focus their limited resources on new and emerging industries, more is to be

32 Smart Geelong LLEN, *Submission No. 47*, p. 5.

33 Dr Erica Smith, *Transcript of Evidence*, 1 July 2003, Junee, NSW, p. 760.

gained by schools concentrating on delivering quality general education offerings, career support and targeted vocational learning opportunities.³⁴ The Committee has some sympathy with this view.

7.40 A range of views was presented to the Committee on the provision of VET programs to address specific skill shortages. These views also relate to the discussion of generic workplace skills and specialist technical skills. The Committee supports the view that industry-specific skills are appropriate for development in senior secondary school courses. Therefore, the targeting of future programs should respond more to identified skill shortages in addition to student interest and teacher availability as it does now. This then raises issues discussed elsewhere in this report, such as resourcing and teacher training.

7.41 A key point was made by the Ai Group to emphasise the changing nature of work:

Educators need to recognise the constantly changing skill requirements of industry. What may be relevant to an enterprise's skill needs today may have no bearing on that same enterprises skill needs in five years time. There is no point in providing learning opportunities to young people if the outcomes of these learning opportunities are not relevant to the workplace by the time the young person makes the transition from school to work.³⁵

7.42 This contrasts with the view by others, that vocational education programs should be targeted to skill shortages. Part of the answer rests in the identification of skills that will be required broadly across industry and in industry areas in the 21st century.

7.43 The Committee is conscious that consideration of these issues goes to the heart of what many have seen as the fundamental purpose of education, and that allowing curriculum to be significantly influenced by trade and industry considerations can have an increasingly constrictive effect on general education. However, the Committee is also conscious that with the increasingly diverse nature of the school population and the increasingly complex demands of the economy, a balance between traditional notions of liberal education and practical preparation for post-school pathways has to be struck.

7.44 The Northern Territory Chamber of Commerce and Industry expressed the view that VET in Schools needs to be targeted to real local job opportunities, skill shortages and future demand. New industries in the Territory are being developed in the defence, oil and gas, and

34 ACCI, *Submission No. 95*, p. 33.

35 Ai Group, *Submission No. 76*, p. 4.

manufacturing sectors. Technology is regarded as a major component of these developments.³⁶

- 7.45 Representatives from the Textile Clothing and Footwear Union indicated that one of the most important changes needed is to link vocational programs to actual skill shortages and industry needs. The Union questions the large number of participants in retail traineeships when it is questionable whether retail will be a future career for many. The mapping of students' later outcomes following VET in Schools programs would assist in identifying mismatches, and better addressing industry needs.³⁷
- 7.46 Following consultations with witnesses the Committee is concerned about high unemployment in regions where there are significant skill shortages. Examples were provided to the Committee in the automotive area,³⁸ the rural sector,³⁹ and meat processing industries.⁴⁰ Better ways to respond to this dual employment problem are urgently required. Skill shortages were also identified in tourism and hospitality in Alice Springs,⁴¹ engineering in Gladstone, Queensland,⁴² and in the electrical, electronics and energy industries nationwide.⁴³

Identifying and meeting skill shortages

- 7.47 Part of the challenge with advocating greater coordination of the delivery of VET programs with existing skill shortages is the identification of shortages. Training and preparing students to fill such positions is only part of the jigsaw. DEST indicates that the supply of qualified people does not always address skill shortages. It is a complex problem with little evidence to suggest that skills imbalances are the result of an inadequate training system.⁴⁴ ACCI reports that the continuing pressure of skill shortages is due to a complex range of labour market, education and training, employment practice and employee expectation issues. Mr Steve

36 NTCCI, *Submission No. 96*, p. 3.

37 Ms Andrea Maksimovic, Project Officer, TC & F Union of Australia, *Transcript of Evidence*, 3 September 2003, Melbourne, p. 1258.

38 VACC, *Submission No. 5*, p. 4.

39 Mr Geoff Bloom, Executive Director, Rural Skills Australia, *Transcript of Evidence*, 21 August 2003, Canberra, p. 1145.

40 National Meat Industry Training Advisory Council, *Submission No. 16*, p. 1.

41 Mrs Kathryn James-Walsham, Field Officer School Based Apprenticeships, Group Training Northern Territory, *Transcript of Evidence*, 1 May 2003, Alice Springs, p. 623.

42 Mr Cameron Hoare, Manager, Technical Services and Engineering, NRG Gladstone Operating Services, *Transcript of Evidence*, 10 April 2003, Gladstone, Qld, p. 428.

43 Mr Tony Palladino, Chief Executive Officer, EE-Oz Training Standard, *Transcript of Evidence*, 26 February 2003, Sydney, p. 133.

44 Mr Colin Walters, Group Manager, Vocational Education and Training Group, DEST, *Transcript of Evidence*, 26 June 2003, Canberra, p. 704.

Balzary, Director of Employment and Training at ACCI, commented that the labour market is more difficult to predict than skill shortages. The major shortages in this country have been largely unchanged, certainly for twelve years. Most of them are in the traditional trades, with teaching, doctors and nursing going in and out of the top ten.⁴⁵

National Industry Skills Initiative

- 7.48 The National Industry Skills Initiative (NISI) is trying to address the need to get young people into industries with skill shortages. The major thrust of NISI involves industry developing clear messages to young people about where possible employment opportunities lie.
- 7.49 Commencing in late 1999 a range of industry areas have been involved in identifying and implementing steps that industry and government can take to redress industry skill shortages. These have included: engineering (marine and aerospace), electrotechnology, retail motor, rural, food (commercial cookery), building and construction, retail, road freight transport, and emerging technologies.
- 7.50 The four main areas where NISI has made a significant contribution to addressing the current and future skill needs of industries participating in NISI are:
- research identifying the nature and extent of skill shortages;
 - the development of resources promoting careers in industries to potential new entrants;
 - improving employer awareness of the value of vocational education and training in their respective industries; and
 - improving relationships between government and industry in addressing current and future skill needs.⁴⁶
- 7.51 The industries currently participating in NISI have collectively received over \$10m in funding through various DEST programs to help address current and future skills needs in their sectors. This has included the Business Education Partnerships Advocates Programme (BEPA) and Industry Project Officer Programme (IPO). The focus of the BEPA Programme from 2000 to 2001 was to build partnerships between business and education authorities, particularly at the state and territory level. From 2001 the objective was to assist in the implementation of the New Framework for Vocational Education in Schools through enhancing

45 Mr Steve Balzary: Director, Employment and Training, ACCI, *Transcript of Evidence*, 27 March 2003, Canberra, p. 217.

46 ACCI, *Submission No. 95*, pp. 21-22.

business input to education planning and encouraging businesses and education authorities to develop agreed principles and integrated activities for young people participating in enterprise and career activities.⁴⁷

- 7.52 Industry investment in programs to assist with addressing skill shortages is reported to be increasing with some industries taking greater responsibility.⁴⁸ The combined investment of industry and government as a partnership is essential. The Committee notes the substantial commitment that many employers make through supporting work placements. However, government and schools need greater support from industry, possibly through sponsorship arrangements, to improve the provision of vocational education.
- 7.53 The IPO program provided ACCI with funding to employ seven officers based with relevant industry associations. This encouraged implementing effective links between schools and industry at the national, state, territory and local levels, particularly in industry sectors experiencing skill shortages.⁴⁹ From July 2002, the Business and Industry School to Work Alliance (BISWA) has been building on previous programs. ACCI with the Ai Group, Rural Skills Australia and Group Training Australia are involved facilitating effective school to work transitions as part of the MCEETYA Framework for Vocational Education in Schools.⁵⁰
- 7.54 In response to a risk identification by ANTA, in determining priority areas for the development of VET in Schools and School-based New Apprenticeship programs, account will now be taken of national, regional and local skill shortages, industry needs and student demand.⁵¹ The Committee supports greater attention to industry skill shortages and is encouraged by these business education programs.
- 7.55 ECEF highlighted the need to ensure that a coordinated and strategic approach to VET in Schools is developed, that contributes to meeting skill shortages. This should include processes to ensure:
- planning for VET in Schools targets local, regional, state/territory and national skill shortages;

47 DEST, *Submission No. 75*, Appendix A, p. 70.

48 Ms Aurora Andruska, Group Manager, Vocational Education and Training Group, DEST, *Transcript of Evidence*, 27 November 2003, Canberra, p. 1431.

49 DEST, *Submission No. 75*, Appendix A, p. 70.

50 ACCI, 2003, *Business and Industry School to Work Alliance*, <<http://www.asn.au/education.htm>>; DEST, *Exhibit 129*, Fact Sheet.

51 ANTA, 2003, *Attachment A-Action plan for Quality and VET in schools*, Key Issue No. 4, November 2003, p. 4.

- regional structures facilitate the linking of skills development with regional development and the promotion of a culture of enterprise;
- strategies for skill development builds upon networks between business, industry, schools, community and training providers;
- greater alignment between regional needs and the provision of VET in Schools at the local levels; and
- better understanding by schools of the training needs and industry trends at a local, regional, state/territory and national basis.⁵²

Recommendation 25

The Committee recommends that the National Industry Skills Initiative be evaluated for the purpose of increasing its effectiveness and breadth in attracting young people into industries experiencing skill shortages, and that any funding necessary for an expanded role be jointly met by government and the relevant industry bodies.

Regional models

- 7.56 The Committee was able to visit examples of this coordinated approach. Two models will be considered. One example of a regional partnership, provided to the Committee in Hobart, was an electrotechnology program with specialisations in renewable energy and engineering. In response to a skill shortage, the Hobart Education Business Training Partnership assisted the development of a partnership of schools and TAFE Tasmania with Hydro Tasmania. Students in all the schools and colleges can enrol through one college (Hobart College) to ensure that there is no duplication of resources, and to coordinate industry placements with Hydro Tasmania.⁵³
- 7.57 Examples of other good practice of responding to industry needs and meeting employment potential were demonstrated in North Melbourne. The need to identify skill shortages has been identified in areas of higher youth unemployment. Northland Secondary College in Melbourne identified that there were skill shortages in furnishing, automotive and engineering – all traditional trades. The school has sought funding to develop a skills centre that requires cross-sectoral support. A partnership

52 ECEF, *Submission No. 84*, pp. 63-64.

53 Ms Elaine Brown, Committee Member, Hobart Education Business Training Partnership, *Transcript of Evidence*, 1 October 2003, Hobart, p. 1410; and *Exhibit No. 122*.

between schools, TAFE, industry training boards, unions, chambers of commerce and industry has been brought together to form *Ntech*. About \$1 million from State, Commonwealth and private sources has been raised to build a new facility that is dedicated to furnishing, automotive, engineering and, in the future, food technology and electronics. *Ntech* is responding to the needs of northern Melbourne in the area of skill shortage.⁵⁴

- 7.58 In identifying appropriate models for coordination the Committee raised the question of whether the matching of needs between schools and employers should be industry or location based. If it were industry based then manufacturing, for example, would have similar programs across a state, and other programs would focus on the needs of the automotive industry or farming. On the other hand, the links could be location based, and industries could work together with schools in a region to focus the minds of students on potential local career options. The role of state Industry Training Advisory Boards would appear to be central in promoting greater school and state association links.
- 7.59 Representatives of *Ntech* reported that regional strategies have been found to be successful in country areas. In addition, there is also a need in urban areas for local solutions where small and medium sized companies are not so well represented by state and territory or national bodies. It was suggested that overall planning needs to be taken up by the manufacturing industry associations, which can model satellite components of their organisation with a similar structure to the local model developed in North Melbourne.⁵⁵ The model being developed in this example is one of schools linking with local educational and community partners and an interested industry sector to facilitate the schools' VET programs to address the whole issue of skill shortages affecting the region.
- 7.60 The Committee was impressed by the industry commitment in the example above and is aware of similar models in other states and territories. The Committee encourages industry associations to investigate the range of models, whether location or industry based, that would assist in addressing skill shortages through improved links with schools.

54 Ms Raffaella Galati-Brown, Principal, Northland Secondary College, *Transcript of Evidence*, 3 September 2003, Melbourne, p. 1291.

55 Mr Noel Benton, Chairman, Northern Stainless Steel Skills Development Group, and Mr Daniel Knott, Community Industry Partnerships Facilitator, Northland Secondary College, *Transcript of Evidence*, 3 September 2003, Melbourne, p. 1296.

Recommendation 26

The Committee recommends that DEST work with industry bodies to identify and project skill shortages, and that closer links be forged between business and industry and schools to address those shortages at a local, regional and national level.

At the national level this needs to be addressed by industry representatives and training bodies in conjunction with educational authorities.

**At the local and regional levels, the links between industry and schools should be strengthened by enhanced cluster coordinator positions.
(See Rec. 20)**

Skill shortages in traditional industries

7.61 The Committee was informed of the long standing issue of the perceptions of old and new industries, and their projected needs for skilled workers. New and emerging industries are often thought to be more exciting and innovative, with higher technology demands. More established industries have to try to counter this view. One example is the automotive industry, which is now a high technology field, but is still considered by many to be a dirty and noisy industry. Changing entrenched views to recruit more young people into the manufacturing and engineering trades is not easy.⁵⁶ School careers advisors, in conjunction with industry representatives, have an important role to play here.

7.62 A report released in 2002 by NCVET, *Evidence of Skill Shortages in the Engineering Trades*, confirmed that a shortage of skilled labour exists in the engineering sector. One suggestion from the report is that the number of apprentices and trainees who commence their training while still attending school should be increased. Additionally, retaining apprentices is also important to ensure that they complete their training.⁵⁷ The Engineering Employers' Association in South Australia (EEASA) believes that in the future, VET in Schools programs will be an important source of skilled workers, who will commence their interest and training in metals and engineering manufacturing skills in those programs, consistent with the NCVET recommendation. An Engineering Pathways program has

56 Mr Bert Evans, Chairman, NSW Board of Vocational Education and Training, *Transcript of Evidence*, 25 February 2003, Sydney, p. 66.

57 Smith, A, 2002, *Evidence of Skill Shortages in the Engineering Trades*, NCVET, p. 33.

been operating since 1992 in partnership with the Manufacturing, Engineering and Related Services Industry Training Advisory Board and the South Australian Government, as a way of increasing alternative pathways for students to gain knowledge of, and exposure to, career paths in engineering.

- 7.63 To meet the skill shortages, EEASA reports that there is a need for an increase in the number and training of technology teachers, greater flexibility in the timetabling of curriculum to allow for school-based apprenticeships, and stronger partnerships between schools and technology training providers with appropriate equipment and teaching resources.⁵⁸ The Committee has real concerns about the availability and adequacy of training for technology teachers and access to industry standard facilities to meet the demand for students to fill skill shortages.

Recommendation 27

The Committee recommends that the MCEETYA Taskforce on Teacher Quality and Educational Leadership (TQELT) pursue changes to teacher education programs to achieve a nationally consistent approach. This should include greater consideration of vocational education issues, including the need for:

- **technology based courses to have appropriate industry-standard facilities to train teachers.**

- 7.64 In the automotive industry Toyota Motor Corporation Australia recognised that they had a significant skill shortage: their sales were increasing; they were producing more vehicles; but they could not attract people into the work force to be automotive technicians. A similar situation was encountered by General Motors, Ford and Mitsubishi.⁵⁹ The Toyota T3 project was then developed as a solution providing a school based traineeship, a two-year program in automotive vehicle servicing resulting in a Certificate II. The target group is students going from Year 10 into Years 11 and 12. The students complete Year 12 and receive their Higher School Certificate. Part of the Certificate II is in vehicle

58 Engineering Employers Association, South Australia, *Submission No. 98*, pp. 2-3; see also DEST, 2003, *Review of Teaching and Teacher Education Final Report, Australia's Teachers: Australia's Future – Advancing Innovation, Science, Technology and Mathematics- Main Report*, p. 80.

59 Mr Kimble Fillingham, Member, TAFE Directors Australia, *Transcript of Evidence*, 20 March 2003, Canberra, pp. 197-198.

servicing, so they have a qualification which is licensed in New South Wales.

- 7.65 The program is now also available interstate involving Holden. It has proven very successful, with commitments by the automotive industry to employ the graduates of the program:

Now the national training for vehicle apprenticeships will change so that they will do a certificate II in vehicle servicing, then they will move on to a repair program and then they will move on to a diagnostic program. We have modernised the entire approach. It has brought the schools together. It could not have worked if we did not have a partnership between industry, TAFE and the schools sector, because the schools had to be prepared to have a structure which supported and released these young people for a day and a half a week.⁶⁰

- 7.66 The evidence received by the Committee leads it to the view that greater attention needs to be paid to addressing skill shortages in identified industry areas. Further, the development of generic workplace skills for all students would assist industries to develop job-specific skills more quickly. The MCEETYA Transition from School Taskforce has initiated a project to identify strategies that can be used to ensure that VET in Schools contributes to addressing skill shortages and meeting the needs of new and emerging industries.⁶¹ A more detailed inquiry conducted by the Senate Employment, Workplace Relations and Education References Committee, *Bridging the skills divide*, which reported in November 2003, examined skill shortages and future skill needs and highlighted the difficulties in determining skill shortages, predicting skill needs and providing a vocational education system to match the identified gaps.⁶²

- 7.67 The distinction between the workforce skills needs of traditional and new and emerging industries is not clear cut, as research on emerging industries has found.

Vocational education in emerging industries

- 7.68 In Australia, new industries are supported at the national level by the Commonwealth Department of Industry, Tourism and Resources (DITR). A definition that has been adopted by DITR states:

60 Mr Kimble Fillingham, Member, TAFE Directors Australia, *Transcript of Evidence*, 20 March 2003, Canberra, p. 199.

61 ANTA, *Submission No. 90*, p. 41.

62 Senate Employment, Workplace Relations and Education References Committee, 2003, *Bridging the skills divide*, pp. 38-40.

Emerging Industries are newly formed or re-formed industries that have been created by technological innovations, shifts in relative cost relationships, emergence of new customer needs, or other economic, sociological changes that elevate a new product or service to the level of a potentially viable business opportunity.⁶³

- 7.69 This definition suggests that technological changes are not the only changes that can lead to a new or high growth industry. Boundaries between emerging and traditional industries are not static, and innovations in process may lead to new opportunities in traditional industries.⁶⁴
- 7.70 Research work was undertaken in 2000 by the former Department of Industry, Science and Resources to identify what were considered to be emerging industries and the workforce skills needed to support them. Areas identified by DITR as new and emerging industries include: biotechnology, nanotechnology, medical products, pharmaceuticals, the space industry and aerospace, and bioinformatics. Emerging technology industries also include information technology, micro-electronics, telecommunication (including photonics), environmental management and materials technology.
- 7.71 The workforce skill needs identified as crucial for these industries are primarily scientific and technical skills, followed by business and management skills, then information technology skills. The blending of technical and business skills was seen as highly advantageous. Where skills gaps were identified they were primarily at the graduate and postgraduate level. Tradespeople were not expected to be in high demand in these emerging industry groups, except in microtechnology, photonics and those working in the agri/resource and manufacturing fields.⁶⁵ In other research on high technology start-up firms the minimum qualifications would be a VET Diploma at AQF 5 and 6 in the formative stages of the firms, and few companies would see a role for apprentices.⁶⁶
- 7.72 In 2001 ANTA funded NCVER to conduct research on the relationship of the VET sector and one section of the national innovation system, Cooperative Research Centres (CRCs). The report, *Going boldly into the*

63 Porter, M., 1980, *Competitive Strategy*, Free Press, cited on DITR website <www.industry.gov.au/content/controlfiles/display_details.cfm?ObjectID=E66A>.

64 Ferrier, F., Trood, C. and Whittingham, K., 2003, *Going boldly into the future: A VET journey into the national innovation system*, NCVER, p. 14.

65 DISR, 2000, *Skills need of emerging industries: A report of findings from a survey of Cooperative Research Centre to identify potential emerging industries and their associated workforce skills needs*. DISR, Emerging Industries Section, p. 1.

66 NCVER, 2001, *Going boldly into the future: Skills and Australian technology start up firms*, NCVER, Executive Summary, p. 5.

future: A VET journey into the national innovation system, found that the VET sector was not as active as it should be in making links with the CRC program. The work of CRCs can lead to innovations in industry. This could lead to areas of skills change or new skill development, potentially requiring VET involvement. The authors of the report comment that not all innovations will lead to changed or new skill requirements, and that some may be generic workplace skills common to several occupations or industries. In these cases specialist training may not be required. Other skills may be so specialized that they are beyond the scope of the current VET system and could be the responsibility of the university sector.⁶⁷

- 7.73 Anticipating skill needs is therefore highly specialized. If the numbers needed are small, no formal response from the education and training system is necessary. However, when many workers are required with new skills, better links with the VET system will be needed.⁶⁸

Photonics

- 7.74 One example where there are links between emerging industries and VET and involvement with the Cooperative Research Centre program, is the Australian photonics industry. Representatives told the Committee that the industry needed a workforce of which approximately half require university qualifications and the other half technical training to work in the field in roles such as laying optical fibres or in manufacturing components.⁶⁹
- 7.75 The broader VET system has been characterized as having insufficient links with emerging industries, and the linkage between schools and emerging industries is more diffuse. Concerted efforts by the photonics industry and NSW TAFE in the first instance have led to the development of better links and the production of curriculum for use across three jurisdictions, with the potential for greater expansion through online technologies. The box below provides a summary of the industry's links with education.
- 7.76 However, the process has been far from smooth, and the Photonics Institute considers that significant change needs to occur to enable

67 Ferrier, F, Trood, C and Whittingham, K, 2003, *Going boldly into the future: A VET journey into the national innovation system*, NCVER, pp. 10 and 15.

68 Ferrier, F, Trood, C and Whittingham, K, 2003, *Going boldly into the future: A VET journey into the national innovation system*, NCVER, p. 11.

69 Mr Lee Ridge, Chief Operating Officer, The Photonics Institute, *Transcript of Evidence*, 5 June 2003, Canberra, p. 675. Photonics is the control, manipulation, transfer and storage of information using the fundamental particles of light. Photonics technology is used in telecommunication, defence and medical fields for diagnostic equipment.

emerging industries' skill requirements to be met. Timelines of five years for development and approval of AQF certificate courses were cited, and in order to accelerate the process trade-offs have been made such as gaining TAFE accreditation for the program but excluding it as yet from recognition for a Tertiary Entrance Rank. This could disadvantage students in the broader employment and education market, and these issues of development and recognition need to be addressed quickly.⁷⁰

The Photonics Institute

The Photonics Institute coordinates the education and training activities of the CRC. The partner universities and technical institutes provide technical, undergraduate and postgraduate education. They also offer mentoring and networks for young people, in addition to teaching and career resources.

Four TAFE qualifications have been accredited in photonics and photonics technology. Endorsement is being sought from the NSW Board of Studies for the Certificate II in Photonics to be studied by senior secondary students at TAFE as part of their Higher School Certificate in 2004. The Photonics Institute's approach to encourage students to participate in their industry involves strategies vertically integrated across the education sectors. These include:

- *From Fountains to Photonics*, a national awareness campaign designed by Questacon, Australia's National Science and Technology Centre, in partnership with Australian Photonics to inform and excite secondary students about the career opportunities in the expanding photonics industry. The program consists of a drama-based, high-tech multimedia show and teacher workshops. More than 50 per cent of students claim that they would consider a career in photonics after seeing the show;⁷¹
- Science Shows and e-summer schools for less advantaged students
- intensive workshops with high school students in the ACT, NSW and Victoria;
- development of senior high school physics curriculum;
- work with TAFE in NSW and ACT to develop and offer Diploma/Advanced Diploma in Photonics;
- development of online content through collaboration with five universities;
- facilitation of new degrees; and
- support for the professional development of TAFE teachers.⁷²

7.77 The submission from the Photonics Institute states that:

The vast majority of training packages and VET delivered in Australia are designed to meet the needs of mature industries and

70 Photonics Institute, *Submission No. 100*, pp. 4, 9.

71 Professor Graham Durant, Director, Questacon, *Transcript of Evidence*, 5 June 2003, Canberra, p. 675.

72 Photonics Institute, *Submission No. 100*, pp. 3-4.

existing technologies and industrial practices ... Scarce VET funding is used to support established and traditional industry sectors, and is generally not made available to support emerging high growth industries. This becomes a serious structural barrier to the development and delivery of training in these areas.⁷³

- 7.78 In addition, the equipment investment costs are substantial, and the setup of clean room environments is necessary to give students a realistic view of the industry. The skills of setting up clean rooms would also be transferable to the biotechnology industry.⁷⁴ The Committee notes that the costs of VET involvement in such high technology industries is substantial and that it could not be considered as a broad offering across all jurisdictions. However, there is a case for specialisation.
- 7.79 The approach of the Institute is supported by the Committee as a generic model that could be used by other industries at a similar stage of development. Features of best practice identified for industry in the *Going Boldly* study include:
- involving VET at a time that maximizes the capability of VET to support the industry but early enough to allow course development and accreditation;
 - supporting the quick flow of new knowledge and practice into VET by openly encouraging VET staff to interact with the industry; and
 - structured agreements with defined responsibilities for the VET sector and if a CRC, with the Centre.
- 7.80 The VET partner would:
- need to recognize that there would be a future return on investment;
 - provide support for staff to interact with industry and provide single point of contact; and
 - take responsibility to address the complexity of VET systems and link schools with industry.⁷⁵
- 7.81 Other recommendations by the Photonics Institute include:
- reinforcing awareness raising with resources for students, for parents and teachers;

73 Photonics Institute, *Submission No. 100*, pp. 7-8.

74 Mr Lee Ridge, Chief Operating Officer, The Photonics Institute, *Transcript of Evidence*, 5 June 2003, Canberra, p. 675.

75 Ferrier, F., Trood, C. and Whittingham, K., 2003, *Going boldly into the future: A VET journey into the national innovation system*, NCVER, p. 87.

- increased bandwidth for schools and TAFE in regional areas to participate in the digital culture;
- providing resources for the professional development of teachers;
- the development of generic workplace skills for school students, including innovation as well as entrepreneurship and communication; and
- work experience in industry, not mandatory but simulated through appropriate industry designed facilities at TAFE or other providers, plus interest heightened through open days.⁷⁶

7.82 Mr Lee Ridge, Chief Operating Officer of the Photonics Institute, commented on the need for the development of core generic workplace skills by students. This should be accompanied by some centres of excellence to facilitate the development of teachers across the country and to encourage students with simulations through broadband technology, allowing access to other regional centres.⁷⁷

Other emerging industries

7.83 As noted, future employment prospects are considered to be expanding in a range of emerging industries. In Questacon's submission to the Review of Teaching and Teacher Education undertaken by the Commonwealth Department of Education, Science and Training, a current message being taken to schools is that:

the future economic wellbeing of the nation is linked to today's students choosing to take up further studies in science and technology so as to position themselves for career opportunities as well as business opportunities related to emerging fields of science and technology.⁷⁸

7.84 Other emerging industries associated with science and technology from which the Committee received evidence included biotechnology and electrotechnology as a renewable energy. The biotechnology industry also advocated a range of approaches to engage student interest in the industry.

76 Photonics Institute, *Submission No. 100*, pp. 9-10; and Mr Lee Ridge, Chief Operating Officer, The Photonics Institute, *Transcript of Evidence*, 5 June 2003, Canberra, p. 684.

77 Mr Lee Ridge, Chief Operating Officer, The Photonics Institute, *Transcript of Evidence*, 5 June 2003, Canberra, pp. 683–684.

78 Questacon, *The Review of Teaching and Teacher Education*, Submission No. 108 undertaken by DEST, p. 10.

- 7.85 As discussed in relation to the photonics industry, coordinated strategies for providing information and further support appear to be an effective way to encourage students to become involved in other emerging industries such as biotechnology. The Gene Technology Access Centre (GTAC) based in Melbourne aims to encourage scientific literacy and enthuse students to consider careers in science.⁷⁹ Additionally GTAC is involved in pre-service education for teachers to provide basic skills in DNA manipulation tasks. Year 9 to 12 students work alongside research scientists to develop partnerships between the secondary, tertiary and research sectors in Victoria and hopefully across Australia.
- 7.86 The biotechnology industry represented by AusBiotech also supported greater partnership between industry, academia and schools to work with teachers and students. AusBiotech estimates that 20-30 per cent of positions in biotechnology would be in non-science fields to support the development of the industry, such as in IT, marketing, sales, journalism, administration and finance.⁸⁰
- 7.87 The Committee notes the future economic importance of these industries and the need for appropriately skilled workers, and considers that the key to encouraging students into them is student, teacher and parental awareness of career opportunities, supported by core general education, and employability skills.

In review

- 7.88 The Committee notes the efforts that have been introduced by governments and industry to address current skill shortages and anticipated new employment markets. However, although the accuracy of predictive labour market information varies, strategies need to be developed to support students through the volatility of economic cycles. The dilemma addressed in the preceding section is: What is the best way to prepare young people for post-school pathways? Is it best to focus on generic workplace skills or focus on industry-specific qualifications? The Committee supports the greater focus on, and development of, generic workplace or employability skills as a substantial base for all students on which further industry, occupation or job-specific skills can be built.
- 7.89 Addressing skill shortages at a regional or state level, supported by national skills initiatives, would appear to be most effective. The

79 Mr Brian Stevenson, Program Manager, Gene Technology Access Centre, *Transcript of Evidence*, 3 September 2003, Melbourne, p. 1259.

80 Dr Tony Coulepis, Executive Director, AusBiotech Ltd, *Transcript of Evidence*, 3 September 2003, Melbourne, pp. 1262-1266.

importance of the support of the community and industries represented by local employers is crucial. Industries with concerns about skill shortages need to take the initiative, supported by education providers, to develop effective methods to improve the image of their industry and to encourage VET in Schools.

- 7.90 Emerging industries have specific requirements that need to be addressed by the current VET system in relation to the long development time for the introduction of Training Packages. Greater links between industry and teachers to provide greater access for professional development opportunities are required.
- 7.91 Part of the challenge is to encourage all involved to consider the full range of opportunities for young people in traditional and emerging industries, and to address the perception that traditional trades and industries do not have good opportunities. This requires a concerted joint approach between school careers advisors, industry and government.

Recommendation 28

The Committee recommends that ANTA receive additional funding to facilitate the development of qualifications and industry links in new and emerging industries, and to better reflect the growing numbers of students undertaking VET in Schools courses.

University, VET and employment

- 7.92 Another area of discussion which reflects differing stakeholder views centres on the outcomes of the education process to assist young people in their transition from school to work. Considerable comment was made to the Committee about the need for raising the profile of vocational education and related occupations in comparison to university achievements. Some in the school community are critical of the role of industry in determining school outcomes. Others were resentful of the redistribution of stretched funds from general education programs into vocational education, even though the benefits are recognised.⁸¹
- 7.93 Outcome data on education and employment following participation in VET in Schools is not nationally available. This is an area requiring urgent

81 Dr Robert Steadman, *Submission No. 46*, p. 2; Temora High School, *Exhibit No. 93*, p. 1; AEU, *Submission No. 72*, p. 42.

attention. A nationally consistent approach to data collection is required.⁸² Victorian information indicates that there were improved rates of employment and further education participation for students in Victoria who had participated in VET in Schools.⁸³

- 7.94 The perceived lower status and reduced employability of vocational education qualifications was widely reported to the Committee. The wider distribution of available research on outcomes would assist in ensuring that the pathways chosen by young people in consultation with advisors in the school, community and at home are most suited to their needs.
- 7.95 Unfortunately, the fixation on university is often matched with a devaluing of VET programs. As discussed earlier in the report, a key driver behind what schools offer is student demand. The DEST submission indicates that through the work the Commonwealth is undertaking with business and industry in relation to skill shortages, it is evident that greater promotion of industry, trades and technical options to young people is needed. For some industries this is critical to ensure that young people have a contemporary understanding of the nature of work in particular industries and to dispel common misconceptions. Additionally, industry also has a role to play in marketing itself in order to generate the student demand needed to make VET in Schools in new and emerging industries and more traditional industries, including those experiencing skill shortages, viable options for schools and other providers.⁸⁴
- 7.96 Given the importance of both university and vocational education to Australia's economic growth and prosperity, industry groups and witnesses expressed the view that it is unacceptable that vocational education be devalued in comparison to university preparation. This reinforces the perception that to be successful one must hold or be studying the high value university entrance subjects. In evidence to the Committee an overzealousness on the part of government was suggested:
- unfortunately university education has been oversold by policy makers to many young people not suited to this form of education.⁸⁵
- 7.97 This has the consequence of suggesting that the 70 per cent of young people who do not undertake university study from school and are

82 NCVER, *Exhibit No. 22*, pp. 26, 27; DEST, *Submission No. 75*, p. 63.

83 Polesol, J & Teese, R, 2002, *Transitions from the VET in Schools Program the 2000 Year 12 cohort*. July 2002, Department of Education and Training, the Educational Outcomes Research Unit, University of Melbourne, p. 20.

84 DEST, *Submission No. 75*, p. 27.

85 Dr Ian Cornford, *Submission No. 67*, p. 5.

involved in vocational education are low achievers or are pursuing a second rate option. It has been suggested that applying for TAFE programs is seen as an insurance policy rather than being a positive choice.⁸⁶

- 7.98 The Australian Industry Group argued that this perception must be dispelled if vocational education is to become a valued option within the senior schooling curriculum. Employers facing current skill shortages are looking to the students coming from the school sector as the future employees upon which business competitiveness, productivity and growth can be built. This future should not be undermined by any artificial devaluing of vocational education.⁸⁷
- 7.99 A significant challenge reported is the difficulty in changing the image of manufacturing. The rural sector faces similar challenges. The Ai Group has been working with the Commonwealth through the National Industry Skills Initiative to develop a range of marketing materials. This includes a zoom CD-ROM which looks at new manufacturing in a high-technology sense, a web site that mirrors that compact disc and a range of printed materials which have been distributed to all high schools, libraries and Centrelink offices in Australia over the last two years, plus 5000 copies to Ai Group members as an aid for industry nights at schools. For example, Ai Group is currently producing materials for the aviation sector, as the average age of aviation technicians is around fifty and it takes seven years to train one.
- 7.100 Mr Stephen Ghost stated that there is a need to produce information that shows the true story about an industry. The effectiveness of that information also relies on how school teachers are prepared and their awareness of various industries. Many career choices are based on peer pressure, and how parents perceive an industry and their preferences for their children. These perceptions, particularly about manufacturing and many of the traditional trades, are not always accurate. It is a difficult issue, so multiple fronts are required, dealing with careers counsellors, with parents at careers nights and with young people in a variety of ways.⁸⁸
- 7.101 Suggestions have been made to improve the perception of VET broadly and VET in Schools.⁸⁹ The Queensland Government recommends that the

86 Cited in Teese, R, 2000, *Post Compulsory education and training: some recent research findings and their policy implications*. The Australian Educational Researcher Vol 27, pp. 49-57.

87 Ai Group, *Submission No. 76*, p. 6.

88 Mr Stephen Ghost, General Manager, Education and Training, Ai Group, *Transcript of Evidence*, 25 February 2003, Sydney, p. 89.

89 Queensland Council of Parents and Citizens' Association, *Submission No. 80*, p. 7.

Commonwealth commission marketing strategies to improve community understanding of VET in Schools, including a particular focus on improving the perceptions of employers and parents of the value of VET in Schools programs.⁹⁰ As an example of one strategy in Victoria, *education times* included a range of personal stories of the diverse pathways that students are choosing, recognising that not all young people attend or want to attend university.⁹¹

VET as one component of vocational education

- 7.102 The need for vocational education programs to be available in a range of forms, to be provided at multiple certificate levels, and to cater for a range of audiences is crucial to ensure that there is a skilled workforce across the broad range of industries. However, one of the challenges for greater promotion of the benefits of vocational education is the differing names and programs that operate around Australia. The Victorian EPIC Industry Training Board pointed to confusion over nomenclature in the range of programs in Victoria and stated that industry stakeholders in other states and territories face similar variations.⁹²
- 7.103 The Committee believes that developing consistent terminology would aid the community's understanding of vocational education as a key step in developing a common language to market vocational education and specifically VET in Schools. One of the challenges for the Committee in completing this report has been that most of the material has focussed on VET in Schools to the detriment of being able to provide a more holistic view of other aspects such as enterprise education and career development. The important role of teachers and specialists in providing a broader perspective on vocational education must be enhanced.
- 7.104 A key role has been identified for career advisers in raising the awareness of teachers, students and parents of the range of industries and opportunities that vocational education and training can provide. The fact that VET occurs in a broader context has been identified, one witness stating that:

vocational education and training ... offers one input. It offers that vocational skills training, it offers that experience in the workplace, but there is so much more that needs to be done with students, as we know from all the MCEETYA reports and the

90 Queensland Government, *Submission No. 93*, p. 21.

91 Victorian Department of Education and Training, 12 June 2003, *On Track unveils countless pathways*, *education times*, Vol 11, No. 9, pp. 1, 8-9.

92 Victorian Electrotechnology, Printing, Information Technology and Communications (EPIC) Industry Training Board, *Submission No. 13*, p. 8.

research that has been done into the employability skills and enterprising capabilities and attributes that we would like to see in our students and in our workplaces.⁹³

- 7.105 The next chapter will look in more depth at career development to assist in providing a context for vocational education in schools.

Summary

- 7.106 Greater consistency in terminology would assist educators, industry and the community to discuss the benefits and outcomes of vocational education in schools and VET in Schools, as well as other post-school pathways. The Committee believes that there needs to be greater promotion of the advantages of VET qualifications in the community relative to the absence of post-school qualifications and relative to university qualifications.
- 7.107 Focussing on VET qualifications, the Committee notes that for levels above Certificate II, the necessary teaching and resource expertise is more specialised and carries additional costs. Successful programs at the Certificate III levels are usually run in partnership with other providers. The Committee believes that the priority focus of VET in Schools should be up to and including Certificate II. Further qualification levels should be provided in conjunction with local industry, requiring them to demonstrate that there are skill needs and they can support the work placement requirements and contribute to infrastructure costs.
- 7.108 The Committee notes that most of the focus of vocational education in schools has been placed on VET in Schools, and yet given the broad range of expectations of the school system, the Committee suggests that too much is trying to be achieved under the National Training Framework. There should be greater focus and consideration of other areas to foster students' development, such as broader vocational learning, career education and enterprise education. Funding to enable resourcing of these through the schooling sectors also needs to be addressed.
- 7.109 The development of generic workplace or employability skills should be a priority of vocational education in schools, and the Committee supports efforts to develop a generic workplace Certificate I. Industry-specific qualifications should further develop generic workplace skills for those students who pursue identified industry pathways. Closer ties between

93 Ms Cathy Moore, Careers Counsellor, Head of Enterprise and IT, Mater Dei College, *Transcript of Evidence*, 5 August 2003, Perth, p. 969.

skill shortages and student programs need to be developed. However, the difficulty of predicting future skill shortages is acknowledged as problematic. Emerging industries have urgent needs to develop qualifications in their speciality areas and to recruit students. Centres of excellence to develop links with industry, schools and the broader VET and university sector is a model that the Committee recommends.

- 7.110 The Committee believes that the key to encouraging students into these emerging and more traditional industries is student, teacher, parental and community awareness of career opportunities, supported by core general education, and employability skills. The greater involvement of industry at a state and territory and national level, supported by local employers, is crucial to developing the awareness of career opportunities.