

10 BIG IDEAS TO GROW NSW

Could do Better

A Blueprint for a Review of Post-Year 10
Education and Training in NSW

School Leavers Deserve Better:

Review Post-Year 10 Education and Training in NSW

NSW has a relative advantage as the most populous Australian state and home to the largest concentration of economic infrastructure. NSW must use this comparative advantage to ensure it is the preferred place in which to do business.

Over recent years, NSW's share of the nation's GDP has declined. It is time to reverse that decline and build a sustainable future. NSW must continue to reduce its taxes and appropriately invest in those it collects. NSW should be an efficient and productive state that provides opportunities for business to grow. Government has a role to play in supporting economic conditions and the critical infrastructure to ensure NSW remains the business capital of Australia.

To ensure future growth, NSW cannot rely solely on Sydney as a 'brand' with its diverse population and stable political and social environment, as valuable and important as these fundamentals are. The NSW Government has a critical role to play in attracting and retaining businesses in NSW by maintaining a competitive edge and running effective and efficient services. Education and training services are an important part of this service delivery.

On 10 March 2010, the NSW Business Chamber released its policy blueprint 10 Big Ideas to Grow NSW. *The 10 Big Ideas to Grow NSW* emerged from policy symposiums hosted by NSW Business Chamber during 2009 which involved over 500 business leaders, academics, community leaders and government representatives.

The 10 Big Ideas cover the performance of Government, taxation, red tape, transport, infrastructure, Commonwealth/state relations, health funding, regional development, local government, the business environment and education and skills.

The final idea in the *10 Big Ideas to Grow NSW* calls for reform of the Higher School Certificate to better prepare young people who do not enter university, for the workforce. This includes reform of school based vocational education.



Purpose

One of the clear messages that has emerged from the NSW Business Chamber's consultations with employers and the community is that young people who do not enter university after they leave school need to be provided with better and more flexible options for their post-school education and their life at work. Present arrangements are not meeting young people's needs as well as they should; yet three in four school leavers do not enter university.

NSW Business Chamber calls for a wide-ranging, high-level review of all post-year 10 education and training to provide our young people with a greater chance at workforce participation in a changing, 21st century labour market.

The need for review

The NSW Higher School Certificate has not been reviewed since the mid 1990s McGaw Review. That's 15 years with no change to the HSC, and yet the number of young people sitting the exam in that time has grown significantly, as have the social and economic environments in which they live. Changes to workforce and population demographics, and the vocational and higher education systems demand a review of the higher school certificate. In the period since the McGaw Review in NSW, participation in vocational education in schools has grown rapidly, with 36 per cent of senior secondary students in NSW now taking at least one vocational subject. It's time for a review which looks beyond assessment and scaling. The review needs to look at flexibility in course offerings, including integration of vocational education, and assessment of capacity and competency; not a mere university entrance score.

NSW is lagging on key upper secondary-level education and training indicators. In the mid 1990s only seven in ten young people in NSW completed Year 12, this figure remains much the same today. And on all but one of the key indicators for education participation, NSW underperforms compared to the Australian average.

Australian governments have agreed to increase the age to which young people must participate in education and training until the age of 17. And some of those remaining in education and training until the age of 17 would previously have left because they were bored, disaffected with school, disengaged from formal academic learning, or due to a range of other personal learning barriers. Ensuring that curriculum and qualification arrangements are appropriate to meet this community of students is now more important than ever. The ways in which schools, TAFE colleges and other vocational education providers are organised can provide all young people up to the age of 17 with something to learn that interests them.

What is learned needs to lead to a qualification that is valued in the labour market. Young people in senior high school need to be treated as young adults rather than as young children, and have a learning environment that reflects this. Most importantly, providing the changes outlined in this paper means such young people are given the right type of support and guidance.

In the last 15 years there has been a structural and permanent change in the demand for full-time teenage employment. This reduced demand for teenagers in full-time work has not translated into positive educational participation, but into increased joblessness, inactivity, and marginal part-time work. The post compulsory education and training system has not responded to these structural changes in the demand for teenage employment. It is time to start looking for new solutions.

Issues for a review of post-Year 10 education and training in NSW

What should people learn?

Literacy, numeracy and career planning

The formal requirements for what students must learn and be able to demonstrate and achieve are minimal. The only compulsory subject to be studied, although not passed for the award of HSC, is English. There are, for example:

- > No minimum achievement standards specified for basic skills such as literacy and numeracy;
- > No requirements for the development and demonstration of personal and social skills, employability skills, or career self management skills; and
- > No requirements for students to study a common core of compulsory subjects drawn from a number of disciplines (English, mathematics, science, humanities, the arts and the like) in order to ensure that a broad general education is achieved.

Students should be required to demonstrate the achievement of minimum standards in literacy and numeracy, as well as competencies for career planning and personal development.

Curriculum breadth

Apart from English, the NSW Higher School Certificate imposes minimal requirements for the study of particular subjects or combinations of subjects. This stands in marked contrast to the way that Australia's vocational qualifications are constructed and the requirements in all other OECD jurisdictions that students must learn from a broad range of areas.

The recent debates about national curriculum have focused on individual areas of learning and have paid scant attention to the overall shape of the curriculum. A broader approach to young people's post-Year 10 learning should have a wider view. Young people's needs for knowledge and skills for work, and life need to be seen in an integrated way, whichever qualification pathway or institutional pathway they choose.

A review of all arrangements for young people's education and training after Year 10 will give NSW the opportunity to lead national debates about the way in which their overall learning requirements can be better shaped to prepare all young people, whatever pathway they choose, for work and citizenship.

The depth and breadth of vocational pathways taken by 16-17 year-olds

Program depth

Nine out of ten 16-17 year-old NSW school students enrolled in a vocational program are taking courses below Certificate III level that do not lead to a qualification considered adequate for a 21st century labour market.

Clearly, NSW is faced with a very large challenge in ensuring that all vocational pathways offer an appropriate level of skills for young people who have not completed Year 12.

Program breadth

Most students who include vocational education in their higher school studies take only one, or at most two, vocational education subjects. This is generally because of their in-school offerings and other structural impediments, and because universities have restrictions on their recognition of such courses as part of their overall intake. This limits pathways and long term opportunities.

Where such choices are broad and allow for occupational choices to be made over time, young people remain engaged in their program. It is time for improved pathways and better processes for recognition by the university sector of vocational education.

Program outcomes

Research on schools' vocational education programs shows that participants' Year 12 completion rates are higher when vocational education courses count towards the Year 12 certificate. Taking part in vocational education at school increases the uptake of post-school apprenticeships, and this is particularly so when the programs have a strong structured workplace learning component.

Current patterns of program depth, program breadth and program outcomes indicate that we need to find ways to offer young people programs that provide them with a depth and breadth of skills that will equip them for working life in a changing labour market.

Stronger pathways from vocational education to tertiary study

NSWBC is encouraged by the current apparent opportunities for seeking new and different solutions to providing better pathways between vocational and tertiary education. In the post-Bradley policy environment this includes:

- > flexible pathways between sectors;
- > the Australian Qualifications Framework being reviewed to encourage such flexibility;
- > and a NSW plan for tertiary education encouraging the same flexibility.

A more radical policy proposal might also be to raise the level of vocational studies undertaken as part of senior schooling so that most result in a qualification at Certificate III level, and then for this to count towards diploma and emerging degree programs.

Delivering senior schooling more effectively

In its 2009 consultations with employers and the community, NSW Business Chamber received strong and consistent messages about problems in delivering vocational education as part of senior schooling. These included funding, and structural problems that stem from how schools and their timetabling practices are organised.

Improved structural arrangements are required and include:

- > appropriate teacher time release;
- > high enrolment numbers;
- > good links to TAFE and other vocational education providers;
- > timetable flexibility and appropriate funding arrangements.

This is part of the wider issue of improving the organisation and structure of senior schooling in order to increase the range of subject choice, and to raise student engagement and interest in learning and participation after Year 10.

Part of the solution may be to create senior high schools. A number of models of senior high school or colleges already exist in NSW, suggesting that ample experience is available to provide guidance on the wider implications of adopting the model for issues such as resources, capital facilities, teaching and learning, and staffing policies.

The value of the senior high school model lies in the focus on school to work transition and provision of employment

What type of certificate is required?

Raising the quality, status and level of vocational education within senior schooling is required so that it delivers a depth and breadth of skills regarded as the minimum required for a 21st century labour market. We need to move towards an approach that makes it easier for programs to be built around more coherent combinations of general and vocational content, organised around broad industry or occupational categories.

There are also a number of curriculum and qualification issues that need to be addressed that concern all students including:

- > inclusion of minimum standards of achievement in areas such as literacy and numeracy;
- > inclusion of whether requirements relating to career planning, employability skills and personal development; and
- > whether current requirements that limit compulsory study to English remain adequate.

The timeliness of the awarding of the certificate is also an important consideration. The current School Certificate acts as an exit trigger. This is not suitable in a labour market hostile to young people with limited skills and experience. Certification needs to be more than a ticket out of school.

Terms of reference to review Post-Year 10 education and training in NSW

A wide-ranging, high-level review of post year 10 education and training arrangements is required. It should focus on how arrangements can be improved to better meet the needs of young people who enter the labour market and vocational education and training after they leave school. Terms of reference for the review should include investigation of and the development of strategies to address :

- > expanding the number and capacity of senior colleges and/or senior high schools so that they are able to accommodate the great majority of students after Year 10;
- > raising the level of vocational education taken by 16-17 year-olds, whether in schools, in TAFE, or through other VET providers, so that the qualifications awarded better meet the breadth and depth of skills required for life and work in the 21st century;
- > developing vocational programs for 16-17 year-olds organised around broad clusters of occupations or industries;
- > balancing general education and vocational education within post-Year 10 programs;

- > transitioning from upper secondary-level vocational education to the vocational education sector's diploma- and degree-level courses;
- > including minimum standards in literacy and numeracy in certificates;
- > investigating options for certification including the removal of the requirement for a year 10 certificate;
- > improving the balance between compulsory and optional studies taken by young people after Year 10; including career planning and personal development in certificates;
- > the adequacy of existing information, advice and guidance to support improved arrangements for the age group;
- > improved funding arrangements across schools, TAFE and other vocational education providers to improve arrangements; and
- > ensuring that any changes proposed to post-Year 10 education and training arrangements do not disadvantage those students who enter university after Year 12.

Executive Summary

One of the clear messages that has emerged from the NSW Business Chamber's recent consultations with employers and the community is that young people who do not enter university after they leave school need to be provided with a better preparation for adult life, including their life at work. Present arrangements are not meeting their needs as well as they should: yet they represent three in four of all those who enter high school. This paper argues that a wide-ranging, high-level review of all education and training after Year 10 in NSW is needed as a foundation for reform. We suggest what the terms of reference for such a review should contain, but we are not trying to lay down solutions: what matters at this stage is to understand and accept the need for change, and to be clear about the issues that a review of current arrangements should grapple with.

The case for a review is compelling. NSW lags behind the rest of Australia, and behind Victoria, in a number of indicators of performance in upper secondary education, with lower participation and attainment rates: and school retention has not risen in NSW since the early 1990s. This comes at a cost to the State in terms of reduced skills, qualifications and productivity. The NSW Higher School Certificate has not been reviewed since the mid 1990s, and proposals at the time for creating a better fit between the Higher School Certificate, vocational education and university entry were not accepted. The need to revisit this unfinished business has become even more pressing in light of new participation requirements that came into force at the beginning of this year. These will result in many thousands of young people who otherwise would not be enrolled in our schools needing to be provided with places that are meaningful, enjoyable and productive, leading to skills and qualifications that have value in the labour market.

Vocational courses have grown rapidly in schools in recent years, but their level, breadth, and outcomes raise real concerns. Many of the same concerns apply to the vocational education programmes taken by young people who have left school after Year 10. As other states have done in recent years, NSW needs to ask questions about the importance of introducing requirements for minimum standards of achievement in basic skills such as literacy and numeracy before senior school certificates are awarded. And we need to take a hard look at whether NSW should introduce requirements for career planning and personal development. The Higher School Certificate was created for different times and for different circumstances to those that currently apply. Whether the one Certificate is able to meet the needs of the minority who use it for university entry as well as of the much more diverse needs of those who do not is open to question. Other states have addressed this by creating separate senior school qualifications for separate purposes, or by imaginatively reshaping their senior school qualifications.

A review of the NSW Higher School Certificate needs to be only one part of a wide-ranging review. Ways need to be found to create better pathways between upper secondary-level vocational education and tertiary study. And we need to ask whether the comprehensive Year 7-12 high school can deliver a sufficient range of subject choice, and provide teaching and learning styles that are appropriate for young adults. We have many excellent examples of senior high schools and senior colleges. These need to be studied more carefully and a strategy found for extending them.

This report is based upon material prepared for the NSW Business Chamber by Professor Richard Sweet of Sweet Group Pty Ltd and the University of Melbourne. We would also like to acknowledge the contribution of Professor Margaret Vickers of the University of Western Sydney.

Introduction

Out of every 100 students who start high school in NSW, only around 70 remain at school until Year 12¹. Of those who do sit for the Higher School Certificate, only around 36 per cent will enter university the following year or the year after². This means that three out of four young people who start high school in Year 7 end up somewhere other than university after they leave school: in nearly all cases this is the labour market or vocational education and training. In April 2009 the NSW Business Chamber began a process that has sought, through wide consultation with business, with the community, and with academic experts, to identify ways in which NSW can reclaim its place as the economic engine room of Australia. One of the very clear messages that has emerged from this process is that young people who do not go to university after they leave school need to be provided with a better preparation for adult life, including their life at work³.

This paper sets out the NSW Business Chamber's case for a review of education and training after Year 10 in NSW in order to better respond to the needs of young people who do not enter university after they leave school. Improving the NSW Higher School Certificate is important in meeting the needs of this group more effectively. However if this is to result in better outcomes for NSW, a review of the Higher School Certificate needs to be just one part of a wider examination of education and training after Year 10 in New South Wales: pathways and qualifications, including the impact of the NSW School Certificate upon participation and attainment; curriculum choice; the way that our schools are organised; resourcing; and support, advice and guidance are among the issues to be addressed.

The paper does not try to lay down solutions. It argues the need for change, sets out issues that will need to be examined in a comprehensive review of education and training after Year 10 in NSW, and canvasses some of the options that should be considered as part of future reforms. The most important first step is to accept the need for reform.

Why a review is needed

The NSW Higher School Certificate has not been reviewed since the mid 1990s

The NSW Higher School Certificate was created in the 1960s as an academic programme to prepare a small minority for university entry. In 1967, the first year in which candidates sat for it, the Year 12 retention rate in NSW was 22 per cent: it is now 71 per cent. Created in other times and for other circumstances, the Certificate was last reviewed in the mid 1990s⁴. Since that time nearly all other Australian states and territories have carried out reviews of their senior school certificates or reviews of wider arrangements for post-Year 10 education and training⁵. Some have done both. In Victoria, for example, the Kirby Review⁶ examined not only senior secondary certificates, leading to the later introduction of the Victorian Certificate of Applied Learning as an alternative qualification to the more academically-focused Victorian Certificate of Education, but also a wide array of arrangements to improve school-to-work transitions: mechanisms for linking schools to employers and to the community; arrangements for regional co-ordination of education and training for young people in the post compulsory years; improved support for those most at risk in the transition; better advice and guidance on education and career options; financing mechanisms; and better monitoring of school-to-work outcomes. Its remit spanned not only schools but also TAFE, and the links of both to tertiary education.

Tasmania has reviewed the Tasmanian Certificate of Education, with changes introduced from 2009 designed to strengthen requirements for the achievement of minimum standards in literacy, numeracy and ICT, as well as to introduce requirements for career and pathway planning. Tasmania has also proposed substantial changes to the nature of the institutions that deliver post-Year 10 education and vocational training, with a distinction between the Tasmanian Academy and the Tasmanian Polytechnic intended to more clearly separate the delivery of tertiary-focused general education on the one hand and upper secondary-level vocational education on the other. Senior secondary certificates have also been reviewed in recent years in Queensland, South Australia, Western Australia and the Northern Territory.

The mid 1990s McGaw review of the NSW Higher School Certificate was, in comparison to the Victorian Kirby Review, relatively modest in its scope. As school completion rates increased rapidly in the 1970s and 1980s, the perceived limitations of the Higher School Certificate in the face of a more diverse student body had resulted in the growth of a wider range of school-developed courses, of joint programmes with TAFE, and of other vocational options. The McGaw review was charged with creating a more coherent and comprehensive curriculum policy for Years 11 and 12 in light of these developments, and with establishing a clear basis for student selection and student pathways to lead to all post school destinations: employment and vocational training as well as university. Its charter also required it to focus upon issues of assessment, scaling and reporting.

In practice many of its recommendations concentrated upon technical issues of assessment, grading and scaling, and of the number of courses that should be offered within subjects. One of its more important reforms was the replacement of assessment and reporting based upon students' rank order, when compared to all other students, with a system in which they are now assessed and reported against objective standards set for each subject. It briefly discussed the issue of whether the Certificate should include requirements for a common core of learning, but issues that have appeared in more recent reviews of Australian senior certificates that relate to requirements for minimum standards in areas such as literacy and numeracy did not figure among its recommendations. It recommended the inclusion of employment-related key competencies in all syllabus documents, but did not deal with the ways in which employability skills could be delivered and developed. Whether the institutional arrangements within schools and TAFE were adequate for the delivery of a broader curriculum, whether the level and distribution of resources was appropriate, arrangements to link schools to employers and the community, and arrangements for appropriate advice and guidance on post-school destinations were not part of its remit.

McGaw did, however, grapple seriously with the place of vocational education within the Higher School Certificate and with its relationship to tertiary entry requirements. At the time of the review almost one in four students included vocational subjects at some point in Years 11 and/or 12, and the review pointed to the very wide range of vocational subjects that were, at the time, potentially available within the Certificate. Since the McGaw review participation in vocational education in schools has grown rapidly: the most recent data shows that 36 per cent of senior secondary students in NSW now take at least one vocational education subject⁷.

The McGaw review set out ten principles that should guide the development of vocational education and training within the Higher School Certificate in order to ensure its quality and relevance (see Box 1). Whilst they might be extended, these principles are sound and still have broad currency.

So that those wishing to take vocational education options would not be disadvantaged in applying for tertiary entry, and to encourage the take-up of broad programmes of vocational education, McGaw recommended that selection for university be based either upon the student's best ten units including no more than four units of vocational education courses, or, if universities were not willing to include vocational education courses, upon the student's best eight units. Either option would have allowed for the expansion of vocational education courses as a significant proportion of students' overall programme of study, whilst at the same time keeping options for later tertiary study open. In practice NSW universities have adopted neither of these options, basing calculation of an ATAR (Australian Tertiary Admission Rank) score upon a student's best ten units including no more than two units of vocational education⁸.

Ten Principles to Guide the Development of Vocational Education within the Higher School Certificate

It [should] be accepted that vocational education and training:

- > Is potentially appropriate for all students in the Higher School Certificate and should be accessible to all, including those who move from secondary to higher education;
- > Should be offered in sufficient variety to satisfy different student needs;
- > Should contribute to the broad education of students;
- > Should be accredited by both secondary and vocational education authorities;
- > Should be offered in response to demand established from industry needs using the State industry training profile;
- > Should offer training relevant to the industries in the State training profile rather than to narrowly focused occupations or the specific needs of single enterprises;
- > Should result, on successful completion, in the award of a vocational qualification or in clearly established credit towards such a qualification;
- > Should have clear links to post-school destinations, particularly further vocational education and training and employment;
- > Should be developed in collaboration between the secondary education and vocational education and training sectors and industry; and
- > Should have a component of structured workplace learning to allow for competencies to be developed and assessed in the workplace to the extent deemed appropriate by industry through the course accreditation process.

Source: McGaw, B. (1997) *Shaping Their Future: Recommendations for Reform of the Higher School Certificate*, Department of Training and Education Coordination, Sydney, p. 64.

The end result has been to place significant limitations upon McGaw's first principle for the development of vocational education in schools. This has restricted both the development of broader and more coherent programmes of vocational education within the Higher School Certificate, and options for post-school tertiary education for those wishing to study vocational education in depth as part of their Higher School Certificate. The tensions inherent in senior schooling in the 1990s between its role in preparing a minority of young people for university, and the reality of a larger, and growing, number whose final destination after school is not university, remain unresolved. The McGaw review is unfinished business.

NSW lags on key upper secondary-level education and training indicators

Although the changes that were made to the NSW Higher School Certificate as a result of the McGaw review have helped to maintain its reputation and rigour as a qualification for university entry, they have resulted in almost no change in the proportion of young people in NSW who complete Year 12.

Figure 1 shows that in the mid 1990s only about seven in ten young people in the State completed Year 12. That figure remains much the same today.

A picture of minimal improvement in Year 12 completion rates in NSW since the late 1990s sits alongside some key education performance indicators that show NSW to be lagging behind Australia as a whole, and to be performing substantially below Victoria.

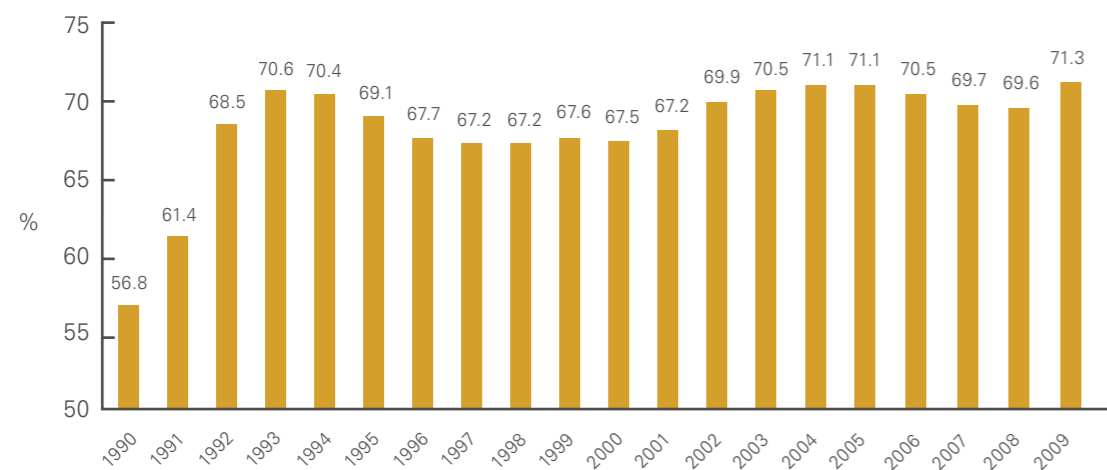
Table 1 shows that:

- > Only around 70 per cent of young people in NSW complete Year 12, compared to close to 80 per cent in Victoria;
- > More young people participate in schooling in Victoria than in NSW;

- > VET participation is higher in Victoria among young people who have left school;
- > Total educational participation (including schools, VET and higher education) is some ten percentage points higher in Victoria;
- > Proportionally, Victoria has four times more school-based apprentices and trainees in Years 11 and 12; and
- > A higher proportion of young people aged 20-24 in Victoria than in NSW have attained Year 12 or a vocational equivalent.

On all but one of these key indicators NSW underperforms compared to the Australian average; its performance is appreciably below Victoria's on all of them. These indicators represent a substantial loss of skills and qualifications for the NSW community and workforce. Five years ago Access Economics estimated that if 90% of young people completed Year 12 or an equivalent vocational qualification, the boost to productivity and participation would result in the national economic pie growing by 1.1% of GDP, at a cost of only 0.05% of GDP⁹.

Figure 1: Apparent Year 12 retention rates, NSW, 1990-2009 (%)



Source: ABS Schools Australia Cat. No. 4220.0.

Table 1: Key education performance indicators, 2008 (%)

	NSW	Victoria	Australia
a. Apparent Year 12 retention rate	69.6	79.4	75.9
b. Total educational participation, age 15-19 ¹	76.7	86.4	78.5
b1. School participation, age 15-19	51.3	57.4	51.4
b2. VET participation, age 15-19 ²	13.5	16.3	14.2
c. School-based apprentices and trainees as a share of all Year 11 and 12 students	1.6	6.3	5.6
d. 20-24 year-olds with Year 12 or Certificate III	82.2	88.2	83.2

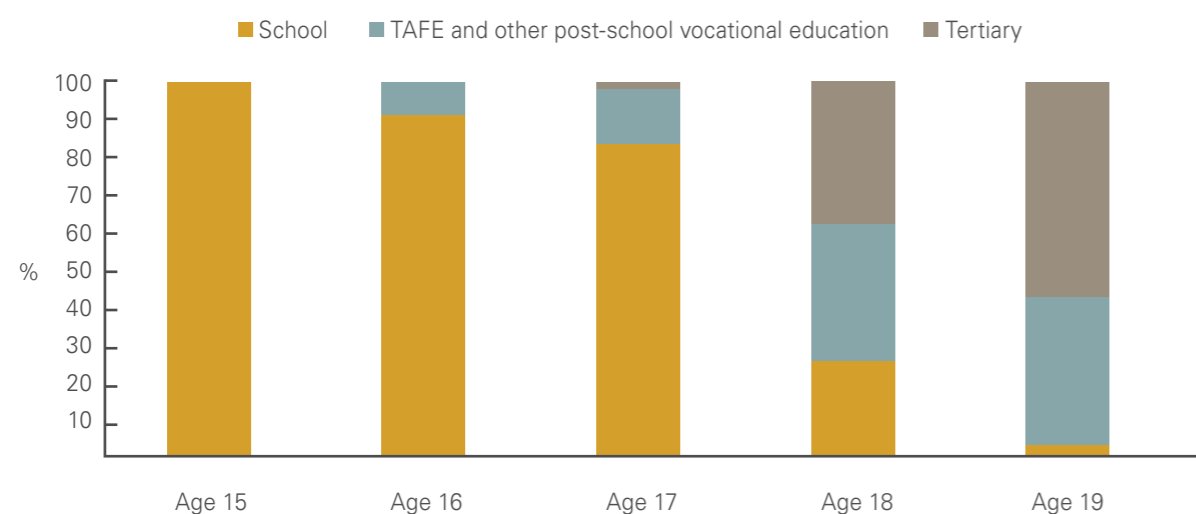
Participation requirements for young people have increased

At the time of the McGaw review the school leaving age was only 15. Following the July 2009 National Partnership Agreement on Youth Attainment and Transitions, all Australian governments have agreed to increase the age to which young people must participate in education and training to 17. The new requirements came into operation in January 2010. Young people in NSW must now complete Year 10, and after Year 10 can satisfy the new participation requirements in a number of ways (school, TAFE or other approved training organisation, apprenticeship, traineeship, or employment), but all of these options must be on a full-time basis. The changes pose major challenges for our schools, for TAFE institutions and other training providers, and for the relationships between them. They also have major implications for employers, not the least because combinations of school, training and employment are one of the ways that young people can satisfy the new requirements,

and because under some circumstances employers may be required to certify that the young person is complying with legal requirements¹⁰.

In NSW the typical age of those who are in Year 11 is 16; the typical age of those in Year 12 is 17. It is this age group that is most affected by the raising of education and training participation requirements from 2010. There are currently around 187,000 16-17 year-olds in NSW. In 2009, around 158,000 of them were students in school, TAFE or other vocational education providers: schools accounted for around 139,000, or 84 per cent, of all students of this age (Figure 2). Young people of senior secondary age who have left school and enrolled in TAFE or other vocational education thus make up only a very small proportion of all 16-17 year-old students in NSW. And by the same token, 16-17 year-olds are only a very small part of the vocational education sector's business: those of this age who had left school and enrolled in TAFE or another provider represented only around three per cent of all TAFE and vocational education students in 2009¹¹.

Figure 2: Students by age and sector¹, NSW, 2008 (%)



1. TAFE and other post-school vocational education excludes school students.
Source: DEEWR special tabulation derived from ABS Schools Australia Cat. No. 4220.0, NCVET special tabulation, and ABS Population by Age and Sex, States and Territories, Cat. No. 3201.0.

There are two immediate implications: places may need to be found for up to an additional 30,000 young people who otherwise would not be engaged in learning¹²; and most of the challenge of finding these places and ensuring that they are meaningful, enjoyable, and productive for our youth will fall upon NSW schools.

Some of those now remaining in education and training until the age of 17 would, in previous years, have left because they were bored, disaffected with school, and disengaged from formal academic learning. Some prefer the adult environment of a workplace to the environment of a school. Some are unable to find anything in the curriculum that interests them. Some are young people who struggle with basic reading and numeracy. Some come from homes that do not encourage formal study. Some suffer from economic and cultural disadvantages and need ongoing support and guidance to continue in school. Some fit all of these categories. Responding

comprehensively to their needs is only partly a matter of ensuring that curriculum and qualification arrangements are appropriate. It extends beyond this to ensuring that: the ways in which schools, TAFE colleges and other vocational education providers are organised can provide all young people up to the age of 17 with something to learn that interests them; what is learned leads to a qualification that is valued in the labour market; they are treated as young adults rather than as young children, and have a learning environment that reflects this; and they are given the right type of support and guidance.

Given the short period between the signing of the National Agreement and the introduction of the new participation requirements, it is not surprising that so far the response of the education system has not been to introduce major structural changes. A review of the NSW School Certificate is underway. A new senior

school course in English that does not lead to an ATAR score has been developed by the NSW Board of Studies to be trialled in 2010, to sit alongside an existing non-ATAR linked mathematics course. Joint work between the Department of Education and Training and the NSW Board of Studies is currently underway to explore the potential and flexibility of current provisions, and to generate some possible curriculum ideas and models. Schools and their communities are being encouraged to explore curriculum options relevant to the local context, including vocational education and training. And exemplars of programmes and options that schools might want to consider are available on the NSW Department of Education and Training website.

These initiatives are laudable, but too limited. A much more ambitious response to the post-Year 10 years is needed if the young people now staying on in learning who otherwise would not be there are to get something worthwhile out of the experience, and if they are not to be marginalised on the fringes of our education and training system. And it is vital that NSW employers be involved in framing these responses if, as the legislation envisages, they are to have a place in their delivery.

The post-compulsory education and training system has stopped responding to declining demand for teenagers in the full-time labour market

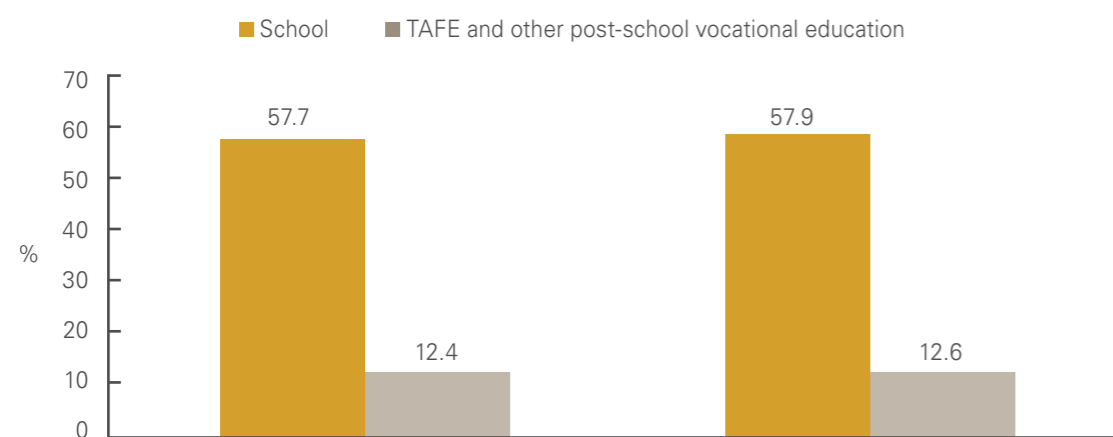
The importance of developing more constructive and meaningful options for the youth of NSW is underscored by longer-term and more recent trends in youth employment and educational participation. There has been a long-term trend for teenage full-time employment rates to fall in Australia, a trend that can be observed since the mid 1960s. Much of the decline has been due to technological and structural changes in the economy and labour market reducing demand for

relatively under-skilled and minimally qualified labour¹³. Economic recessions, notably in the mid 1970s, early 1980s and early 1990s have exacerbated the longer-term structural changes. Teenage employment typically has not recovered to its previous level following economic recovery: each recession has marked a structural and permanent change in demand for teenagers in full-time work, rather than a temporary fluctuation in demand.

Until the early 1990s our education system generally responded well to declining demand for teenagers in the full-time labour market: falling full-time teenage employment was balanced by rising educational participation. Schools, in particular, were able to absorb young people who otherwise would have been unemployed or inactive and provide them with more positive alternatives: Year 12 retention rates doubled in NSW between the mid 1970s and the early 1990s¹⁴. However this pattern came to a halt in the early 1990s, with school participation remaining essentially unchanged following the early 1990s recession (see Figure 1). Reduced demand for teenagers in full-time work was translated not into positive educational participation, but into increased joblessness, inactivity, and marginal part-time work¹⁵.

Much the same has occurred in NSW during and since the recent global financial crisis. Between May 2008 and May 2009 the NSW economy lost 30,200 jobs, with a fall of 66,800 in full-time employment being only partially balanced by a rise of 30,200 in part-time jobs. This represented a fall of less than one per cent in total employment. The impact upon teenage employment was, however, much more severe. Nearly a quarter (23 per cent) of all the full-time jobs that were lost in NSW during the global financial crisis were lost by those under the age of 20, even though they accounted for only three per cent of all full-time employment in 2008.

Figure 3: School and vocational education participation rates¹, 15-19 year-olds, NSW, 2008 and 2009 (%)



1. Vocational education participation excludes school students.

Source: DEEWR special tabulation derived from ABS Schools Australia Cat. No. 4220.0, NCVET special tabulation, and ABS Population by Age and Sex, States and Territories, Cat. No. 3201.0.

In a twelve month period one in six of all full-time jobs held by NSW teenagers disappeared. Between 2008 and 2009 the proportion of 15-19 year-olds in NSW in full-time work fell by 3.2 per cent (from 15.3 per cent to 12.1 per cent). However the proportion of the age group either unemployed or not in the labour market or education rose during the period: from 10.5 per cent of the age group to 12.1 per cent¹⁶. As in the recession of the early 1990s, a substantial part of the fall in teenage full-time employment that occurred during the global financial crisis was not translated into a matching increase in active participation in schooling or vocational education, which, as Figure 3 shows, remained essentially static.

The situation has not improved for young people since the easing of the global financial crisis: between May 2009 and May 2010 there was no recovery in the level of full-time employment among 15-19 year-olds, even though 19,700 full-time jobs were created for those aged 20 and over, and total employment in NSW returned to and has since slightly exceeded its May 2008 level¹⁷.

We seem to have reached the limits of the capacity of current post-Year 10 arrangements to attract and retain young people. It is time to start looking for new solutions.

Issues for a review of post-Year 10 education and training in NSW

3.1 What should young people learn?

To be eligible for the award of the Higher School Certificate a student must have satisfied requirements in at least twelve preliminary-level units, and at least ten Higher School Certificate-level units¹⁸. Although there are requirements that specify the categories from which these units must be drawn (a minimum number of Board of Studies-developed units; at least four subjects to be studied; three courses to be of two units or more; no more than six Science units), the formal requirements for what students must learn and be able to demonstrate and achieve are quite minimal. The only subject that must be studied, although not passed for the award of the Certificate, is English. There are, for example:

- > No minimum achievement standards specified for basic skills such as literacy and numeracy;
- > No requirements for the development and demonstration of personal and social skills, employability skills, or career self management skills; and
- > No requirements for students to study a common core of compulsory subjects drawn from a number of disciplines (English, mathematics, science, humanities, the arts and the like) in order to ensure that a broad general education is achieved.

Literacy, numeracy and career planning

Unlike the NSW Higher School Certificate, many other Australian senior school certificates do require students to demonstrate the achievement of minimum standards in literacy and numeracy, as well as containing requirements for career planning, personal development and the like. For example:

- > The Victorian Certificate of Applied Learning requires literacy and numeracy credits and personal development to be included in all students' programme of study;
- > In addition, all Victorian students aged 15 years and over in government schools are provided with an individual pathway plan and associated support as a means to making a successful transition through the post compulsory years of education, to further education, training or full-time employment
- > The Queensland Certificate of Education contains literacy and numeracy requirements that can be satisfied in six ways, all of which specify the minimum standard that must be achieved. In addition students must develop an education and training plan;
- > The South Australian Certificate of Education contains literacy and numeracy requirements that can be satisfied by taking a specified minimum number of units of English and mathematics, and all students must develop a personal learning plan (normally done during Year 10) and undertake a major research project;
- > The Western Australian Certificate of Education requires students to demonstrate a minimum level of English language competence, typically defined by a minimum grade or better in specified English units; and
- > To obtain the Tasmanian Certificate of Education candidates must meet standards for everyday adult literacy and numeracy, adult use of ICT, and pathway planning.

Curriculum breadth

The McGaw review in the mid 1990s considered arguments for and against requirements for all NSW Higher School Certificate students to undertake a mandatory common core of learning or to undertake study in a number of key learning areas such as English, mathematics and science, humanities, the social sciences, and the arts. The outcome was a recommendation that English be compulsory, that a minimum number of units be studied, but no requirements for breadth across a range of specified subject areas.

This pattern of minimal requirements for a broad range of subjects to be studied is common in Australia, with one or two exceptions¹⁹, but the Australian way of constructing upper secondary curriculum is very unusual when compared to other OECD jurisdictions. In other major OECD jurisdictions post-compulsory learning typically must span areas such as national and foreign languages, the humanities, the sciences, the arts, history and geography, civics, community service, and physical education²⁰.

Box 2 provides details of high school graduation requirements in Ontario and British Columbia, the two largest Canadian provinces. Although upper secondary education lasts for three years rather than two in most Canadian provinces, it is also common for young people in Australia to start their senior secondary studies during Year 10 rather than Year 11. And Canadian upper secondary programmes resemble upper secondary education in Australia in that general education subjects tend to account for the majority of what young people study. However the examples indicate that it is normal in Canada for students to be required to study a broad range of subjects and content areas, for upper secondary education to contain career planning and personal development requirements, and for literacy requirements to be mandated.

Box 2: High school graduation requirements in two major Canadian provinces

British Columbia: During grades 10-12 students must gain 48 compulsory credits and 28 elective credits. Compulsory credits must be in: planning (a career planning and goal-setting course taken in the first of the three years); language arts; maths; fine arts or applied skills; social studies; science; and physical education. In addition four credits are required in Graduation Transitions, a post-school career planning and personal development requirement.

Ontario: Over grades 10, 11 and 12, 18 compulsory credits are required in: English; maths; science; Canadian history; Canadian geography; the arts; health and physical education; French; career studies; and civics. Three further compulsory credits must be gained, one from each of three broad subject groupings. In addition students must complete 40 hours of community involvement, the provincial literacy requirement and 12 optional credits. More recently Ontario has introduced Specialist High Skills Majors built around 16 industry or occupational families in which students must gain credits from a combination of: sector-specific skills; workplace learning; career exploration; and essential or generic skills.

Sources: <http://www.bced.gov.bc.ca/>; <http://www.edu.gov.on.ca/>

Many of the American states similarly have high school graduation requirements that require all students to undertake a broad range of studies in several subject areas. For example in California fifteen courses each of one year's duration must be completed between grades 9 and 12 in English, maths, science, social studies, visual or performing arts or a foreign language, and physical education²¹. In Florida 24 credits must be earned between grades 9 and 12. Of these, 16.5 credits must be drawn from each of English, maths, science, American history, world history, economics, American government, career education, performing or fine arts, life management skills, and physical education²².

In New Zealand all candidates for the National Certificate of Education must study in each of seven essential learning areas (languages, mathematics, science, technology, social sciences, the arts, health and physical well being) and must continue to develop eight key or core skills²³.

Box 3 shows, how in Denmark a mix of preparatory programmes, compulsory and optional subjects, the young persons' interests, employer needs and personal and career development can be combined in an apprenticeship programme.

Box 3: Denmark's Apprenticeship System

While there are some school-based programmes, the dual apprenticeship system predominates within Denmark's vocational education system, and generally takes place between the ages of 16 and 19. Apprenticeship curricula in Denmark are quite flexible. While it is possible to commence a specific apprenticeship directly with an employer, the majority of apprentices enter through one of 12 broad basic or preparatory courses that are organised around families of occupations or industry groups (for example: animals, plants and nature; or building and construction). These are flexible in their scope and duration, but all consist of a combination of compulsory and optional subjects. All VET students must draw up a personal education plan when they enter a programme. All VET programmes consist of four types of subjects: basic which focus on broad vocational skills and personal development; area which are common to one or more VET programmes; specialist which are specific to a particular VET qualification; and optional, which are intended to meet trainees' interests. The way in which these types of subjects are combined is not mandated but depends on the individuals' personal education plan. These plans are drawn up in association with a college teacher but enterprises are expected to engage in the process.

Source: Cort, P. (2008) The Danish Vocational Education and Training System, 2nd Edn, Danish Ministry of Education, Copenhagen, <http://www.eng.uvm.dk/>

The NSW Higher School Certificate imposes minimal requirements for the study of particular subjects or combinations of subjects. This stands in marked contrast to the way that Australia's vocational qualifications are constructed. Within national training packages the proportion of compulsory content is normally around 80% or more of the total in traditional trade areas such as carpentry, as well as in areas with a relatively high science and technology content such as information technology or animal care. The compulsory content can be 50% or less in some service sector areas such as customer contact, financial services and event management. The proportion of compulsory content is substantially higher than that required to gain an upper secondary school qualification.

Another notable feature of the way that vocational education programmes are constructed in Australia is that, unlike vocational education programmes for young people in many other OECD countries, they do not require the young person to take a broad combination of both general education and vocational education subjects. In European countries it is standard practice for young people in upper secondary-level vocational programmes, whether school-based or apprenticeship, to be required to take subjects such as their native language and literature, foreign languages, mathematics, science, the humanities and civics alongside their vocational studies. This is to ensure that a broad general education is not ruled out by a decision to take a vocational pathway. In countries such as Norway and Sweden it also ensures that pathways between vocational education and tertiary study can remain open²⁴. Of course those young people taking either a VET in Schools subject or a School Based Apprenticeship in NSW would generally be taking a combination of general education and vocational education, but this is an unintended consequence of their overall programme of study rather than a deliberate

design feature. Training packages normally contain either no requirements for the inclusion of general education or limit this to areas such as vocationally-specific literacy and numeracy. And so young people who leave school in NSW to enter vocational education have, compared to those who remain at school, quite different types of curriculum requirements, both in terms of the balance between choice and compulsion in what they study, and in terms of the balance between general and vocational education in their overall programme.

Australia is currently engaged in debate about national curriculum. To date it has focused entirely upon what individual areas of learning should contain and how they should be organised: English, mathematics, science, or history. It has paid little attention to the overall shape of the curriculum, in the sense of the areas of learning that might be expected to be covered by young people at different stages of their development, and what the balance might be between these different areas of learning. Although it has spanned both the compulsory and post-compulsory years, it has looked only at schools' curriculum.

A broader approach to young people's learning in the post-compulsory years should have a wider view: not least because the distinction between the institutions that offer general and vocational learning in the post-compulsory years is becoming increasingly blurred. Young people's needs for knowledge and skills for work, life and citizenship need to be seen in an integrated way, whichever qualification pathway or institutional pathway they choose.

A review of all arrangements for young people's education and training after Year 10 will give NSW the opportunity to lead national debates about the way in which overall learning requirements for young people after the end of Year 10 can be better shaped to prepare all young people, whatever pathway they choose, for work and citizenship.

3.2 The depth and breadth of the vocational pathways taken by 16-17 year-olds

We need to be ambitious in what we expect of our young people, and offer them programmes that provide them with a depth and breadth of skills that will equip them for working life in a changing labour market.

Programme depth

The National Agreement for Skills and Workforce Development specifies that a vocational qualification at AQF Certificate III level or higher is the "... minimum measure of attainment of a depth and breadth of skills required for a 21st century labour market"²⁵.

The Certificate III target corresponds to international benchmarks: the data that Australia regularly reports to international organisations such as the OECD has for many years treated a vocational Certificate III as the equivalent of an upper secondary school certificate, but qualifications at Certificate II level or below as at best the equivalent of the NSW School Certificate. And it is clear from Table 2 that lower-level Certificates (I and II) demand quite low levels of competence from young people: for example demonstrating only basic knowledge without theoretical underpinnings; applying only defined rather than well developed skills; and taking only limited responsibility for personal work and learning outcomes.

Table 2: Distinguishing Features of AQF Certificates I, II and III¹

Certificate I	Certificate II	Certificate III
The competencies enable an individual with this qualification to: Demonstrate knowledge by recall in a narrow range of areas	The competencies enable an individual with this qualification to: Demonstrate basic operational knowledge in a moderate range of areas	The competencies enable an individual with this qualification to: Demonstrate some relevant theoretical knowledge
Demonstrate basic practical skills such as the use of relevant tools	Apply a defined range of skills	Apply a range of well developed skills
Perform a sequence of routine tasks given clear direction	Apply known solutions to a limited range of predictable problems Perform a range of tasks where choice between a limited range of options is required	Apply known solutions to a variety of predictable problems Perform processes that require a range of well developed skills where some discretion and judgment is required
Receive and pass on messages/information	Assess and record information from varied sources Take limited responsibility for own outputs in work and learning	Interpret available information, using discretion and judgment Take responsibility for own outputs in work and learning Take limited responsibility for the output of others

1. Italicised text emphasises distinguishing features of the competencies between qualifications.

Source: Australian Qualifications Framework (AQF) Advisory Board (2007) Australian Qualifications Framework Implementation Handbook, 4th Edition, <http://www.aqf.edu.au>.

Against this background, Table 3 shows that:

- > Nine out of ten 16-17 year-old NSW school students enrolled in a vocational programme are taking courses below Certificate III level that do not lead to a qualification meeting international benchmarks for upper secondary level qualifications or regarded under national agreements as providing a minimum depth and breadth of skills required for a 21st century labour market;
- > Nearly 80 per cent of young people aged 16-17 who have left school without having completed Year 12 and who are studying at TAFE or another vocational education provider are taking low-level vocational programmes that do not lead to the equivalent of an upper secondary qualification or provide a significant breadth and depth of skills. Only around one in five take a course at Certificate III level or higher;

- > Roughly 40 per cent of 18-19 year-olds who have left school without completing Year 12 and entered TAFE or another vocational education provider are taking low-level courses;
- > Only those who have entered TAFE or another vocational education provider after Year 12 are unlikely to take a course that leads to a low-level qualification: close to 80 per cent of 18-19 year-olds who have left school after completing Year 12 do enrol in a vocational education course at Certificate III level or higher.

Clearly, NSW is faced with a very large challenge in ensuring that vocational pathways for those who have not completed Year 12 offer an appropriate level of skills, and this challenge applies whether they are enrolled in a school, in TAFE or in another provider.

Table 3: Level of vocational qualifications being studied by prior education level, age, and sector of enrolment, NSW, 2009 (%)

	Level of qualification being studied			Total
	Certificate III or higher	Certificate I or II	Non-AQF qualifications ¹	
Students without Year 12:				
School students aged 16-17	9.3	76.9	13.8	100.0
Non-school students aged 16-17	22.4	63.4	14.2	100.0
Non-school students aged 18-19	57.9	30.6	11.5	100.0
Students with Year 12:				
Non-school students aged 18-19	78.0	12.2	9.9	100.0

1. Includes statements of attainment, bridging and enabling courses, plus other courses that do not lead to a qualification under the AQF.
Source: National Centre for Vocational Education Research, special tabulation.

Programme breadth

Resistance by NSW universities to both of the McGaw review's proposals for how vocational education subjects could be considered in calculating university entry scores has meant that in practice most of those students who include vocational education in their studies take only one, or at most two, vocational education subjects. And, as McGaw pointed out in the mid 1990s, tight requirements for university entry that limit the proportion of vocational education that can be included in an overall programme of study is an important factor limiting the extent to which upper secondary vocational programmes can include extensive workplace learning. These restrictions still apply.

Young people who leave school and enter TAFE or another provider of vocational education and training, whether through an apprenticeship, a traineeship, or a full-time vocational education programme, do not take just a single vocational subject, but a coherent programme that includes a wide range of vocational content, integrated into an overall package, spanning several different subject areas, and allowing each

of these to be treated in depth, with both theory and practice included.

However even in the latter case, vocational education after Year 10 is typically organised around a single fairly tightly defined occupation: for example pastry cook or baker or cook; house carpenter or bricklayer or plasterer or house painter. This approach involves a complex decision making process and a high degree of risk for young people, with a choice needing to be made at a relatively early age, often before vocational identities have become fully crystallised, often with limited information or in-depth understanding of career pathways, between a large number of often not well differentiated occupations. For young people who are uncertain about their career goals, this approach risks too early and too specific a decision at a young age without adequate opportunities for career exploration, and hence a greater risk of dropout and wastage. To be successful it requires, among other things, a strong emphasis upon well organised and well targeted advice and information systems prior to the making of choices.

Table 4: The structure of Norway's upper secondary hotel and food processing trades programme

Stage 1 (School-based)	Stage 2 (School-based)	Stages 3 and 4 (Employment-based)
Hotel and food processing trades	Cookery	Cook
		Institutional cook
	Industrial food production	Industrial food production
		Dairying
		Meat processing
	Fish processing	Butcher
		Sausage maker
Baking and confectionery	Retail butcher	
	Meat sorter	
Waiting	Fish processing	Fish monger/fish wholesaler
		Fish processing
	Baking and confectionery	Baking
		Confectionery
	Waiting	Waiting

Source: Norwegian Ministry of Education and Research.

An alternative approach to initial vocational preparation is one in which an initial choice is made between a relatively small number of broadly defined families of related occupations, with the choice of a specific occupation being made at a later stage in the skill development process, either by a progressive narrowing of the occupational focus or by an initial broad introductory phase being followed by a specific choice. In Sweden and in Norway, all vocational pathways, whether apprenticeship or school-based, are organised around a small number of broad families of related occupations. In Norway there are nine. They are: Building and construction; Design, arts and crafts; Electricity and electronics; Health and social care; Media and communication; Agriculture, fishing and forestry; Restaurant and food processing; Service and transport; and Technical and industrial production. These then become more specific over the next stages of the programme (see Table 4 for an example). Taken together the nine programmes are able to encompass not only the full range of young people's vocational interests, but also the full range of employer needs. The Specialist High Skills Majors that have recently been introduced in Ontario's high schools (Box 2) use a similar approach.

Much of the complexity of the initial decision for the young person is reduced when there are fewer and more easily understood occupational areas available to choose from, when the choice of a specific occupation is a more gradual one, and when the process contains opportunities for career exploration. Hence the risk of dropping out or having to change direction is reduced. On the other hand this model can be frustrating for young people who have clearly formulated career objectives but who are required to mark time before embarking upon their preferred career.

The type of arrangement seen in Denmark's apprenticeship system (Box 3) is flexible enough to accommodate both groups of young people: those who are clear about their choices at the age of 16; and those who know that they want to take a pathway to work but are uncertain about a specific choice.

Although constructing vocational programmes around relatively narrowly defined content areas has been an Australian tradition, there are initiatives under way to take the broader approach built around occupational or industry families. Programmes like this are currently being designed for the Victorian Certificate of Applied Learning²⁶, and such an approach is embodied in the trade cadetships proposed by the federal government before the 2010 election²⁷.

Programme outcomes

Almost all young people aged 16-17 who have not completed Year 12 and who are studying vocational education take courses that are below Certificate III level: either Certificate I courses, courses at Certificate II level, or courses that do not lead to any recognised qualification. These courses are below the minimum nationally agreed measure of attainment of a depth and breadth of skills required for a 21st century labour market; they do not meet international benchmarks for upper secondary-level qualifications; and because of the way that they are defined in the Australian Qualifications Framework they aim to develop only relatively low levels of skill.

Research on schools' vocational education programmes shows that participants' Year 12 completion rates are higher when vocational education courses count towards the Year 12 certificate than when they do not. It shows that for students not going to university, taking part in vocational education at school increases post-school flows into vocational education and apprenticeships, and that this is particularly so when the programmes have a strong structured workplace learning component²⁸.

However completion rates in courses at Certificate I and Certificate II levels are very low: they have recently been estimated to be no more than 20 per cent. Moreover there is now a growing body of research on the relationship between labour market outcomes associated with different levels of qualifications showing that gaining qualifications that are below Certificate III level generally results in wage benefits that are no greater than failing to complete Year 12³⁰. A recent report concludes by asking whether some qualifications at Certificate I and Certificate II level are contributing in any substantive manner to increased skill levels³¹.

Current patterns of programme depth, programme breadth and programme outcomes indicate that we need to be more ambitious in what we expect of young people who enter vocational programmes after Year 10. We need to find ways to offer all of them programmes that provide them with a depth and breadth of skills that will equip them for working life in a changing labour market.

3.3 Stronger pathways from vocational education to tertiary study

International experience has long shown that the most successful reforms to vocational education create or strengthen links between it and tertiary study. Where this link does not exist, there is a high risk of vocational education being perceived by young people and their parents as low status and low quality³². More recent experience in OECD countries has shown that when new links between upper secondary vocational education and tertiary-level study are created and are well-publicised, participation in vocational education rises. For example in the mid 1990s Finland created a national network of Polytechnics, a new applied tertiary education sector with close industry links and a clear pathway to it from the completion of upper secondary vocational education programmes. Between 1995 and 2008 it found that the proportion of upper secondary students taking vocational education rather than general education programmes rose from 52 per cent to 68 per cent. The experience in Norway after it reformed upper secondary education in the mid 1990s and created new pathways between vocational education and tertiary study has been similar, although the impact has not been as strong³³.

In the mid 1990s the McGaw review recommended two options for the way that vocational education subjects in the Higher School Certificate could be counted for university entry. The failure of NSW universities to accept either of them is the review's major piece of unfinished business. Alongside this issue is the need, which has been recognised in the recently released NSW Tertiary Education Plan, to improve the ways in which all vocational qualifications lead to higher education, not just those taken by school students³⁴.

Direct entry to traditional universities from a standard upper secondary vocational education qualification at Certificate III level³⁵ (for example apprenticeship or the equivalent) is quite rare among OECD countries³⁶. However a number of countries have other models in place. Three are common, with some countries illustrating more than one of them.

The “VET plus” model: In this model young people in an upper secondary vocational programme that confers the right to tertiary entry are required either to undertake additional study or to take a programme at a higher level than standard upper secondary vocational courses. Norway illustrates the first case, with a six month full-time bridging course required after completing an apprenticeship or school-based upper secondary vocational programme being required in order to be eligible for tertiary study. It covers the gap between the general education content of the vocational programme and the normal upper secondary general education programme. Austria, Hungary and Switzerland illustrate the second case, with highly demanding “double qualifying” programmes offered as part of upper secondary education (or as part of apprenticeship in Switzerland) that contain either very high level vocational content (at the equivalent of Certificate IV level in Australian usage), a substantially higher proportion of general education content than other upper secondary vocational programmes, or both.

The separate institutions model: This is found in countries such as Finland, as well as in Austria, Germany, and Switzerland. As an example, in Finland the Polytechnics have a different mission from research-oriented universities. They offer programmes that are typically industry-oriented and applied, but which nevertheless lead to qualifications at degree level.

They do not offer degrees for professions such as medicine, and do not offer generalist degrees in areas such as the arts, humanities and sciences. There is a standard and well understood pathway into Polytechnics from upper secondary vocational programmes.

The separate qualifications model: Many OECD countries offer tertiary qualifications at two levels, one the equivalent of a degree, the other the equivalent of a diploma. Countries other than Australia in which diplomas play an important role in the overall tertiary education system include the United Kingdom, New Zealand and Switzerland. Programmes at diploma level are normally shorter than degree programmes (for example two years rather than three), do not lead to advanced research programmes, and commonly have a strong applied and industry-oriented focus. In countries such as Switzerland and the United Kingdom there are well understood routes from upper secondary-level vocational qualifications into diploma programmes.

While the McGaw review’s attempts to create stronger links between taking vocational education at school and university study did not succeed, at the moment there are new opportunities for seeking new and different solutions in a post-Bradley climate: flexible pathways between sectors are being encouraged; the Australian Qualifications Framework is being reviewed to encourage such flexibility; and a NSW plan for tertiary education is encouraging the same flexibility.

In looking at successful overseas models of pathways between upper secondary-level vocational education and tertiary study, NSW has a number of advantages:

there is a well established post-school vocational education sector with an industry focus that is separate from universities; it has a long tradition of offering tertiary qualifications at diploma level; and it has an emerging role in the post-Bradley climate in offering degree-level programmes.

Rather than continuing to argue for relatively low-level Certificate I and II vocational programmes to be counted for university entry, a more fruitful strategy in a post-Bradley climate might be to raise the level of vocational studies undertaken as part of senior schooling so that most result in a qualification at Certificate III level, and then to strengthen the link between Certificate III qualifications (whether undertaken through senior schooling, through TAFE, or through other providers) and the vocational education and training sector’s diploma and emerging degree programmes.

NSW seems well placed, compared to most other states, to pursue such a strategy. Its TAFE diploma programmes already accept Certificate III as an entry qualification alongside Year 12, although this is not well publicised. Moreover a Certificate III is accepted in NSW as a general qualification for entry to a diploma programme. South Australia appears to be the only other state that treats a Certificate III as a general qualification for entry to diploma programmes alongside the completion of a senior schooling qualification. Victoria does not recognise any vocational qualification for purposes of entry to TAFE diploma courses. In Queensland, Western Australia, Tasmania and the two territories vocational qualifications are specified as the entry requirements for TAFE diploma courses, but these are normally at Certificate IV level, and normally not as a generic qualification but only if obtained in the same field of study as the diploma³⁷.

3.4 Delivering senior schooling more effectively

In its 2009 consultations with employers and the community, the NSW Business Chamber received strong and consistent messages about problems in delivering vocational education as part of senior schooling. These included funding, and particularly the lack of seamless funding between schools and TAFE institutes, and problems in fitting both TAFE participation and work placements easily and flexibly into the school timetable. These are structural problems that stem from how schools are organised. Research on vocational education in schools sends the same message: the key to delivering vocational education in senior schooling more effectively is better institutional and structural arrangements. These include: appropriate teacher time release; high enrolment numbers; good links to TAFE and other vocational education providers; and appropriate funding arrangements³⁸. Research shows that structural and institutional barriers to more effective delivery include:

- > A shortage of appropriately trained teachers, and costs associated with training teachers;
- > Inadequate vocational education facilities within schools and the cost of purchasing access to alternative facilities;
- > Lack of administrative flexibility;
- > Small school size reducing the range of students’ choices, with only a limited range of vocational subjects able to be offered;
- > Timetable inflexibility; and
- > Lack of teacher time to monitor and support work placements.

The organisational problems that prevent vocational education being delivered more effectively are part of a wider issue of improving the organisation and structure of senior schooling in order to increase the range of subject choice, and to raise student engagement, interest in learning, and participation after Year 10. Young people who leave school without completing Year 12 commonly cite lack of interest in school or the lack of subjects that interest them as reasons for dropping out when interviewed after having left school³⁹. Making what schools have to offer interesting is one factor that creates a positive school climate and leads to improved engagement with learning. Creating an adult learning environment, in which young people are given responsibility for their learning, in which applied and contextual teaching and learning methods are used, and in which discipline policies are appropriate to emerging adults rather than to young children, are all important in raising students' engagement with learning, particularly among low achievers who otherwise might be tempted to leave school early⁴⁰.

These problems stem from the fact that the NSW schools in which most 16-17 year-olds are located have not been designed to meet their specific needs. In comprehensive Year 7-12 high schools the number of students is too small to provide a broad enough range of subjects that will allow students in the senior years to find something to learn that interests them, both those intending to go to university and those headed for work or vocational education; and teaching styles and discipline policies are not tailored to the needs of developing adults, but to a younger age group.

Such problems can largely be removed if the junior years of high school are separated from the senior years. Separate senior high schools or senior colleges make larger grade cohorts possible in the senior years, and so allow a wider range of subjects to be offered, as well as a more flexible timetable that can better accommodate work placements and study at TAFE. They can often provide a greater range of specialised teaching facilities – workshops and the like – so that students do not have to go elsewhere for all of their vocational education courses. And they make it possible to treat students as young adults, with appropriate adult teaching and learning methods and discipline policies appropriate to the age group.

This model of senior high schooling is the norm in most OECD countries – Australia, together with Ireland and New Zealand is one of the few countries to continue to locate most junior and senior high school students in the same institution – and having separate institutions for the education of senior students can be shown to be associated with higher national education participation rates among 15-19 year-olds⁴¹. In Australia, only the ACT and Tasmania provide places in separate senior institutions for the great majority of all Year 11 and 12 students.

There is good Australian evidence, including from NSW, to support the benefits of moving away from the comprehensive Year 7-12 high school to a model in which older high school students are in separate senior high schools or colleges:

- > An early study of the impact of the creation of secondary colleges in the Australian Capital Territory in 1976⁴² showed that it resulted in: a wider curriculum; improved student motivation and engagement with learning; reduced alienation from school; the creation of a more adult learning environment; and a substantial and rapid increase in Year 12 retention rates;
- > Case studies of five New South Wales senior high schools conclude that the senior school or college: makes a broad and relevant curriculum possible; provides a more appropriate environment for students of post-compulsory age; and makes it easier for teachers to focus on the needs of students⁴³; and
- > Victorian research has concluded that larger grade cohorts are made possible by the senior college or senior secondary school model, and that in turn this can lead to economies of scale, allow wider curriculum options, and allow resource allocation to be based more strongly on educational need rather than being formula driven; and teaching methods, educational programmes and the learning environment can be more closely related to the needs of older students in a senior school or college⁴⁴.

A number of models of senior high school or colleges already exist in NSW, suggesting that ample experience is available to provide guidance on the wider implications of adopting the model for issues such as resources, capital facilities, teaching and learning, and staffing policies. Some such as the Illawarra Senior College and Coffs Harbour Senior College are stand-alone institutions. Others, such as the Oatley Senior Campus of the Georges River College are separate campuses within a school that retains Year 7-12 enrolments.

The Northern Beaches Secondary College is a collaboration of five separate school campuses under common governance arrangements in co-operation with TAFE and a university. Most are managed as part of the school system, but Bradfield College, like the Holmesglen Vocational College in Victoria, is managed by TAFE.

They vary in size, and they vary in the nature of their student body. What they have in common is a grade cohort for each of Years 11 and 12 that is substantially larger than that which is possible in nearly all comprehensive Year 7-12 schools. This allows them to offer their students a much wider range of curriculum choice. For example Chatswood High School with an enrolment of around 900 students offers only two vocational education programmes, as does Bankstown Girls High School which has around 700 students. The Coffs Harbour Senior College with around 350 students offers some 30 vocational options, as does the Northern Beaches Secondary College. And the wider range of curriculum choice that is available makes it possible for some to offer vocational education in a broader and more coherent way, so that an approach based upon broad industry pathways is offered rather than the single subject approach that is typical in schools with small grade cohorts. Bradfield College, for example, provides nine broad industry career paths: Business; Performing arts; Health and recreation; Hospitality; ICT; Media and communication; Multimedia; Design and visual arts; and Tourism and events.

3.5 A single certificate or two?

The senior high school or senior college model demonstrates that now, as when the Higher School Certificate was reviewed in the mid 1990s, a lack of vocational options within the State-wide curriculum is not a substantial problem. A multitude of such subjects is potentially able to be offered to students. However the way that our schools are organised means that in very many cases the promise of choice cannot be delivered in practice. And so to make wider curriculum choice a reality, to have this delivered seamlessly, and to help resolve the organisational issues of work placements and co-operation with TAFE and other vocational education providers, we need to look beyond change to the Higher School Certificate.

Nevertheless there is unfinished business that relates to curriculum and qualifications that must be addressed in a comprehensive review of education and training after Year 10. To raise the quality and status of vocational education within senior schooling, the level of the vocational education taken by most 16 and 17 year-olds needs to increase so that it delivers a depth and breadth of skills regarded as the minimum required for a 21st century labour market. This will also be needed if the logjam of the poor fit between upper secondary-level vocational education and tertiary entry is to be broken, and if new ways of creating pathways to tertiary study are to be put in place. And a way needs to be found to move beyond an approach in which senior school students normally take only a single vocational subject. We need to move towards an approach that makes it easier for programmes to be built around more coherent combinations of general and vocational content, organised around broad industry or occupational categories.

There are also a number of curriculum and qualification issues that need to be addressed that concern all students, not only those taking vocational education. These include: whether minimum standards of achievement in areas such as literacy and numeracy should be required in NSW in order for a senior secondary certificate to be awarded; whether requirements relating to career planning, employability skills and personal development should be included; and whether current requirements that limit compulsory study to English remain adequate. Whether all of these issues are able to be addressed adequately within the NSW Higher School Certificate, and whether they are addressed adequately by its current governance arrangements, needs serious examination.

In Victoria similar considerations resulted in the view that a single qualification – the Victorian Certificate of Education – was not able to satisfy the full range of young people's needs. In turn this resulted in a decision to create the Victorian Certificate of Applied Learning in 2002 as a separate qualification able to better provide pathways to work and vocational education, initially with its own governance arrangements but now managed like the VCE by the Victorian Curriculum and Assessment Authority. VCAL has grown rapidly since 2002, with over 25,000 enrolments by 15-19 year-olds in 2009 representing 15 per cent of all those of that age enrolled for a senior school certificate⁴⁵: around 400 schools, TAFE institutes and adult education centres now provide it. Evaluations show that it has provided strong work-based and applied learning pathways for school leavers, that student response to it has been positive, and that it has strong support among teachers, parents and employers.

There is strong evidence that VCAL has encouraged more young people to remain in full-time learning in Victoria. It does, however, pose challenges, requiring joint delivery in schools, vocational education providers and the workplace, as well as high levels of student guidance and mentoring⁴⁶.

Queensland has adopted an alternative approach to the same problem, with the rules governing the award of the Queensland Certificate of Education now allowing the inclusion of any learning programme within the Certificate provided that it satisfies a standard set of quality criteria set down by the Queensland Studies Authority.

Learning that can count towards the award of the Certificate can include: traditional Year 11 and 12 subjects; training package competencies and qualifications; advanced (university) courses; projects; structured workplace learning; international learning courses; and recognised prizes and awards. Central to the introduction of the new QCE has been the definition of Year 10 as a transition year during which all students must develop an individual learning plan for the senior phase of learning. Additional support and mentoring to encourage engagement by the disaffected has been part and parcel of the changes⁴⁷.

The review of the NSW School Certificate that has already been announced needs to be seen as one element of a comprehensive review of education and training arrangements after Year 10, and not as a separate process: any decisions that are made about the future of one are likely to have an impact on future reforms to the other. Whatever is done with the School Certificate, it is important to ensure that the institutional constraints it currently imposes are removed. Students who are capable of commencing a senior secondary program during Year 10 should be encouraged to do so, and models for this exist already in other states. Students who wish to commence a vocational pathway during Year 10 should also be able to do so. There is evidence suggesting that this certificate has functioned over the years as a trigger for early leaving⁴⁸. Were the School Certificate to be redefined as a qualification that could be obtained during or at the end of Year 11, it is likely to continue to function as an exit trigger. This outcome needs to be avoided.

Footnotes

4. Terms of reference for a Review of Post-Year 10 Education and Training in NSW

A wide-ranging, high-level review is needed of education and training arrangements in NSW after Year 10. It should have a particular focus on how arrangements can be improved to better meet the needs of young people who enter the labour market and vocational education and training after they leave school. Its terms of reference should include the following:

- > Strategies for expanding the number and capacity of senior colleges, senior high schools and similar arrangements so that they are able to accommodate the great majority of students after Year 10;
- > Strategies for raising the level of vocational education taken by 16-17 year-olds, whether in schools, in TAFE, or in other providers, so that the qualifications awarded better meet the breadth and depth of skills required for life and work in the 21st century;
- > Options for developing vocational programmes for 16-17 year-olds organised around broad families of occupations or industries;
- > The balance between general education and vocational education needed within post-Year 10 programmes;
- > Ways in which clearer pathways can be created from upper secondary-level vocational education to the vocational education sector's diploma- and degree-level courses;
- > Whether senior school certificates should contain requirements for the achievement of minimum standards in literacy and numeracy;

- > The appropriateness of the current balance between compulsory and optional studies within qualifications taken by young people after Year 10;
- > Whether senior school certificates should include requirements for career planning and personal development;
- > The adequacy of the NSW Higher School Certificate in meeting the needs of students who do not enter university after leaving school, and options either for changing it to better meet their needs or for developing an alternative certificate;
- > The adequacy of arrangements for the governance of post-Year 10 qualifications in light of any recommendations for change;
- > The adequacy of existing information, advice and guidance to support improved arrangements for the age group;
- > The adequacy of funding arrangements across schools, TAFE and other vocational education providers after Year 10 in supporting better pathways to employment and vocational training, and proposals for improving these arrangements; and
- > The need to ensure that changes proposed to post-Year 10 education and training arrangements do not disadvantage those students who enter university after Year 12.

1. ABS *Schools Australia* Cat. No. 4220.0.
2. Department of Education and Training estimates.
3. NSW Business Chamber (2009) *10 Big Ideas to Grow NSW*, www.10bigideas.com.au.
4. McGaw, B. (1997) *Shaping Their Future: Recommendations for Reform of the Higher School Certificate*, Department of Training and Education Coordination, Sydney
5. See Figgis, J. (2005) *Changing Senior School Certificates: A Story of Visions and Revisions*, Dusseldorp Skills Forum, Sydney, www.dsf.org.au.
6. Kirby, P. (Chair) (2000) *Ministerial Review of Post Compulsory Education and Training Pathways in Victoria: Final Report*, Department of Education, Employment and Training, Melbourne.
7. NCVET (2008) *VET In Schools*, Adelaide, Table 4.
8. <http://www.uac.edu.au/undergraduate/atar/categorisation.shtml>.
9. Access Economics (2005) *The Economic Benefit of Increased Participation in Education and Training*, Dusseldorp Skills Forum, Sydney.
10. Department of Education and Training (2009) *The New school Leaving Age: Guidelines for Principals in Government Schools*, p.16.
11. Calculated from NCVET (2009) *Students and Courses*, NSW, Adelaide.
12. In practice the number is likely to be somewhat less than this, as participation requirements are able to be satisfied by employment for 25 hours a week or more. In May 2008 it can be estimated that around 21,000 15-17 year-olds in NSW were not in full-time education and not employed full-time. However the estimate should be treated with caution due to the high relative standard errors of estimates based upon single years of age. (Source: ABS *Labour Force Australia*, Cat. No. 6202.0, special tabulation.)
13. Sweet, R. (1987) *The Youth Labour Market: A Twenty Year Perspective*, Curriculum Development Centre, Canberra.
14. From 33 per cent in 1975 to 69 per cent in 1992. Source: ABS *Schools Australia* Cat. No. 4220.0, special tabulation.
15. Dusseldorp Skills Forum (1998) *Australia's Youth: Reality and Risk*, Sydney; Dusseldorp Skills Forum (2008) *How Young People are Faring '08*, Sydney.
16. ABS *The Labour Force Australia*, Cat. No. 6202.0.
17. Source: ABS *The Labour Force Australia*, Cat. No. 6202.0. The same source suggests that in 2010 as in 2009, school participation in NSW has failed to respond to reduced demand for full-time teenage labour. Using household survey samples rather than the complete administrative data used to construct Figure 3 it suggests a decline of 2.4 per cent in school participation by 15-19 year-olds in NSW between May 2009 and May 2010 (from 53.8 per cent to 51.4 per cent).
18. For most young people this means completing twelve units in Year 11 and ten units in Year 12.
19. In Western Australia, for example, students must study units from an arts/languages/social sciences group and from a mathematics/science/technology group, and Australian Studies has in the past been a requirement for the South Australian Certificate of Education.
20. Sweet, R. (2010) *Upper Secondary Curriculum Structures in OECD Countries*, Victorian Departments of Education and Early Childhood Development and Innovation, Industry, and Regional Development.
21. <http://www.cde.ca.gov/ci/gs/hs/>
22. <http://www.leg.state.fl.us/>
23. <http://www.minedu.govt.nz/>.
24. Sweet, R. (2010) op. cit..
25. For the interim, the National Partnership Agreement on Youth Attainment and Transitions will accept a lower level Certificate II as the equivalent of Year 12 in assessing the attainment of qualifications targets. However the more ambitious Certificate III target to apply from 2020 corresponds to the views expressed in the Skills and Workforce Development Agreement.
26. Gallagher, D. and Onisiforou, S. (2010) "Industry Themed Programs", Presentation to the VETnetwork National Conference, Adelaide.
27. www.alp.org.au/agenda/national-trade-cadetships/.
28. Lamb, S. and Vickers, M. Variations in VET Provision across Australian Schools and Their Effects on Student Outcomes *LSAY Research Report No. 48*, ACER, Melbourne
29. Mark, K. And Karmel, T. (2010) *The Likelihood of Completing a VET Qualification: A Model-based Approach*, NCVET, Adelaide.
30. Cully, M. (2008) "Youth wages, training wages and productivity: the economic anatomy of traineeships", Presented at the Fair Pay Commission Research Forum, NCVET, Adelaide; Long, M. And Shah, C. (2008) *Private Returns to Vocational Education and Training Qualifications*, NCVET, Adelaide; Karmel, T., Blomberg, D. and Vnuk, M. (2010) *The Effectiveness of the Traineeship Model*, NCVET, Adelaide.
31. Karmel, T. and Mlotkowski, P. (2010) *The Impact of Wages on the Probability of Completing an Apprenticeship or Traineeship*, NCVET, Adelaide.
32. See for example World Bank (1991) *Vocational and Technical Education and Training: A World Bank Policy Paper*, World Bank, Washington D.C..
33. Sources: OECD *Education at a Glance*, several issues, Table C1.4 or equivalent; OECD (2003) *Polytechnic Education in Finland*, Paris; Clark, T. et al. (2009) *OECD Reviews of Tertiary Education: Norway*, OECD, Paris.
34. Department of Education and Training (2010) *NSW Tertiary Education Plan*, https://www.det.nsw.edu.au/detresources/nswterteduplan_ynLiWgYsDT.pdf.
35. Australian qualifications at Certificate III level are equivalent to ISCED 3 qualifications, or upper secondary qualifications, in the International Standard Classification of Education.
36. Sweden is one of the few countries where this occurs.
37. Source: State vocational education authority web sites.
38. Polesel, J. et al. (2004) *VET in Schools: A Post-compulsory Education Perspective*, NCVET, Adelaide; Woods, D. (2005) *Young People and Vocational Education and Training Options*, NCVET, Adelaide; Lamb, S. and Vickers, M. (2006) *Variation in VET Provision across Australian Schools and Their Effects on Student Outcomes*, LSAY Research Report No. 48, ACER, Melbourne.
39. Lamb, S. and Rice, S. (2008) *Effective Strategies to Increase School Completion, Department of Education and Early Childhood Development*, Melbourne; Curtis, D. and McMillan, J. (2008) *School Non-completers: Profiles and Initial Destinations*, LSAY Research Report No. 54, ACER, Melbourne.
40. Fullarton, S. (2002) *Student Engagement with School: Individual and School-level Influences*, LSAY Research Report No. 27, ACER, Melbourne; Thomson, S. and Hillman, K. (2010) *Against the Odds: Influences on the Post-school Success of 'Low Performers'*, NCVET Adelaide.
41. Sweet, R. (2009) *Structural Arrangements for the Provision of Senior Secondary Schooling*, Victorian Departments of Education and Early Childhood Development and Innovation, Industry and Regional Development, Melbourne.
42. Anderson, D., Saltet, M. and Vervoorn, A. (1980) *Schools to Grow In: An Evaluation of Secondary Colleges*, ANU Press, Canberra.
43. Polesel, J. (2002) "Schools for young adults: Senior colleges in Australia", *Australian Journal of Education*, Vol. 46 (2), pp. 205-221.
44. Keating, J., Lamb, S. & Clarke, K. (2005) *Report to the Office of Teaching and Learning on The Effectiveness of Non-Traditional Secondary Settings*, Centre for Post-compulsory Education and Lifelong Learning, University of Melbourne.
45. Source: Victorian Curriculum and Assessment Authority. Students in Victoria can enrol in VCAL and the VCE at the same time, as well as in only one of them. The figures given classify students by their primary enrolment.
46. Keating, J., Noonan, P. and McGaw, B. (2007) *Future Directions for the Victorian Certificate of Applied Learning: Final Report*, Department of Education and Early Childhood Development, Melbourne.
47. Figgis (2005) op. Cit. And <http://www.qsa.qld.edu.au/589.html>.
48. Vickers, M. and Lamb, S. (2002) "Why state policies matter: The influence of curriculum policy on participation in post-compulsory education and training", *Australian Journal of Education*, Vol. 46, (2), pp. 172-188.

Notes



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