SKILLS FOR A NATION

A Blueprint for Improving Education and Training
2007-2017

April 2007
FOREWORD
ACCI has always known the importance of the role of education and training as key business strategies for the short and long term economic health of the both private business and public sectors. Competing globally means Australia needs to develop best practice approaches to many of its key business strategies including education and training.

ACCI's education and training policies are developed through a democratic decision making process by its member organisations. The key policy drivers are choice, flexibility, quality, national consistency, the use of clear, simple language, the reduction of unnecessary red tape and fostering a competitive environment.

Responsiveness to the needs of business and industry is essential in considering those aspects of education and training that contribute to skills formation and development.

A learning culture as part of lifelong learning requires the joint efforts of individuals, businesses, industry and governments.


We commend it to policy makers, not only in Canberra, but right across the nation’s state capitals. In addition we believe that it should be a useful source document for those doing research on the education and training sectors in Australia.
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ACCI
Leading Australian Business

BACKGROUND

ACCI has been the peak council of Australian business associations for 106 years and traces its heritage back to Australia’s first chamber of commerce in 1826.

Our motto is “Leading Australian Business.”

We are also the ongoing amalgamation of the nation’s leading federal business organisations - the Australian Chamber of Commerce, the Associated Chamber of Manufactures of Australia, the Australian Council of Employers Federations and the Confederation of Australian Industry.

Membership of ACCI is made up of the State and Territory Chambers of Commerce and Industry together with the major national industry associations.

Through our membership, ACCI represents over 350,000 businesses nation-wide, including over 280,000 enterprises employing less than 20 people, over 55,000 enterprises employing between 20-100 people and the top 100 companies.

Our employer network employs over 4 million people which makes ACCI the largest and most representative business organisation in Australia.

OUR ACTIVITIES

ACCI takes a leading role in representing the views of Australian business to government.

Our objective is to ensure that the voice of Australian businesses is heard, whether they are one of the top 100 Australian companies or a small sole trader.

Our specific activities include:

• representation and advocacy to governments, parliaments, tribunals and policy makers both domestically and internationally;

• business representation on a range of statutory and business boards, committees and other fora;

• representing business in national and international fora including the Australian Industrial Relations Commission, Australian Safety and Compensation Council, International Labour Organisation, International Organisation of Employers, International Chamber of Commerce, the Business and Industry Advisory Committee to the Organisation for Economic Co-operation and Development, the Confederation of Asia-Pacific Chambers of Commerce and Industry and the Confederation of Asia-Pacific Employers;

• research and policy development on issues concerning Australian business;

• the publication of leading business surveys and other information products; and

• providing forums for collective discussion amongst businesses on matters of law and policy affecting commerce and industry.
A range of publications are available from ACCI, with details of our activities and policies including:

- the *ACCI Review* a monthly analysis of major policy issues affecting the Australian economy and business;
- issue papers commenting on business’ views of contemporary policy issues;
- *Policies of the Australian Chamber of Commerce and Industry* – the annual bound compendium of ACCI’s policy platforms;
- the *Westpac-ACCI Survey of Industrial Trends* - the longest, continuous running private sector survey in Australia. A leading barometer of economic activity and the most important survey of manufacturing industry in Australia;
- the *SAI Global-ACCI Survey of Investor Confidence* – which gives an analysis of the direction of investment by business in Australia;
- the *St.George-ACCI Business Expectations Survey* - which aggregates individual surveys by ACCI member organisations and covers firms of all sizes in all States and Territories;
- the *St.George-ACCI Small Business Survey* – which is a survey of small business derived from the Business Expectations Survey data;
- workplace relations reports and discussion papers, including the *ACCI Modern Workplace: Modern Future 2002-2010 Policy Blueprint* and the *Functioning Federalism and the Case for a National Workplace Relations System* and *The Economic Case for Workplace Relations Reform* Position Papers;
- occupational health and safety guides and updates, including the *National OHS Strategy and the Modern Workplace: Safer Workplace Policy Blueprint*;
- trade reports and discussion papers including the *Riding the Chinese Dragon: Opportunities and Challenges for Australia and the World* Position Paper;
- education and training reports and discussion papers;
- the *ACCI Annual Report* providing a summary of major activities and achievements for the previous year; and

Most of this information, as well as ACCI media releases, parliamentary submissions and reports, is available on our website – www.acci.asn.au.
EXECUTIVE SUMMARY
Executive Summary

PART A: OVERVIEW

RATIONALE

Education and training are of great importance in the business and industry sectors. It is the business and industry sectors that create jobs, income and wealth for the Australian community. Improved living standards and further economic growth can only be achieved through an increase in productivity.

The number of ways to improve productivity is limited but significant productivity gains can be made through increasing the skills base of the workforce. Achieving a productive, profitable commercial environment is the central reason for business and industry interest in education and training.

Further, fostering a training culture is the basis for entrepreneurship and innovation, which are critical to the commercial framework. For individuals, personal satisfaction in working life is improved with the right level of skills to carry out daily business requirements.

Providing for the needs of business and industry is not the only reason for education and training. There is intrinsic and extrinsic value for individuals, citizenship and society in general to be gained from improved levels of education and training. However, the contribution education and training make to Australia’s skill base and economic prosperity must be emphasised from a business and industry perspective.

What business seeks is outcomes. ACCI does not address explicitly the division of roles between the Commonwealth and States and Territories. What matters is the implementation of the detailed policies in this Blueprint.

This Blueprint brings together education and training policies of the Australian Chamber of Commerce and Industry (ACCI) from the past ten years into one consolidated document. It contains some new approaches to education and training in acknowledgement of changing labour market conditions and industry trends. In particular, there is a need to “think outside the square” in relation to mature aged workers and how they will be up-skilled in the future.

In addition to this Blueprint, ACCI will publish ongoing issues papers in the short, medium and long-term to update the Blueprint and showcase ACCI policy in emerging areas. These papers will be developed as part of ACCI’s review process and ongoing commitment to quality improvement.

In the same spirit, ACCI will also be periodically reviewing the performance of all governments and providing them with a scorecard against the recommendations contained in this document.

The ACCI policy development process is robust and democratic. Through a committee process, ACCI member organisations initiate and respond to issues, developments and trends in industry. Suggestions put forward to the ACCI Employment, Education and Training Committee are subjected to vigorous debate and then forwarded to ACCI General Council for further discussion and final endorsement. The recommendations contained in this Blueprint have been developed through this policy process.

INTRODUCTION

High standards of education and training are one of the ways a middle sized nation like Australia can multiply its effectiveness and enable it to punch “above our weight” in the world economy and world political forums.
One of Australia’s most significant comparative advantages is our human capital and the skills of our population.

Australia already possesses one of the best education and training systems in the world. This is the result of the hard work of many people over many years.

However, at the margin we still do some things poorly, which need to be done better.

In this document *Skills for a Nation: A Blueprint for Improving Education and Training 2007-2017* the Australian Chamber of Commerce and Industry (ACCI) is promoting a series of policies that will help make a good system better, and help power the Australian economy through the first half of the 21st Century.

Skills are a fundamental part of investment and without an adequate skill base investment is curtailed or made more expensive.

The *SAI Global - ACCI Survey of Investor Confidence* shows that there is a significant concern amongst business about the availability of suitably qualified employees.¹

Education reform is central to addressing this concern.

Education by itself does not directly raise living standards. Gains come through the application of skills and knowledge learned.

Therefore it is important that reforms to the supply of education are combined with reforms aimed at improving the integration of education into the workforce.

**THE KEY PRINCIPLES OF A GOOD EDUCATION AND TRAINING POLICY**

As the key principles for a good education and training policy, business strongly supports:

A comprehensive education and training system which: enables all Australians to contribute to a cohesive, democratic and prosperous society, in which the attributes and skills of individuals are fully developed.

This is crucial in meeting the short and long term economic goals of Australia and provides business with a competitive edge to compete in the global economy.

Business requires a system that retains incentives for employers and promotes the flexibility to choose education and training options, which meet specific industry needs.

**EDUCATION AND TRAINING POLICY FRAMEWORK**

Australia’s education and training system must provide people with the knowledge, skills and attitudes they need to participate fully in Australian society - culturally, socially and in their employment.

All Australians must be able to:

- benefit from a sound education platform which provides basic literacy and numeracy skills;
- pursue future education and training opportunities which enhance workplace skills; and
- develop a positive attitude to the concept of life-long learning.

On behalf of the business community, ACCI plays an active part in the development, monitoring and evaluation of...
education and training policies and programs that impact on business. This is in recognition that the maintenance and expansion of a comprehensive education and training system is pivotal to the achievement of short and long term economic goals of Australia.

Education and training is imperative for:

• an increase in the competitiveness of enterprises and the need to respond to global competitive pressures;

• employee satisfaction/motivation through acquisition of higher skills;

• flexibility/adaptability of workers to change in the workplace;

• ability for companies to draw on workers in emerging labour markets and meet new industry needs;

• enabling enterprises to build upon skills of existing workers, particularly younger workers and to adapt them to a particular workplace; and

• absorbing the pool of youth unemployment and equipping them with the skills that employers need in order for those young people to make a positive contribution to the workforce and the economy through lifelong learning.

Education and training provides business with a competitive edge in the global economy.

**EDUCATION AND TRAINING POLICY OBJECTIVES**

ACCI supports education and training policies which:

• improve education and training as a demand driven system that is specifically aligned to industry needs;

• support the allocation of government funding to education and training outcomes that provide incentives for employers to participate, maximise opportunities for participants and enhance efficiencies within the system;

• expand the role of competitive markets in all sectors by pursuing open competition principles that diversify the supply of education;

• create competitive conditions that enhance the ‘user choice’ principle;

• promote student centred funding that allows an individual to purchase a course of study through the school, vocational education and training provider or university of their choice;

• promote the options available in clear, unambiguous, non-jargon ways that will be easily understood by students, employers and the current workforce;

• facilitate the availability and usage of multiple education and training pathways from school to the workplace;

• align packaging of training standards leading to a national qualification under the Australian Qualifications Framework (AQF);

• focus on nationally consistent outcomes and achieve standards that are comparable to international standards of best practice;

• respond to the growing need for students to undertake workplace learning programs that develop links with industry and create pathways to further training and employment;
• improve, and regularly test, on a nationally agreed and consistent basis, literacy and numeracy standards;

• strengthen the focus on sound basics, such as literacy and numeracy, at primary and early years of secondary school levels;

• acknowledge, develop and assess in a contextual manner, employability skills;

• improve and integrate careers education, employability skills and enterprise education principles into the education and training system;

• encourage the adoption of an enterprising culture, particularly by young Australians;

• support articulation arrangements across the school, vocational education and training and higher education sectors;

• promote equality of education opportunities and options for special needs groups who experience barriers to participation in education, training and work;

• enhance opportunities for education providers to be trained and qualified to standards which are adequately benchmarked; and

• promote training reform which is enterprise focused, demand driven, flexible, mindful of all parties involved and devoid of extensive bureaucracy.

A TIMETABLE FOR REFORM

In the following chapters of this document Skills for a Nation: A Blueprint for Improving Education and Training 2007-2017 we set out how we can meet the objectives noted above over the course of the next 10 year period.

Many things can be done now. However, significant changes to the way we organise the Vocational Education and Training (VET) system and the higher education system will require a large amount of political will from governments at different levels of our federal structure. They will take a considerable amount of time to implement.

This Blueprint lists some 153 proposals related to improving the operation of Australia's education and training. ACCI will maintain a “Training Scorecard” of Governments' uptake of these Blueprint recommendations.

The changes proposed can be divided between those matters that could be dealt with in the short to medium term, say, 3 to 5 years; and those matters that need more time, say, 5 to 10 years to implement (see Figure E.1).

Thus Commonwealth and State Governments should seek to implement proposals in the following areas over the next 3 to 5 years:

• In the VET area a number of proposals can be accomplished in the near term including:
  - Greater funding from both the Commonwealth and State Governments.
  - The approach to the preparation of Training Packages.
  - The involvement of Industry Skills Councils.
  - The role of the Institute of Trade Skills Excellence (ITSE).

• A flexible industrial relations system underpinning the principle of performance pay for the education and training
sectors.

• Various proposals related to secondary schools and transitions to post compulsory education including schools-industry policy and Australian Technical Colleges.

• Parts of the early childhood, pre-school and primary school education proposals.

• Improvements in the provision of employability skills.

• Careers advice proposals as they relate to updating educational career advice.

• Matters relating to the drive to encourage foreign students and providing more resources to Australian Education International

Further, the Commonwealth and State Governments should seek to implement proposals in the following areas over the next 5 to 10 years:

• In the VET area a number of proposals would take a longer time-frame to accomplish:
  - The introduction of a sensible system of fees, HECS and FEE-Help.
  - Review of incentive payments to include higher-level qualifications.
  - The exploration of alternative pathways to trade qualifications.

• Reforms to the way higher education is funded including the use of vouchers and the link between skilled workers and R&D.

• The development of an Australian National Curriculum and an Australian Certificate of Education to apply across Australia.

• Better integration between schools, VET and higher education.

• Over time, the improvement in the levels of literacy and numeracy.

• The improvement in the quality and quantity of maths and science graduates.

• Fostering a culture within training that encourages and promotes innovation and the re-gaining of Australia as a clever country of entrepreneurs, innovators and risk-takers where the knowledge base is highly valued and rewarded across all levels.

• Further policy work designed to encourage careers guidance services in the private and voluntary sectors.

• A program to vastly expand the export potential of VET education.

• Changes to the taxation system to facilitate investment in education and training.

• Changes to the way the taxation system interacts with the education system, including to the taxation arrangements with respect to philanthropy.

• The treatment of people with disabilities; indigenous Australians; and mature age workers.
FUNDING OF THE EDUCATION AND TRAINING SYSTEM

For various areas of public expenditure the Australian Government has previously made long-term commitments to substantially boost spending levels.

For example, in the 2006-07 Budget the Government noted its previous provision of around 3 percent annual real growth in the Defence budget until 2010-11 and proceeded to commit for the four years 2011-12 to 2015-16, to “provide 3 percent annual real growth over the period, providing a firm basis for continued long-term planning”.2

However, there is no such commitment for education and training. Indeed the Budget forward projections are for real ‘growth’ of only 0.0 percent; 0.8 percent; and 1.7 percent over the next three years.

This is simply not acceptable and will not achieve the goals of any Government.

The business community believes that a similar commitment that has been given to Defence should be made to investing in the most important asset the nation has, ie our human capital.

As detailed in Chapter 2, total public spending on education and training was $47.2 billion in 2004-05 (which is the latest consolidated figure from the Australian Bureau of Statistics). Of this some $14.4 billion was from the Australian Government and $34.0 billion from State Governments.

Two main resourcing issues are what should be funded in the future; and where should the money come from? The first question can be answered by a report prepared for the National Training Reform Taskforce in 2006, which analysed

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**Figure E.1**

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<th>Timeframe</th>
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<td>3 to 5 Years</td>
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- Greater funding from both the Commonwealth and State Governments.  
- Industry ownership of the preparation of training packages.  
- Reform Industry Skills Councils.  
- Cement the role of the Institute of Trade Skills Excellence (ITSE).  
- A flexible industrial relations system underpinning the principle of performance pay for the VET and school sectors.  
- Improve school to work transitions through various proposals related to secondary schools and transitions to post compulsory education including schools-industry policy and Australian Technical Colleges.  
- Focus on quality education in early childhood, pre-school and primary school education proposals.  
- Improvements in the provision of employability skills.  
- Improve careers advice, services and support.  
- Encouraging foreign students and providing more resources to Australian Education International. |
| 5 to 10 Years |  
- The introduction of a sensible system of fees, HECS and FEE-Help across the VET and Higher Education sectors.  
- Review of incentive payments to include higher-level qualifications.  
- The exploration of alternative pathways to trade qualifications.  
- Reforms to the way higher education is funded including the use of vouchers and the link between skilled workers and R&D.  
- The development of an Australian National Curriculum and an Australian Certificate of Education to apply universally across Australia.  
- Better integration between schools, VET and higher education.  
- Over time the improvement in the levels of literacy and numeracy.  
- The improvement in the quality and quantity of maths and science graduates.  
- Fostering a culture within training that encourages and promotes innovation and the re-gaining of Australia as a clever country of entrepreneurs, innovators and risk-takers where the knowledge base is highly valued and rewarded across all levels.  
- Further policy work designed to encourage careers guidance services in the private and voluntary sectors.  
- A program to vastly expand the export potential of VET education.  
- Changes to the taxation system to facilitate investment in education and training.  
- Changes to the way the taxation system interacts with the education system, including to the taxation arrangements with respect to philanthropy.  
- Improve the treatment of people with disabilities, Indigenous Australians, and mature age workers. |
future training needs to 2016.

In this report, *Qualifications and the Future Labour Market in Australia*, predictions based on the use of qualifications as a proxy for skills suggest Managers, Professionals and Associate Professionals—together with Intermediate Clerical will increase while employment in Trades and Advanced Clerical in 2016 is actually forecast to decrease to below 2006 level. In 2016 more people will be employed in Associate Professionals than Trades occupations.

The number of employed people with qualifications will increase by over two million and the number without qualifications will decline by 840,000. A total of 1.78 million existing workers are expected to acquire qualifications to levels higher than they currently hold (70.5 per cent VET and 29.5 per cent higher education).

Although the most common VET qualification that existing workers will acquire is also a Certificate III (26.3 per cent) a relatively large proportion are expected to acquire an Advanced Diploma (14.9 per cent). In contrast, only 3.6 per cent of new entrants with qualifications are expected to have an Advanced Diploma.

The report states “If supply of people with VET qualifications remains at the same level as in 2005, a shortfall of 240,000 can be expected over the ten years to 2016. To meet the shortfall, net completions will need to increase by 1.9 per cent per year.”

Focus on supporting entry level qualifications should also not be neglected as the largest area of need will still be at the Certificate III level and this level of qualification is more relevant in particular industries.

It is also critical that training needs remain responsive to demand and that planning approaches do not rely too heavily on forecasts based on a supply side approach. There is an inherent risk in and potential for polarising the workforce into two distinct groups of lower level and higher level qualifications based on projections that use qualifications as a proxy for skills.

For example, is the current level of qualifications being undertaken at the higher level a result of individuals undertaking these studies because they think they can get a better job or because employers have identified it as a real need? NCVER research shows that motivation for studying VET varies - ranging from employment-related issues to personal development or further study. It also revealed that individuals studying higher level qualifications do not always receive wage benefits compared with those who do not complete a qualification.

Understanding where higher level skills will be needed and in which industries should be based on dialogue with industry rather than placing too much reliance on projections based on the current patterns of studying qualifications.

Adequately resourcing the VET system so that it is responsive to meet demand in all areas is therefore critical to ensuring an adequate supply of skills at all levels as required by industry.

The Australian Government should as a matter of priority increase expenditure on education and training, but so too should state governments.

All levels of government have a responsibility to deliver three key strategies:

1. leadership and a will to make positive change happen;
2. funding in order to make the vision a reality; and
3. methodology and accountability to ensure that the vision and funding are turned into reality.

An increase in Australian Government expenditure of 3 percent in each of the next three financial years would be in the order of $2.6 billion in additional expenditure.
However, the matter should not stop with the Australian Government.

State Governments need to take full responsibility with respect to their obligations. State Governments must accept that their contribution in both dollar terms and commitment is intrinsic to Australia succeeding in helping business to deliver in the global marketplace. State Governments should match any Australian Government expenditure increase, and as they account for a bit over double the total expenditure of the national government spending on education and training they should increase funding by some $5.2 billion.

An injection of a combined additional $7.8 billion over the next three years would be a significant boost to maintaining Australia's strong international standing in respect of education and a long way to boosting us to world's best.

It is imperative that this funding is not seen in isolation and that it must be linked to efficiencies outlined under the Commonwealth-State Training Agreement with adequate safeguards on market based delivery. It should cement the role of industry including User Choice and the connection to the outcomes of industry endorsed quality rating system through the Institute for Trade Skill Excellence.

This Blueprint contains a number of areas where there should be increased funding. However, the overall increase in expenditure should be concentrated on ensuring that we have the best VET sector in the world.

**AN OVERVIEW OF EDUCATION AND TRAINING IN AUSTRALIA**

Creating the best possible educational institutions and ensuring that the best possible education outcomes are accessible to individuals are a critical component of raising living standards.

A key to this is having market-led solutions that maximise choices for students, parents, business and education providers.

As global markets continue to expand it will be critical that Australia plays to its strengths. A culture of rewarding education and skills and fostering the desire to undertake ongoing education is critical.

Australia must continue to strive for excellence to maintain a growing and vibrant economy.

There are a number of key issues that we will be addressing in the course of this Blueprint.

Firstly, the resourcing of Australian education and training and whether it is adequate to the purposes.

Secondly, the integration between the three education sectors and whether it is satisfactory.

Thirdly, whether the quality of the output is adequate and how does it compare with the things that employers are looking for, viz:

- satisfactory employability skills;
- high educational and technical proficiency; and
- an understanding of the requirements of the workplace.

And lastly, have we an adequate level of national consistency.

**ACCI NATIONAL EDUCATION AND TRAINING SURVEY**

As part of ACCI's ongoing work on education and skills and the linkages with industry, a new major survey of employers
was conducted, canvassing the views of 1,175 businesses with a combined total of 284,423 employees.

The ACCI National Employment, Education and Training Survey shows that while 47.4 per cent of employers were able to attract employees with the right level of qualifications 52.6 per cent of employers had mixed results.

The survey indicated that only 55.8 per cent of employers found TAFE graduates had appropriate skills for their industry and only 52.4 per cent thought those skills were up-to-date. While 46.7 per cent of employers felt that TAFE graduates met their expectations.

TAFE flexibility remains a key concern as revealed by the survey, indicating that significant work needs to be conducted in improving flexibility of training times, the location at which training occurs, and the times classes are held.

In terms of the equipment used in teaching only 51 per cent of employers felt that modern equipment was used and alarmingly, only 39.4 per cent of employers agreed that the teachers had industry skills that were up-to-date. The data on teachers highlights a critical area where business feels that emphasis should be placed.

Skilled migration is also an important target area for government policy with business strongly endorsing a skilled migration policy with 73.3 per cent of employers indicating agreement that Australia will only be able to fully address its current skill shortages through policies that include programs and skilled migration to supplement the supply local skills.

With the workforce ageing 83.0 per cent of business stated they provide training for those workers over 45 years of age.

PART B: EDUCATION SECTORS

EARLY CHILDHOOD, PRE-SCHOOL AND PRIMARY SCHOOL EDUCATION

Employers are concerned about pre-school and primary school education because it is where foundational skills are acquired and where connections to lifelong learning are made. Quality outcomes for pre-school and primary school education, especially in the areas of language, literacy and numeracy, are essential in building the framework through which other skills can be acquired and social disadvantage mitigated.

The early years of a child’s learning makes a significant difference to the way they develop and go on to learn throughout their lives. Getting it right at this vital stage of a child’s development will build the lifelong foundations of success, not only for our children, but also for Australia.

Early Childhood and Pre-School Education

From a national perspective, early childhood education is characterised by fragmentation, varying degrees of quality and in equitable access.

Early childhood education is also without a national vision, commitment or consistent approach. The number of different approaches, funding formulae, terminology, child ratios, curriculum, costs, delivery hours and models promote inequity across Australia for young children and their parents.

Whether provided in dedicated pre-schools or in day care centres, a quality pre-school education sets the foundations for cognitive, physical, emotional, social and language development. While preschool education is an important experience in itself, it also provides children with an invaluable foundation for their entry into formal schooling. It is often essential in terms of the detection of impediments to learning, which if not attended to could affect a child’s learning potential for the rest of their life. Research has shown that the benefits of a quality preschool education can be long-lasting, through school and into adult life.
ACCI proposes that:

• governments implement policies that avoid fragmentation, inconsistent quality and provide equitable access;

• governments work towards a national vision and quality standards in the areas of funding formulae, terminology, child ratios, curriculum, costs, delivery hours and models; and

• a better flow on between pre-school and primary school curricula so that there is greater alignment between them.

Primary Schools

In Australia, primary education is still considered the first ‘formal’ period of education as part of mandatory school attendance for children. Primary school education is of importance to employers because it is where the foundational skills are formed, most importantly literacy and numeracy and where further connections are made to lifelong learning.

Without solid foundations in skill formation individuals may be disadvantaged in further learning and make costly errors in undertaking basic business tasks.

In addition, the foundations for career development are laid down as part of lifelong learning.

Primary education in Australia is at a high standard compared to the rest of the world. Nonetheless there are areas where more can be done to improve quality outcomes.

There needs to be a continuing and expanded emphasis on the use of information and communication technology to support better teaching.

Business and industry also considers that physical education is a vital part of a child's education and so a curriculum that includes compulsory physical education and school sport each week is important.

Similarly the compulsory learning of a foreign language from 7 years of age or earlier and the opportunity for all students to learn a musical instrument in primary school are also key issues.

ACCI proposes that:

• there needs to be significantly enhanced professional development for teachers in schools;

• there needs to be a concerted push by governments to introduce a flexible industrial relations system to underpin the principles of performance;

• all primary school principals be given the power to hire and fire;

• all governments need to ensure that the community is furnished with better data about primary school standards;

• the acknowledgement by all governments that increasing public confidence in primary school education will come through explicit and defensible standards that guide improvement in students’ levels of educational achievement and through which the effectiveness, efficiency and equity of schooling can be measured and evaluated;

• that there needs to be a concentration on the basics of English, reading, writing and maths for every child in order for them to achieve their optimal progress in their primary years;

• primary school students are provided with accurate and up to date information about career pathways and options and are exposed to a variety of sources of information including talks by employers;
• there needs to be a continuing and enhanced focus on the use of information and communication technology to support better teaching;

• the curriculum should include compulsory physical education and school sport each week;

• to effectively participate in a globalised world there should be the compulsory learning of a foreign language from 7 years of age or earlier;

• there should also be an opportunity for all students to learn a musical instrument in primary school;

• there should be a closer relationship between the school and parents;

• there be consideration of school premises remaining open between 8.00am and 6.00pm to enable childcare for 48 weeks of the year to cover before and after school care and some school holiday periods; and

• governments get serious about the closure of non-performing schools and rapidly turning around weaker schools.

SECONDARY SCHOOLS AND TRANSITIONS TO POST COMPULSORY EDUCATION

Secondary Schools

Australia’s future depends upon each citizen having the necessary knowledge, understanding, skills and values for a productive and rewarding life in an educated, just and open society. High quality schooling is central to achieving this vision and secondary schools provide students with the ability to build on what they know, to assist them to reach their full potential and acknowledge the capacity they have to learn.

Governments set the public policies that foster the pursuit of excellence, enable a diverse range of educational choices and aspirations. Common and agreed goals for schooling establish a foundation for action among State and Territory governments with their constitutional responsibility for schooling. The Australian Government, non-government school authorities and all those who seek the best possible educational outcomes for young Australians, seek to improve the quality of secondary schooling nationally.

ACCI proposes:

• the need for a flexible industrial relations system to underpin the principles of performance pay for teachers;

• that performance pay be seen as part of a total suite of initiatives to improve teacher quality such as improving initial teacher education by providing increased opportunities for practical classroom experience, and recognising and rewarding formal professional development once a teacher commences teaching;

• that all governments need to ensure that the community is furnished with better data about school standards;

• that all school principals be given the power to hire and fire;

• the acknowledgement by all governments that increasing public confidence in secondary school education will come through explicit and defensible standards that guide improvement in students’ levels of educational achievement and through which the effectiveness, efficiency and equity of schooling can be measured and evaluated;

• that while desirable for all students to complete Year 12, false targets have distorted the debate, especially in terms of young people. This is a matter of lifelong learning and completion should occur at times relevant to individual circumstances;
therefore, while there should be encouragement of individuals to obtain a good general education and foundational skills, there should be no compulsion of individual students to remain at school to complete Year 12;

- that there be flexible entry and exit points in the education system;
- the implementation of a national curriculum;
- the implementation of programs that take account of individual differences in ability, learning style and level of maturation;
- that there be interesting, broad and rich curriculum with greater choice and wider out of school opportunities but not to the exclusion of the foundational skills;
- that policies ensure that students finish their compulsory years of schooling equipped with the knowledge, skills and personal qualities needed for further education, work and life;
- that there needs to be significantly enhanced professional development for teachers in schools;
- that governments strongly support and encourage the provision of pathway planning for students;
- the development of a much closer relationship between schools, VET providers and Higher Education providers, allowing greater flexibility in the movement between the three sectors; and
- that governments continue to implement plans to improve services and support for students with disabilities;

**Schools-Industry Policy**

An important element of the education system is the transition from secondary school to post secondary school education. Of critical importance to industry is the transition from education and training to the world of work.

A successful VET in schools program is the result of a combination of factors. Engagement with industry contributes in a number of ways but most importantly though incorporating quality requirements into teaching and “on-the-job” learning. VET in Schools is an important pathway available to students and does not necessarily need to result in an employment outcome.

**VET in Schools Quality Issues**

Successful transitions from school to the world of work and beyond are of critical importance for Australia’s youth and society in general. NCVER research shows that School VET programs have a particularly positive effect on the transition to successful post-school activities for early school leavers. There are very few people in Australia who will not participate in paid or unpaid work at some point in their lives. An understanding of the world of work and access to quality VET in Schools programs contribute towards achieving successful transitions.

Industry is concerned that students have access to quality VET in Schools offerings during their secondary school years but particularly in Years 11 and 12. Many schools now also offer VET in Schools in Year 10 and there may be benefit in extending VET in Schools to Years 8 and 9 students where local needs and conditions permit and the ingredients essential to quality VET in Schools are met.

ACCI recommends the following ingredients are essential to quality VET in Schools programs:

- appropriate levels of resourcing from State and Territory governments to fund teaching, commercial standard equipment and placement requirements;
• appropriate matching between students and employers, with industry involvement in the selection of students;

• school teachers with the right level of skills and industry experience to deliver courses to industry standards;

• on-the-job learning as a critical component of courses undertaken including flexible school timetabling arrangements to support student access to such;

• the use of relevant Training Packages to ensure industry standards are met;

• access to flexible pathways across the full range of industries; and

• connections to local and regional economic development needs.

Teacher Education

It is critical that teachers have adequate literacy and numeracy skills themselves before undertaking teacher education programs.

Traditionally, many teachers have had little or no experience of industry or employment outside the education sector. Therefore, their understanding of the importance of education and training for future employment of the greater population is more academic in nature.

It is therefore essential that teacher education programs include information about enterprise education, employability skills and careers systems. Compulsory units should be developed and incorporated into all teacher training courses so that teachers gain a better understanding of the importance of these aspects of education and training for their students.

ACCI believes that there is considerable need for trainee teachers to gain extensive practical skills in teaching methodologies and behavioural management before entering the classroom as a graduate teacher. Most education programs stipulate blocks of practicum for trainee teachers, usually for 80 days in the fourth year of study. ACCI believes that this is not sufficient practical experience to prepare trainee teachers for the rigours of teaching. Increased exposure to the classroom environment at an earlier stage in the program of study would have trainee teachers realistic expectations of a career in teaching and decrease early exits from the profession due to unrealistic expectations.

ACCI proposes that:

• students should have access to a statement of their employability skills on exit from school;

• the early intervention of enterprise education in schools is important in educating individuals to be more enterprising, understand entrepreneurship and the world of work, and prepare for the possibility of self-employment;

• that units be developed for teacher education courses to include the areas of employability skills, enterprise education and careers systems;

• a compulsory unit of study should be introduced into teacher training programs in relation to vocational education and training;

• that study of such units be compulsory for all trainee teachers;

• that a prerequisite for entry into teacher education be adequate levels of literacy and numeracy for themselves;

• there is a role for simulated learning as a pedagogical approach within the school curriculum but only where on the
job experience is not available;

- the automatic and blanket registration of schools as Registered Training Organisations is not supported;

- Australian School-based Apprenticeships (ASBAs) provide an important pathway for those students seeking an employment outcome while they are completing their education. VET in schools provides an alternative pathway but does not involve an employment arrangement;

- consideration should be given to extending the availability of VET in Schools to students in Years 8, 9 and 10, particularly in Indigenous communities.

- a system should be established where teachers can be released to industry to gain industry relevant experience. Careers advisers should also be given “release to industry” opportunities;

- training for teachers should include more exposure to the classroom at an earlier time in their course;

- alternative models of fast-tracking entry into teaching and contract delivery where specialist industry knowledge is involved should be explored; and

- reporting against the eight key employability skills should be adopted and delivered to Australian parents. National consistency and reporting in plain English on these skills would assist students, parents and employers during schooling, but especially in the transition to work.

**Australian Technical Colleges**

Australian Technical Colleges (ATCs) contribute, in part, to the solution to Australia’s skill shortages by targeting identified skills needs. They are one model amongst a number that provide an alternative pathway for young people who combine industry experience with secondary education.

ATCs will play a key role in providing prestige opportunities for quality students to undertake an employment pathway in Years 11 and 12.

ACCI supports the establishment of ATCs where: there are skills needs; a high youth population and a strong industry base as part of its longer-term response to skills shortages; and also to raise the status of vocational education and training in Australia.

This is based on the principle of improved opportunities for the commencement of industry valued and recognised school based vocational education and training. In order to achieve this the role of the Government is to monitor, evaluate and through targeted funding, influence the availability and delivery of qualifications that are recognised by industry and provide a realistic way for students to gain credit for previous study when progressing to a full time Australian Apprenticeship.

An evaluation of the model needs to be undertaken once the ATCs are fully operational and if industry validates it as providing successful transition outcomes it should be promoted and adopted more widely. A key criterion for measuring the relevance of the model will be the degree to which students’ learning is acquired in the workplace and not from institutional learning. It should be recognised that all the existing ATCs models are very different and the evaluation would need to take account of that.

ACCI proposes that:

- there be a focus on improved opportunities for the commencement of industry valued and recognised school based vocational education and training;
• an evaluation of ATCs be undertaken and where relevant, the model promoted and extended; and

• the extent of industry based learning should be a key criterion in validating the model.

**An Australian Certificate of Education**

In May 2005 the Australian Government commissioned the Australian Council for Educational Research (ACER) to investigate and report on models and implementation arrangements for an Australian Certificate of Education (ACE) for the final years of secondary school.

The introduction of an ACE has the potential to provide greater national consistency in senior secondary arrangements; to set nationally consistent high standards; to improve the comparability of student results across Australia; to advance efforts to ensure that all young Australians develop the knowledge and skills required for life and work beyond school; and to establish a national qualification with international standing. If Australia is to maintain a world-class educational system introduction of an ACE is necessary.

ACCI proposes that:

• a national standards body should set minimum requirements for the award of the ACE;

• curriculum essentials would spell out a core of curriculum content (fundamental knowledge, principles and skills) to be taught in an ACE subject across all awarding bodies offering that subject; achievement standards would be set in these nominated subjects;

• achievement standards should provide a nationally consistent framework of levels;

• with an ACE, schools and awarding bodies would be encouraged to develop, assess and report on employability skills required for life and work beyond school; and

• there should be an ACE Award of Excellence: a certificate awarded to students throughout Australia who meet high standards of achievement in their studies.

**AN OVERVIEW OF VET IN AUSTRALIA**

Training is delivered by registered training organizations (RTOs), which can include Institutes of Technical and Further Education (TAFE), private providers, individual enterprises and community-based providers.

In addition, Australian Apprenticeships are available in most sectors of business and industry.

The latest data available shows that in 2005 there was an estimated 1.64 million students enrolled in the publicly and/or private-publicly funded Vocational Education and Training (VET) system.

In 2005 there were an estimated 3,000 Registered Training Organisations (RTO) currently operating in Australia.

The system is founded on a partnership between governments and industry. A key feature is that employers and industry play a central and critical role in determining training policies and priorities, and in developing training qualifications to deliver the skills employers need.

Australian business has been given a stronger voice in national planning and priority setting, through:

• formal structures such as the National Industry Skills Committee (NISC) and the National Quality Council (NQC);
• less formal arrangements such as working groups and consultation on individual programmes and activities; and

• establishment and operation of ATCs and the ITSE, which provides industry with the capacity to identify, acknowledge, reward and promote excellence in trade skills development and training.

ACCI proposes that:

• this engagement should continue and grow.

RESOURCING OF VET

The fundamental principle for resourcing the VET sector should be a responsiveness to demand.

The allocation of funding and resources for VET needs to directly focus on creating improved choice and diversity, efficiency, responsiveness, quality, flexibility, innovation and access and equity within training delivery.

In determining the future funding and resourcing needs of VET there are numerous factors to take into consideration. These include:

• the balance of public and private investment in VET, taking account of the efficiency of public investment;

• the roles of government, industry and individuals in funding VET;

• the degree of choice available to individuals and employers for training;

• building the capacity of regional providers to meet regional demand; and

• the changing social and economic environment and government policy on demand for VET.

The Australian Bureau of Statistics report, *Employer Training Expenditure And Practices 2001–2002* (ABS, 2003), indicates that approximately 80% of employers provide training. Of this approximately 40% of employers provide structured training to their employees and a further 40% provide unstructured training. Eighty percent of the remaining 20% not providing structured or unstructured training believe their current employees are already adequately trained. Based on an analysis of this ABS data, in fact it is only about 4% of employers who are not engaged in training or who do not see it as a need for their business.

The evidence clearly points to a high level of engagement and contribution on the part of employers in training for their skills needs. Based on earlier estimates employers contribute approximately $36.5b to training in Australia.

Incentive arrangements support employers in this financial commitment to training and need to reflect the commitment of industry. The principles of using incentives to encourage employer participation in training should be based on encouraging commencements and completions. They should also be flexible to reflect specific circumstances if the needs of industry change.

Similarly, incentives paid to employees should be based on the same principles.

Continuing support needs to be provided for mechanisms that build the capacity of learners to enter the VET system such as a national recognition of prior learning system that is clear, easily understood and inexpensive to access.

Further resourcing to support the development of models to meet emerging needs such vocational learning for mature aged workers need to be factored into planning.
Research will be needed to understand why workers exit certain industries and whether access to vocational pathways might enable them to pursue other occupations within the industry or transfer more easily to a teaching role.

Consideration of ways to upskill existing mature aged workers while they are still in current employment should also be made.

Tailor made programs for individuals and industry need to be encouraged based on initial work already being undertaken and alternatives to apprenticeships and ways to fast track need refinement and broader application in industry.

There will need to be a strong connection with the benefits of workforce development with access to specifically developed tools and promotion of the benefits of such.

As other trends and needs emerge, consideration needs to be given as to the flexibility of current resourcing arrangements to respond to demand in a timely manner.

**Human Resources in the VET Sector**

ACCI supports structures that enable the best quality teachers to be engaged. Performance pay for VET teachers is one way to attract quality staff. This should be combined with a better defined career structure for TAFE teachers comparable to other sectors to encourage an ongoing development of quality and incentive to remain in teaching.

As the impact of the ageing population hits the TAFE sector, these measures will need to be considered as part of a workforce development strategy. Flexible mechanisms to support teachers combining working in industry with teaching and/or engaging in ‘return to work’ programs also need to be part of this strategy. Other options to be considered include developing professional development updates on recent developments in trade, which could also contribute towards attaining a master tradesperson status.

In addition policies need to be developed that encourage tradespersons to undertake training and assessment qualifications so that there is growth in the effective transfer between industry and training.

This arrangement could also provide a transition pathway for mature aged tradespersons and retain them in industry.

ACCI proposes that:

* as a priority, User Choice be fully implemented and provide a fair distribution of funds between public and private providers;

* support be given to building a clear, easily understood and administered system for the recognition of prior learning as a means of encouraging learners to take up vocational qualifications;

* there be implemented a system of fees and HECS type payments in the VET sector, along with a system of FEE HELP to accompany it;

* the Government investigate the use of student vouchers to support this system;

* under no circumstances training levies be reintroduced;

* the Government cost and evaluates the idea of a learning bonus;

* there be increased funding at all levels of qualifications to meet the needs of industry;

* in building higher level qualifications the entry level qualifications should not be raised inappropriately;
the skill outcome in terms of increasing employment and connection to the workplace must be the critical driver for participation in structured and accredited training and so opportunities for part qualifications and clustering of skill sets are equally important as higher level qualifications;

Governments review funding arrangements for Australian Apprenticeship Centres and enhance the marketing, promotion and take up arrangements for Australian Apprenticeships;

Governments review current incentive arrangements to ensure that higher level qualifications have a structure which reflect the complexity and duration required to achieve competency;

Governments review the structure of incentives to provide higher level of funding support to encourage employers to recruit welfare recipients into Australian Apprenticeships;

Governments review skill shortage incentives available in regional and remote locations with a view to expanding them across all formally identified skill shortage occupations;

changes due to the ageing of the workforce require the Federal Government to review the stipulation that Australian Apprentices are not eligible for incentives if they have ‘a prior qualification within the last 7 years’;

governments research non-completion rates and consider remedies;

governments investigate reasons for static take up rates and consider additional support measures to increase demand;

the research into non-completion rates and static take-up rates be a shared government and industry responsibility as there are a range of factors that contribute to non-completions - administrative, training delivery, wage rates and employment experience;

planning should be undertaken to encourage a workforce development approach to VET teachers including flexible working arrangements, performance pay, clearly identified career paths, ongoing training to maintain industry competence; and

the numbers of teachers should be grown through providing tradespersons with access to training and assessment qualifications.

VET INSTITUTIONAL ARRANGEMENTS AND QUALITY ISSUES

Over the next ten years, employers will be advocating a market led approach with increased focus on demand and market signals.

Australia is recognised as a world leader in VET, which results from employer engagement and leadership in working with governments and RTOs. The closer the match between the realities of the workplace and current industry standards, the greater will be the efficacy of training in meeting industry skills needs.

The national training system is comprised of two elements and supported by the Australian Qualifications Framework (AQF).

Aspects of the National Training System

1. The Australian Quality Training Framework (AQTF 2007)

Where there is no adequate price mechanism to signal to the market the relative quality of products, alternative mechanisms
must be used to measure quality. Generally quality revolves around standards, performance, achievement and continuous improvement.

Standards

VET offering must reflect industry standards and current business practices to meet the needs required by modern enterprises.

To ensure standards apply inside and across industry, the NQC should consider alternative mechanisms to support the AQTF 2007 in the implementation phase.

Three alternatives exist:

- make greater use of moderation between RTOs and VET practitioners to make comparisons of standards within and between industries; or
- introduce an industry based inspection system like the one operating in the UK; or
- progressively introduce pricing and competition into the market.

The first two options need to be costed to estimate the level of resources needed to support these quality options.

ACCI believes the third option requires changes at the systemic level but will yield the greatest change in quality.

All mechanisms which provide greater confidence in the outcomes of training are important for consideration.

Rigour in Teaching, Assessment and Reporting

It is critical when using a competency based approach to learning, that assessment is rigorous and that there is comparability between the skills acquired by students undertaking the same course in different institutions.

Institute for Trade Skills Excellence and the Connection with Quality

The Institute for Trade Skills Excellence (ITSE) provides an important vehicle for employers with a view about RTOs based on the experience of other employers and rated against quality criteria.

Nothing will promote the trade more effectively than a quality training system. As such, ACCI considers the Employer Excellence Rating of RTOs, combined with User Choice (discussed in Chapter 7) will provide a way for encouraging excellence.

Teacher Release to Industry

To engender further confidence in the quality of the training system, teachers must have mastery over the content of their courses at current industry levels. Where teachers have spent a considerable amount of time away from the workforce, then release to industry programs will be required to achieve quality.

2. Training Packages

Another important plank underpinning employer involvement in VET is the utilisation of competencies that are part of the formal training system. Innovative approaches to the concept of a unit of competency are required in order to remain relevant to sunrise and emerging industries. ACCI prefers courses of study developed using Training Packages, where industry has been involved in the development of competencies.
3. Australia’s Qualifications

Skill Sets

Skills Sets are able to accommodate the requirements for specific skills required for legislative requirements and in some cases can also provide a vehicle for recognising the skills gained through vendor training. They provide a vehicle for recognising skills that are common across industries.

Skill Sets should provide pathways to a full qualification or be used as professional development of holders of an existing qualification.

Qualifications and Lifelong Learning

Lifelong learning is attitudinal – that one can and should be open to new ideas, decisions, skills or behaviours. It sees citizens provided with learning opportunities at all ages and in numerous contexts – at work, at home and through leisure activities, not just through formal channels such as school and higher education.

Qualification Descriptors

How qualifications are described and put together is therefore important in obtaining the best results for providing the value construct to connect employers, students and the broader community. Robust qualification descriptors are essential in ensuring the reforms outlined above are possible.

Industry Advisory Arrangements

Obviously there needs to be a structure for the development, promotion and continuous improvement of Training Packages and support materials.

Problems exist around consultation processes in relation to Training Packages. The processes involved are cumbersome and overly bureaucratic with industry the last port of call for input instead of the first.

ACCI considers that ISCs should be abolished and replaced by alternative arrangements so that better consultative mechanisms can be put in place.

This should be a transitional change from existing arrangements and begin with a pilot starting from 1 January 2008 and then progressively rolled out.

This is based on the critical nature of Training Packages in delivering a truly industry-led national training system and the need for a suitable industry-led mechanism to achieve this.

What is required is a simple, streamlined and seamless system with the capacity for industry to contribute in a way which ensures that national Training Products are of relevant, timely and industry driven.

Training Structures to Obtain Industry Skills

ACCI is a strong supporter of the apprenticeship system as providing a means for providing for current and future skills needs, but also as a preferred method of entry into industry.

Group Training Arrangements

ACCI supports group training as an integral component of entry level employment or skills development options for employers. Group training arrangements enable employers to bring an Australian Apprentice into their business on an
“as needs” basis.

Group Training Organisations must continue to operate as competitive business entities, which can develop sustainable markets and provide these necessary services to employers.

**Trade Diploma**

The apprenticeship model has served Australia well and should continue to be supported. It continues to be the entry level requirement for most trade occupations. There is a need in some industries for higher level qualifications in addition to trade qualifications. There is also a need for a variety of pathways. A trade diploma arrangement is not suitable as an entry point but could be used as a pathway between a certificate course and a degree. It is best suited to existing workers and only where relevant industry and workplace relations arrangements are in place.

This needs to be examined in the overall context of the place of higher level qualifications if the training system is to become more responsive to the needs of industry but further investigation is needed as to which industries would best benefit from such an arrangement and which Training Packages allow the flexibility to deliver higher level technical skills.

Any model developed must include relevant industry experience and workplaces learning to ensure relevant technical skills meet current industry needs. Best efforts must be made to ensure that individuals do not learn via a fully institutional pathway in any model put forward. Testing for trade competence for the purposes of licensing should only follow nationally endorsed methods aligned to Training Package competencies.

When developing the model, the term ‘diploma’ should only be used where it is fully consistent with AQF guidelines.

The following principles should be used.

The factors industry will be considering when investigating this proposed higher level qualifications option include:

- the extent of industry consultation and involvement in developing the option;
- its relevance to each individual industry and the skills profile for running individual businesses within that industry;
- the amount of training that takes place in the workplace and not through fully institutional pathways;
- the extent to which current Training Packages enable higher level qualifications to be pursued;
- the extent to which the diploma meets with AQF requirements;
- the extent to which the additional skills will add value to industry;
- whether any proposed changes will mean that individuals will be able to progress along a previously unidentified career path and therefore be more likely to stay in industry; and
- whether the introduction of the higher level qualifications will provide better articulation between education and training sectors and open up opportunities for further study.

Furthermore, there should be further discussion on skill sets and AQF levels, not just higher level qualifications.

Other issues such as the wage level of graduates and employer incentives to train workers at the higher level will also need to be discussed in collaboration with other stakeholders.
In the context of Australia’s high performance in VET, employers consider the quality of training to be a matter of continuous improvement and as such support mechanisms that support that quality.

In particular, consistency in the quality of assessment undertaken by RTOs remains a vexed question for employers. Confidence in the system can be engendered by a variety of means, including Employer Excellence Rating awarded by the Institute for Trade Skills Excellence.

**Third Party Access to Public Infrastructure**

Generally there is a need to examine the infrastructure of all education and training sectors and industry to determine an efficient and effective mix, particularly innovative combinations to respond to industry needs.

Some TAFE equipment is sought after by industry, which is good for the environment and efficiency of production. However, the capital cost of such machinery can run into the millions of dollars. Industry invests in these machines because they can get a return on their investment through increased throughput, efficiency, environmental compliance as well as retention and motivation of their staff by providing them with the latest technology on which to operate.

Often this equipment is only accessible in capital city TAFE centres, which places stresses upon regional students as well as those employers who invested in the latest technology machines who do not want or value the training of their staff on outmoded TAFE machinery or techniques. The net result can be a higher propensity to train staff in-house rather than through single location TAFE facilities.

In less capital intensive industries, many businesses wish to access public infrastructure for use in education and training. New ways of partnering and sharing of resources and greater incentives for private investment need to be considered to respond to these needs.

In addition, there may be some conditions where after hours third party access to infrastructure is made on a commercial basis, such as the provision of child care.

Funding for VET should be reviewed in terms of the provision of training consistent with changing technology and industry needs. TAFEs should be given greater autonomy and flexibility to respond to these needs.

Currently, a significant portion of the training occurs in the workplace through repetition, without necessarily a consistent level of some theoretical support. Some RTOs provide training on general theory but not on current technology.

Industry can and has offered to provide opportunities for the placement of teachers to familiarise them with current technology. Together with additional resources RTOs will be better equipped to respond to industry needs.

In addition, the current industry contribution to the VET sector is significant with an employer’s direct investment in apprenticeship wages and on-costs, tools, non-productive and less efficient work time, supervision, mentoring, absence for training time, training fees and also through the donation of TAFE resources such as materials, components and equipment.

ACCI proposes that:

- Industry Skills Councils be replaced by a competitive tendering process to allow for a more efficient provision of advice on the preparation of Training Packages. This should begin with a pilot program on 1 January 2008, and the move rapidly to full implementation;

- continuing attention needs to be paid in ensuring Training Packages adequately provide for competencies around industry pathways;
• Training Packages need to have the utmost flexibility to ensure that they are not just focused on youth, but also mature aged workers, people re-entering the workforce, independent contractors, people with disabilities, and Indigenous Australians;

• VET Pathways should concentrate on skills being developed in workplaces;

• the National Quality Council should ensure that it is responsive to industry needs;

• teachers need to consistently undertake refresher courses to keep them up to industry standards via “release to industry” programs;

• Federal, State and Territory Governments consider the model for teacher release to industry proposed in this paper;

• ITSE should move towards the implementation of a graded Employer Excellence Rating and make the ratings publicly available;

• further consideration should be given to developing a model for higher level qualifications and their suitability for existing workers. Work to identify which industries would benefit from such arrangements and which Training Packages currently provide for these needs are the first steps in this process of developing a suitable model; and

• State and Territory governments should ensure that systems are in place to ensure third party access to infrastructure.

VET AND INDUSTRIAL RELATIONS ISSUES

Not all training arrangements have a direct link to employment, whether the training is formal, non-formal or informal. However, a dual relationship between training and employment exists in various widely used training arrangements such as apprenticeships where individuals enter into a contract of employment as well as a formal training plan.

All employment arrangements are governed by industrial relations and other employment laws. Where dual arrangements exist, the nature of the relationship should be, as a general principle, that training considerations drive industrial relations arrangements insofar as those arrangements apply to apprentices and trainees, not the other way around, which has become the norm in more recent years.

In order to support the evolving system of VET, Australia needs employment regulation that:

• is flexible;

• is capable of supporting the full range of current and future training arrangements that exist in the workplace and new evolutions and developments as they emerge; and

• provides incentives to employ apprentices, trainees and other employees undertaking vocational training.

This system should, aside from the separate minimum wage arrangements for young people not in apprenticeships or traineeships, be universal and predicated on the premise that concessional wage rates reflect the fact that persons undertaking training make an increasing contribution to production based on the amount of training and experience gained. While the initial return on investment in training may be low, over time the returns increase as skills and experience add increasing value to the productive capacity of the enterprise and the productive well-being of the individual and society.

In order to support the evolving system of VET, Australia needs employment regulation that:
is flexible;

is capable of supporting the full range of current and future range of training arrangements, including new evolutions and developments as they emerge; and

provides proper incentives to employ apprentices, trainees and other employees undertaking vocational training.

HIGHER EDUCATION: PROVIDING SKILLED WORKERS AND R&D

Australian industry employs the vast majority of graduates from higher education institutes and has a keen interest in the development of the sector.

Australia has a world class higher education system which provides businesses and industry with the academic skills and research bases needed to generate ideas and innovation. There are also individual and social benefits to be gained from higher education.

The key policy drivers for resourcing the higher education sector are to accelerate increased flexibility and competition to add to the increasing quality levels achieved under more recent reforms.

The best way to achieve these changes is progressively introduce a student centred funding model.

ACCI proposes that:

fees should continue to be deregulated and HECS bands widened;

core funding should be replaced by student vouchers in a three year transition from 50 percent in year 1 to 75 percent in year two and to 100 percent in the third year;

there should be a continued focus on cooperation between the sectors on credit transfers and recognition of prior learning and articulation streams;

Indigenous and disadvantaged students should continue to attract appropriate additional funding; and

research funding should continue to be performance based and funding should be targeted to national research priorities of the Australian Government.

PART C: CROSS SECTORAL ISSUES

MATHS AND SCIENCE

The debate on skills and education as drivers in the knowledge economy is not complete without further discussion on the role of maths and science.

Studying these areas does not mean you will become an engineer or scientist. Maths and science gives broader skills to students than just technical skills.

Australia faces a steadily worsening shortage of highly skilled employees as retirement rates outstrip the growth of new entrants in areas where maths and science are highly sought after skills. Maths and science play a key role in Australia continuing to be an innovative and competitive player in the global economy.

Australia performs above the OECD average in maths and science test scores which augers well for the future quality of Australia’s innovative and R&D future.
Nonetheless, the supply of maths graduates from universities is particularly low when compared to historical trends. This is mirrored in the skills of maths teachers at the secondary school level. This is a major policy issue.

The supply of science graduates from universities has performed better, boosted by migration. However, demand is high. There are particular shortages in engineering for example.

Also, of major concern is the shortage of high school science teachers in areas such as physics.

Demand is increasing from a range of industries and in order to remain competitive and become world leaders, this demand must be met. Australia can always meet a proportion of its demand for skills from international sources. However, all OECD countries are in a competitive bidding race for international talent. In the longer term Australia must provide as high a proportion as possible of maths and science graduates through our domestic education system.

Teachers delivering maths and science classes could be more qualified with further education, through the introduction of a flexible wages structure in order to compete with other industries vying for the same skills.

ACCI proposes that:

- teachers need access to more flexible wage structures to encourage maths and science graduates to enter science/maths professions including the engineering and the teaching profession;

- while consideration can be given to reducing HECS and FEE-HELP obligations for those studying maths and science it is not the most effective mechanism for improving teacher training;

- primary and secondary students are to be encouraged to study maths and science as a career path;

- the immigration program should increasingly target the bringing of people with maths and science skills to Australia.

**EMPLOYABILITY SKILLS**

Businesses, whether they are small, medium, or large, require employees who possess skills relevant to their employment and the ability to develop new skills to increase their value to the business. Employability skills are additional to technical/academic skills and are required by all employers, across all industries.

There is a need for the Employability Skills Framework to apply across the schools, training, higher education and employment sectors. Implementation in the training and employment sectors has progressed well, however, the schools and higher education sectors are lagging behind.

Industry must continue to be involved in the further development and implementation of the Framework in each sector.

ACCI proposes that the Government should:

- develop a comprehensive national approach for government, industry, education providers and the community on the issue of acquiring and improving employability skills;

- fully report on the implementation of the Employability Skills Framework in the areas of: Schools; VET; and Higher Education;

- outline how it will achieve greater industry involvement in the development and implementation of the Framework in each sector;
• further investigate e-portfolio approaches to supplement reporting procedures in the education and training sectors; and

• investigate the possibility of developing tools based on the employability skills profiler for use by employers to attract and recruit staff as part of a holistic workforce development approach.

LITERACY AND NUMERACY

Around the world, renewed emphasis is being placed by governments and employers on literacy and numeracy skills for all people, to enhance their employability, job satisfaction, level of remuneration and community participation.

There is little disagreement with the proposition that better educated people have better literacy and numeracy skills and that those who are marginal to the labour market, such as the long term unemployed, tend to have more significant problems in this area.

As international labour and capital becomes more mobile, and as overseas governments act to improve the ability of their citizens to compete in the global marketplace, it is important to ensure that Australian-educated employees are not left behind.

Overall, improvements must be made, and regular tests conducted on a nationally agreed and consistent basis, on literacy and numeracy standards.

ACCI proposes that:

• all governments confirm that a key feature of Australia’s education and training system must be literacy and numeracy;

• reading and understanding information texts, reading and writing, spelling and grammar, legible handwriting and oral communication are the essentials of literacy from an employer perspective;

• all governments support National Literacy and Numeracy Benchmarking testing in Years 3, 5 and 7 and 9; and that they:
  - implement national reporting in plain English on literacy and numeracy skills including the percentage by which they have passed or failed;
  - publish data for schools, systems and at the State and Territory level on levels of literacy and numeracy;
  - report on exit from school to show performance against set national criteria;
  - continue and expand early intervention programs to support students and their parents to address below standard literacy skills;

• the Graduate Skills Assessment Test:
  - be modified to better align it with the ACCI/BCA Employability Skills Framework;
  - be promoted to all employers to encourage its wider use;
  - be used as a research base to inform industry, governments and providers on the attainment of employability skills in the higher education and other education and training sectors;
governments should, further:

- establish a new early intervention program for applicants identified by employers as failing entry requirements for literacy and numeracy but who meet other standards;

- prepare case study material across enterprises of all sizes on human resource best practices; and

- use the Employability Skills Framework to pursue further policy work in the areas of literacy and numeracy;

- undertake research to better identify the economic impact of literacy and numeracy deficits on Australian employers; and

- undertake further research on whether literacy and numeracy standards are falling after the completion of schooling or whether there are higher levels of proficiency required for entry-level positions in the knowledge economy.

CAREERS ADVICE

Career development becomes increasingly important for public policy as education and employment policies seek to widen choices and to create systems, which can respond to varying needs of the individual across a lifespan.

The delivery of career education in schools is seen as vital to assisting young people at an early age to identify employment pathways and thus make appropriate subject choices whilst at school, as well as in making decisions about their future education and training. A “best fit” with industry based on sound careers advice, services and support makes good sense for individuals and businesses and avoids costly mistakes for all parties.

The importance of career development in assisting young people to make a successful transition from school to further education, training and employment has been highlighted in various reports and agreements in recent years.

Significant international focus has highlighted the critical importance of managing life, learning and work in a constantly changing labour market. This changing world and the corresponding need for individuals to engage in repeated decision-making about learning and work has raised the importance of and necessity for the provision of career development services across the lifespan. Many countries are addressing this challenge across the globe.

ACCI strongly endorses the premise that there is a need for stronger mechanisms to articulate a vision and develop a strategy for delivering lifelong access to career guidance. Such mechanisms are required both within government and involving other stakeholders. Australia should develop a consistent and comprehensive system of ensuring the delivery of quality careers information and advice to secondary school students across all school systems.

ACCI proposes that:

- the organisation and delivery of career education and advice services across the country must be subject to strategic leadership with stakeholders incorporating national consistency for delivery of career education and advice services and workforce qualifications;

- there be a national vision for career guidance that includes a strategy for delivering lifelong access to career guidance involving both government and industry stakeholders;

- there needs to be greater diversity in the types of career services that are available and in ways that they are delivered, including greater diversity in staffing structures, wider use of self-help techniques, and a more integrated approach to the use of information and communications technology (ICT);

- policymakers need to explore the scope for facilitating measures, including appropriate incentives, designed to
encourage the development of career guidance services within the private and voluntary sectors;

• the career guidance workforce needs to be professional with the need for minimum qualifications for occupational service. Improved access to appropriate workforce training is required; and

• jurisdictional data related to the delivery of career education and advice must be made available to the public and subject to systematic discussion and inquiry for development of effective public policy of career services.

EDUCATION AS AN EXPORT

Australia has a comparative advantage, viz the English language and high education standard that allow it to excel in selling educational services.

Past reforms of the education sector have allowed university and non-university institutions to compete successfully with international educational institutions for foreign students. ACCI is a strong supporter of these developments and believes the Government has a role to play to ensure that the recent setback in University export performance is reversed, and that a suitable level of resources be given to promoting the export potential of Australia’s VET and schools sectors.

However, issues of quality are an area where government policy can have a significant impact on levels of demand by overseas students for Australian education and training services and products.

Regional

There is some support from institutions to receive a regional supplementation for funding regional activity. There are obvious difficulties in defining what regions are when linked to funding allocations. Incentives could be provided to institutions to specialise rather than compete in all areas.

It is better to provide incentives to offer specific courses, particularly as they relate to labour market needs, rather than developing intricate planning processes for course provision. This would often require substantial government intervention with elaborately developed, but highly inflexible, funding agreements between government and providers. The extent of course rationalisation needs to be balanced against informed student centred funding. However, offerings requiring substantial infrastructure must be limited.

The extent of collaboration between all post-compulsory providers (Year 11 and 12 schools, VET providers and higher education institutions) provides the opportunity for significant cost efficiencies.

Increased specialisation at the regional level could lead to improved opportunities to promote centres of excellence and highlight the desirability of Australia as a study destination.

ACCI proposes that:

• governments support for the drive of Universities in attracting foreign students and in expanding their services offshore;

• the Australian Government make provision for additional resources to Australian Education International to promote Australia’s education offshore;

• State and Territory governments support as much as possible the expansion of the export potential of the VET and school sectors;

• consideration be given to fostering and developing a centre of excellence approach within regions; and
• further policy work is undertaken to resolve the problem of overseas students studying in Australia who use their study to gain immigration points without using the skills gained to work in the industry experiencing a skill shortage.

EDUCATION AND TRAINING AND THE TAX SYSTEM

The tax system has a substantial effect on investment in education and training.

Taxes on income affect the incentives for individuals to obtain education and training, because tax reduces future income, which is in most cases the major return from education.

Tax incentives can also reduce the costs of education and training and tax affects the incentives for business and individuals to provide donations and bequests for educational institutions.

High tax rates discourage investment in human capital, because they reduce the return to this investment, and leave taxpayers with fewer funds for philanthropy.

On the other hand, the tax system can encourage education and training by providing tax incentives for individuals to invest in their own education and for businesses and individuals to donate funds to educational institutions.

Taxation Expenditures

The review of taxation expenditures as part of the reform package is strongly supported to encourage personal responsibility for those in the workforce to increase their skills and to encourage labour mobility to areas of high priority skills shortage. Income tax deductions for self-education expenses could be extended to include education and training expenses undertaken by taxpayers in areas outside of their current occupation. The deduction should be limited to expenses incurred in undertaking accredited training. Consideration could be given to further limiting the scheme, such as to designated qualifications in skills shortage occupations, which may increase the administrative burden but would limit the cost to the Australian Government.

All these policies need further development.

ACCI proposes that:

• the Australian Government reduce high tax rates, particularly the top marginal tax rate, to encourage investment in education and training and increase philanthropy;

• other important tax reforms include reducing the number of tax thresholds to no more than two, indexing tax thresholds, and further reducing the Capital Gains Tax burden;

• the Australian Government investigate and cost increased benefits to parents investing in education plans or scholarship investment programs for their children to meet the costs of private education and post compulsory education (including universities); and

• consideration be given to providing individual tax benefits for investment in formal accredited skills development activity.

PEOPLE WITH DISABILITIES; INDIGENOUS AUSTRALIANS; AND MATURE AGE WORKERS

Government policy should be set to maximise the potential for all Australians to be competitive in the employment market. Inclusive practice and a focus on equity should underpin all vocational training delivery to increase the opportunities to transition into employment by those participating in vocational education and training.
There are a number of special-case employment issues related to education and training. They are: people with disabilities; Indigenous Australians; and mature age workers. The same principles could be extended to include rural and remote; women; youth at risk; people in correctional facilities; and people from Non English Speaking Backgrounds.

Sustained and sustainable economic growth underpins improvement in the standard of living of all Australians. Through participation in work, people with disabilities are able to make a valuable contribution and share in the benefits of employment.

The special focus on the education of Indigenous people will assist in breaking the existing welfare dependency and provide role models from within the Indigenous community itself.

Further, employers will need a range of information and support products and services to be developed to assist them in meeting the challenge of employing greater numbers of mature aged Australians. But there are also considerable opportunities for older Australians to contribute towards their own economic prosperity and for individual businesses to benefit from a changing world.

To make real progress in these areas, a concerted and well-coordinated effort must be made on the part of governments and the community sector, working in partnership with employers to achieve the key goals outlined below:

**People with Disabilities**

ACCI proposes that:

- there needs to be a concerted effort to eliminate aspects of social and industrial policies that create disincentives for people with disabilities to take up employment;

- both business and governments need to provide for enhanced employment opportunities for people with disabilities through the provision of training, recognition of skill, support in the workplace and community education; and

- there needs to be consistency and ease of transition between government programs that aim to assist people with disabilities in education, training, pre-employment, employment and return to work;

**Indigenous Australians**

ACCI proposes that:

- the Australian Government should focus on access to literacy and numeracy skills for Indigenous Australians. It should continue programs that provide exposure to the acquisition of real workplace experience, knowledge and skills;

- Indigenous students should have access to VET in Schools Programs in Years 8 and 9. Indigenous students should also have access to the full range of educational and training options;

- Australian Apprenticeships are an ideal pathway for Indigenous people to obtain skills while being employed and programs that encourage their uptake should continue;

- culturally sensitive support material should be available for all Training Packages; and

- practical support should be given to employers hiring Indigenous apprentices in the form of cross cultural awareness training and the provision of incentives, especially in rural and remote areas.
Mature Aged Workers

ACCI proposes that:

• there needs to be a clear strategy to target existing mature age workers to enhance their skills and productivity;

• it is important for State and Territory governments to examine the potential of allocating a specific element of their VET budgets to addressing mature age existing workers; and

• there needs to be considerable work undertaken on improving the incentive for providers to offer recognition of prior learning which lessens the requirement for experienced individuals to undertake the same extent of ‘off the job’ training.

1 The survey is published quarterly and the January 2007 survey showed that the Availability of Suitably Qualified Employees was ranked second while the Availability of Training Facilities. The survey is available at http://www.acci.asn.au/SurveySOIC.htm.
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Introduction

RATIONALE

Education and training are of great importance in the business and industry sectors. It is the business and industry sectors that create jobs, income and wealth for the Australian community. Improved living standards and further economic growth can only be achieved through an increase in productivity.

The number of ways to improve productivity is limited but significant productivity gains can be made through increasing the skills base of the workforce. Achieving a productive, profitable commercial environment is the central reason for business and industry interest in education and training.

Further, fostering a training culture is the basis for entrepreneurship and innovation, which are critical to the commercial framework. For individuals, personal satisfaction in working life is improved with the right level of skills to carry out daily business requirements.

Providing for the needs of business and industry is not the only reason for education and training. There is intrinsic and extrinsic value for individuals, citizenship and society in general to be gained from improved levels of education and training. However, the contribution education and training make to Australia’s skill base and economic prosperity must be emphasised from a business and industry perspective.

What business seeks is outcomes. ACCI does not address explicitly the division of roles between the Commonwealth and States and Territories. What matters is the implementation of the detailed policies in this Blueprint. It’s not about who owns or controls various aspects of the education and training system.

This Blueprint brings together education and training policies of the Australian Chamber of Commerce and Industry (ACCI) from the past ten years into one consolidated document. It contains some new approaches to education and training in acknowledgement of changing labour market conditions and industry trends. In particular, there is a need to “think outside the square” in relation to mature aged workers and how they will be up-skilled in the future.

In addition to this Blueprint, ACCI will publish ongoing issues papers in the short, medium and long-term to update the Blueprint and showcase ACCI policy in emerging areas. These papers will be developed as part of ACCI’s review process and ongoing commitment to quality improvement.

In the same spirit, ACCI will also be periodically reviewing the performance of all goverments and providing them with a scorecard against the recommendations contained in this document.

The ACCI policy development process is robust and democratic. Through a committee process, ACCI member organisations initiate and respond to issues, developments and trends in industry. Suggestions put forward to the ACCI Employment, Education and Training Committee are subjected to vigorous debate and then forwarded to ACCI General Council for further discussion and final endorsement. The recommendations contained in this Blueprint have been developed through this policy process.

INTRODUCTION

Australia no longer looks as Sir Arthur Streeton painted it in the 1900s - a landscape characterised by a wide brown land dotted with wealthy pastoralists. Instead it is a complex land made up of a diverse array of activities and opportunities.

A fundamental aspect of Australia’s current success has undoubtedly been its program of economic and labour market reforms. These reforms have meant that Australia now ranks 7th out of 129 countries in GDP per capita terms. As recently as 1983 Australia had been ranked 16th.\(^1\)

The practical benefit of this success is reflected in the dividend of higher living standards paid to all Australians. However, there is always work to be done to continue to remove obstacles to invest and grow.

An important part of the road ahead must be ongoing improvements to the education and training sector.

The international standing that Australia has comes not from being a dominant world player. In fact there is a direct
correlation between being a dominant world player and the size of the nation’s population. At 20 million, Australia has a middle level population.

Instead, high standards of education and training are one of the ways a middle sized nation like Australia can multiply its effectiveness and enable it to punch “above its weight” in the world economy and world political forums.

One of Australia’s most significant comparative advantages is our human capital and the skills of our population.

Australia already possesses one of the best education and training systems in the world. This is the result of the hard work of many people over many years.

However, at the margin we do some things poorly, which need to be done better.

In this document Skills for a Nation: A Blueprint for Improving Education and Training 2007-2017 the Australian Chamber of Commerce and Industry (ACCI) is promoting a series of policies that will help make a good system better, and help power the Australian economy through the first half of the 21st Century.

Business regards skills as a fundamental part of investment and without an adequate skill base investment is curtailed or made more expensive.

The SAI Global - ACCI Survey of Investor Confidence shows that there is a significant concern amongst business about the availability of suitably qualified employees.²

Education reform is central to addressing this concern.

Education by itself does not directly raise living standards. Gains come through the application of skills and knowledge learned.

Therefore it is important that reforms to the supply of education are combined with reforms aimed at improving the integration of education into the workforce.

WHAT IS THIS BLUEPRINT MEANT TO DO?

Skills for a Nation: A Blueprint for Improving Education and Training 2007-2017 begins with Part A which starts with this chapter setting out the key principles of a good education and training system for Australia.

We then proceed to discuss the overall policy framework and set out what the Australian business community considers are the key objectives that it wants out of the Australian education and training system.

We also set out in this introductory chapter a timetable for reform – ie how the proposals made in the Blueprint should be implemented over the next 10 years.

Chapter 2 gives an overview of the entire education and training system and gives a detailed analysis of the economic case for further reform.

Chapter 3 gives never before published data from a recently conducted ACCI National Education and Training Survey that shows what the business community is saying about key issues related to the system.

Part B of the Blueprint examines each of the component sectors of the education and training system, viz:

- Early childhood, pre-school and primary school education (chapter 4);
- Secondary Schools and transitions to post-compulsory education (chapter 5);
- Vocational Education and Training (VET) (chapters 6-9); and
- Higher Education: Providing skilled workers and R&D (chapter 10).

The reader will note a concentration on the VET sector with four chapters for that sector alone. This is the case because of the significant direct involvement of the business community in this particular sector of the system. A large part of the training at VET level is done by business itself, in workplaces, and equally the overwhelming proportion of the graduates from this level of training go straight on to working for businesses in Australia (ie as the name says, the skills acquired are ‘vocational’ in nature).

Part C of the Blueprint addresses a whole range of cross-sectoral issues that by definition range across more than one education sector. They are:

- Maths and Science (chapter 11);
- Employability skills (chapter 12);
- Literacy and Numeracy (chapter 13);
The Key Principles of a Good Education and Training Policy

As the key principles for a good education and training policy, business strongly supports:

- a comprehensive education and training system which enables all Australians to contribute to a cohesive, democratic and prosperous society, in which the attributes and skills of individuals are fully developed.

This is crucial in meeting the short and long term economic goals of Australia and provides business with a competitive edge to compete in the global economy.

Business requires a system that retains incentives for employers and promotes the flexibility to choose education and training options, which meet specific industry needs.

Education and Training Policy Framework

Australia’s education and training system must provide people with the knowledge, skills and attitudes they need to participate fully in Australian society - culturally, socially and in their employment.

All Australians must be able to:

- benefit from a sound education platform which provides basic literacy and numeracy skills;

- pursue future education and training opportunities which enhance workplace skills; and

- develop a positive attitude to the concept of life-long learning.

Australian businesses expect individuals to have vocational skills, underpinning foundational skills and an understanding of entrepreneurial behaviour. On behalf of the business community ACCI plays an active part in the development, monitoring and evaluation of education and training policies and programs that impact on business. This is in recognition that the maintenance and expansion of a comprehensive education and training system is pivotal to the achievement of short and long term economic goals of Australia.

Education and training is imperative for:

- an increase in the competitiveness of enterprises and the need to respond to global competitive pressures;

- employee satisfaction/motivation through acquisition of higher skills;

- flexibility/adaptability of workers to change in the workplace;

- ability for companies to draw on workers in emerging labour markets and meet new industry needs;

- enabling enterprises to build upon skills of existing workers, particularly younger workers and to adapt them to a particular workplace; and

- absorbing the pool of youth unemployment and equipping them with the skills that employers need in order for those young people to make a positive contribution to the workforce and the economy through lifelong learning.

Education and training provides business with a competitive edge to compete in the global economy.

Education and Training Policy Objectives

ACCI supports education and training policies which:

- improve education and training as a driven system that is specifically aligned to industry needs;

- support the allocation of government funding to education and training outcomes that provide incentives for employers to participate, maximise opportunities for participants and enhance efficiencies within the system;

- expand the role of competitive markets in all sectors by pursuing open competition principles that diversify the supply of education;

- create competitive conditions that enhance the ‘user choice’ principle;
promote student centred funding that allows an individual to purchase a course of study through the school, vocational education and training provider or university of their choice;

promote the options available in clear, unambiguous, non-jargon ways that will be easily understood by students, employers and the current workforce;

facilitate the usage and availability of multiple education and training pathways from school to the workplace;

align packaging of training standards leading to a national qualification under the Australian Qualifications Framework (AQF);

focus on nationally consistent outcomes and achieve standards that are comparable to international standards of best practice;

respond to the growing need for students to undertake workplace learning programs that develop links with industry and create pathways to further training and employment;

improve, and regularly test, on a nationally agreed and consistent basis, literacy and numeracy standards;

strengthen the focus on sound such as literacy and numeracy, at primary and early secondary school levels;

acknowledge, develop and assess in a contextual manner, employability skills;

improve and integrate careers education, employability skills and enterprise education principles into the education and training system;

encourage the adoption of an enterprising culture, particularly by young Australians;

support articulation arrangements across the school, vocational education and training and higher education sectors;

promote equality of education opportunities and options for groups with special needs who experience barriers to participation in education, training and work;

enhance opportunities for education providers to be trained and qualified to standards which are adequately benchmarked; and

promote training reform which is enterprise focused, demand driven, flexible, mindful of all parties involved and devoid of extensive bureaucracy.

A Timetable for Reform

In the following chapters of this document *Skills for a Nation: A Blueprint for Improving Education and Training 2007-2017* we set out how we can meet the objectives noted above over the course of the next 10 year period.

Many things can be done now. However, significant changes to the way we organise the Vocational Education and Training (VET) system and the higher education system will require a large amount of political will from governments at different levels of our federal structure. They will take a considerable amount of time to implement.

The benefits to be gained are substantial. In a Research Report for the Council of Australian Governments (COAG), *Potential Benefits of the National Reform Agenda*, 3 substantial benefits were identified as part of the human capital agenda.

It was estimated that full implementation of the health and the education and training sub-streams of the National Reform Agenda (NRA) could potentially raise the level of workforce productivity by as much as around 1 percentage point, also over the next 25 years.

Model estimates of the impact of human capital stream reforms suggest:

- with higher output and more people in paid employment, household disposable income and household consumption could increase by up to around 7 per cent or around $1,800 (2005-06 dollars) per person, before any additional household financial and other costs;

- achievement of higher workforce participation is estimated to raise State, Territory and local government and Commonwealth net revenue by up to around $9 billion and $14 billion (2005-06 dollars), respectively, before the program costs of achieving NRA workforce participation objectives; and

- achievement of higher workforce productivity is estimated to raise State, Territory and local government and Commonwealth net revenue by up to around $4 billion and $6 billion (2005-06 dollars), though once again, this is before the program costs of achieving NRA workforce productivity objectives.
This Blueprint lists some 153 proposals related to improving of Australia’s operation of the education and training. ACCI will maintain a “Training Scorecard” of Governments’ uptake of these Blueprint recommendations.

The changes proposed can be divided between those matters that could be dealt with in the short to medium term, say, 3 to 5 years; and those matters that need more time, say, 5 to 10 years to implement (see Figure 1.1).

Thus Commonwealth and State Governments should seek to implement proposals in the following areas over the next 3 to 5 years:

• In the VET area a number of proposals can be accomplished in the near term including:
  - Greater funding from both the Commonwealth and State Governments.
  - The approach to the preparation of Training Packages.
  - The involvement of Industry Skills Councils.
  - The role of the Institute of Trade Skills Excellence (ITSE).

• A flexible industrial relations system underpinning the principle of performance pay for the VET and school sectors.

• Various proposals related to secondary schools and transitions to post compulsory education including schools-industry policy and Australian Technical Colleges.

• Parts of the early childhood, pre-school and primary school education proposals.

• Improvements in the integration of employability skills into education and training frameworks.

• Careers advice proposals as they relate to updating educational career advice and support.

• Matters relating to the drive to encourage foreign students and providing more resources to Australian Education International.

Further, the Commonwealth and State Governments should seek to implement proposals in the following areas over the next 5 to 10 years:

• In the VET area a number of proposals would take a longer timeframe to accomplish:
  - The introduction of a sensible system of fees, HECS and FEE-Help.
  - Review of incentive payments to include higher-level qualifications.
  - The exploration of alternative pathways to trade qualifications such as ‘certificates’, ‘associate diplomas’ and ‘diplomas’.

• Reforms to the way higher education is funded including the use of vouchers and the link between skilled workers and R&D.

• The development of an Australian National Curriculum and an Australian Certificate of Education to apply across Australia.

• Better integration between schools, VET and higher education.

• Over time, the improvement in the levels of literacy and numeracy.

• The improvement in the quality and quantity of maths and science graduates.

• Fostering a culture within training that encourages and promotes innovation and the re-gaining of Australia as a clever country of entrepreneurs, innovators and risk takers where the knowledge base is highly valued and rewarded across all levels.

• Further policy work designed to encourage careers guidance services in the private and voluntary sectors.

• A program to vastly expand the export potential of VET education.

• Changes to the taxation system to facilitate investment in education and training.

• Changes to the way the taxation system interacts with the education system, including to the taxation arrangements with respect to philanthropy.

• The treatment of people with disabilities; indigenous
For various areas of public expenditure the Australian Government has previously made long-term commitments to substantially boost spending levels.

For example, in the 2006-07 Budget the Government noted its previous provision of around 3 percent annual real growth in the Defence budget until 2010-11 and proceeded to commit for the four years 2011-12 to 2015-16, to “provide 3 percent annual real growth over the period, providing a firm basis for continued long-term planning.”

However, there is no such commitment for education and training. Indeed the Budget forward projections are for real ‘growth’ of only 0.0 percent; 0.8 percent; and 1.7 percent over the next three years.

This is simply not acceptable and will not achieve the goals of any Government.

The business community believes that a similar commitment that has been given to Defence should be made to investing in the most important asset the nation has, ie our human capital.

As detailed in Chapter 2, total public spending on education and training was $47.2 billion in 2004-05 (which is the latest consolidated figure from the Australian Bureau of Statistics). Of this some $14.4 billion was from the Australian Government and $34.0 billion from State Governments.

Two main resourcing issues are: what should be funded; and where should the money come from? The first question can be answered by a report prepared for the National Training Reform Taskforce in 2006, which analysed future training needs to 2016.

In this report, *Qualifications and the Future Labour Market in Australia*, predictions based on the use of qualifications as a proxy for skills suggest Managers, Professionals and Associate Professionals - together with Intermediate Clerical will increase while employment in Trades and

### Figure 1.1

<table>
<thead>
<tr>
<th>Timeframe</th>
<th>Goal</th>
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| 3 to 5 Years | - Greater funding from both the Commonwealth and State Governments.  
- Industry ownership of the preparation of training packages.  
- Reform Industry Skills Councils.  
- Cement the role of the Institute of Trade Skills Excellence (ITSE).  
- A flexible industrial relations system underpinning the principle of performance pay for the VET and school sectors.  
- Improve school to work transitions through various proposals related to secondary schools and transitions to post compulsory education including schools-industry policy and Australian Technical Colleges.  
- Focus on quality education in early childhood, pre-school and primary school education proposals.  
- Improvements in the provision of employability skills.  
- Improve careers advice, services and support.  
- Encouraging foreign students and providing more resources to Australian Education International. |
| 5 to 10 Years | - The introduction of a sensible system of fees, HECS and FEE-Help across the VET and Higher Education sectors.  
- Review of incentive payments to include higher-level qualifications.  
- The exploration of alternative pathways to trade qualifications.  
- Reforms to the way higher education is funded including the use of vouchers and the link between skilled workers and R&D.  
- The development of an Australian National Curriculum and an Australian Certificate of Education to apply universally across Australia.  
- Better integration between schools, VET and higher education.  
- Over time the improvement in the levels of literacy and numeracy.  
- The improvement in the quality and quantity of maths and science graduates.  
- Fostering a culture within training that encourages and promotes innovation and the re-gaining of Australia as a clever country of entrepreneurs, innovators and risk-takers where the knowledge base is highly valued and rewarded across all levels.  
- Further policy work designed to encourage careers guidance services in the private and voluntary sectors.  
- A program to vastly expand the export potential of VET education.  
- Changes to the taxation system to facilitate investment in education and training.  
- Changes to the way the taxation system interacts with the education system, including to the taxation arrangements with respect to philanthropy.  
- Improve the treatment of people with disabilities, Indigenous Australians, and mature age workers. |

Australians; and mature age workers.

**Funding of the Education and Training System**

For various areas of public expenditure the Australian Government has previously made long-term commitments to substantially boost spending levels.
Advanced Clerical in 2016 is actually forecast to decrease to below 2006 level. In 2016 more people will be employed in Associate Professionals than Trades occupations.

The number of employed people with qualifications will increase by over two million and the number without qualifications will decline by 840,000. A total of 1.78 million existing workers are expected to acquire qualifications to levels higher than they currently hold (70.5 per cent VET and 29.5 per cent higher education).

Although the most common VET qualification that existing workers will acquire is also a Certificate III (26.3 per cent) a relatively large proportion are expected to acquire an Advanced Diploma (14.9 per cent). In contrast, only 3.6 per cent of new entrants with qualifications are expected to have an Advanced Diploma.

The report states “If supply of people with VET qualifications remains at the same level as in 2005, a shortfall of 240,000 can be expected over the ten years to 2016. To meet the shortfall, net completions will need to increase by 1.9 per cent per year.”

Focus on supporting entry level qualifications should also not be neglected as the largest area of need will still be at the Certificate III level and this level of qualification is more relevant in particular industries.

It is also critical that training needs remain responsive to demand and that planning approaches do not rely too heavily on forecasts based on a supply side approach. There is an inherent risk in and potential for polarising the workforce into two distinct groups of lower level and higher level qualifications based on projections that use qualifications as a proxy for skills.

For example, is the current level of qualifications being undertaken at the higher level a result of individuals undertaking these studies because they think they can get a better job or because employers have identified it as a real need? NCVER research shows that motivation for studying VET varies - ranging from employment-related issues to personal development or further study. It also revealed that individuals studying higher level qualifications do not always receive wage benefits compared with those who do not complete a qualification.

Understanding where higher level skills will be needed and in which industries should be based on dialogue with industry rather than placing too much reliance on projections based on the current patterns of studying qualifications.

Adequately resourcing the VET system so that it is responsive to meet demand in all areas is therefore critical to ensuring an adequate supply of skills at all levels as required by industry.

The Australian Government should as a matter of priority increase expenditure on education and training, but so too should state governments.

All levels of Government have a responsibility to deliver three key strategies:

1. leadership and a will to make positive change happen;
2. funding in order to make the vision a reality; and
3. methodology and accountability to ensure that the vision and funding are turned into reality.

An increase in Australian Government expenditure of 3 percent in each of the next three financial years would be in the order of $2.6 billion in additional expenditure (see Figure 1.2).

However the matter should not stop with the Australian Government.

State Governments need to take full responsibility with

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<th>Projected Real Growth (%)</th>
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<td>18513</td>
<td>907</td>
</tr>
<tr>
<td>2009-10</td>
<td>18353</td>
<td>4.2</td>
<td>1.7</td>
<td>19531</td>
<td>1178</td>
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<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2592</td>
</tr>
</tbody>
</table>
respect to their obligations. State Governments must accept that their contribution in both dollar terms and commitment is intrinsic to Australia succeeding in helping business to deliver in the global marketplace. State Governments should match any Australian Government expenditure increase, and as they account for a bit over double the total expenditure of the national government on education and training they should increase funding by some $5.2 billion.

An injection of a combined additional $7.8 billion over the next three years would be a significant boost to maintaining Australia’s strong international standing in respect of education and a long way to boosting us to world’s best.

It is imperative that this funding is not seen in isolation and that it must be linked to efficiencies outlined under the Commonwealth-State Training Agreement with adequate safeguards on market based delivery and cementing the role of industry including User Choice and the connection to the outcomes of industry endorsed quality rating system through the Institute for Trade Skill Excellence.

This Blueprint contains a number of areas where there should be increased funding. However, the overall increase in expenditure should be concentrated on ensuring that we have the best VET sector in the world.

**Conclusion**

ACCI is nationally recognised as the leading employer organisation in the debate around skills development and training at federal, and state and territory levels.

This Blueprint examines:

- resourcing issues – including the promotion of User Choice, student fees, infrastructure, taxation and appropriate levels of government, employer and individual investment to improve Australia’s skill training;

- the appropriateness of existing skills and training structures including the National Training Framework;

- the integration of post compulsory education and training options – that is, across the three education sectors;

- education and training responses to meet skills and labour shortages, in particular the ageing workforce; and

- appropriate consultative mechanisms to ensure skills and training activity and policy is employer-led.

---

2. The survey is published quarterly and the January 2007 survey showed that the Availability of Suitably Qualified Employees was ranked second while the Availability of Training Facilities was ranked 14th. The survey is available at http://www.acci.asn.au/SurveySOIC.htm.
INTRODUCTION

This chapter provides an overview of the education and training system in Australia. It then discusses the nature of the skill shortage challenge facing the nation.

Further, to understand the full importance of the system to the overall economy we discuss the way that education meets the economic challenges facing Australia.

AUSTRALIA’S EDUCATION AND TRAINING SYSTEM

As the Australian Bureau of Statistics defines it:

Education can occur within a variety of environments, some more formal than others. Typically, formal learning occurs within the distinct sectors of preschool, school, vocational education and training, and higher education. Structured learning within formal institutions is characterised by delivery that is systemic, planned and organised ahead of time, and which usually involves some evaluation of achievement. Many other kinds of structured learning can take place outside formal institutions and can continue after a person has completed schooling or gained trade or higher qualifications. For instance, structured learning might be undertaken in the workplace, in order to acquire, develop or upgrade work-related skills. Non-formal education, while intentional, is delivered in an informal and unstructured way, on an ad hoc basis. It does not necessarily involve any student-teacher relationship or evaluation of achievement. Non-formal education includes on-the-job training and self-directed learning.1

The Australian education and training system that we are focusing on in this document comprises the pre-school, the school and post-school sectors, with the latter broken down into the vocational education and training (VET) sector and the higher education sector.

Excluding pre-school students, in 2005 the total number of students in the education and training system was 5.95 million (see Figure 2.1). Of this figure 3.35 million or 56.3 percent were in schools, 1.64 million or 27.6 per cent were in VET and 960,000 or 16.1 percent were at universities.

The education industry contributed 4.6% of Australia’s gross domestic product in 2004-05 and 7% of employed persons in May 2005.

EDUCATION FUNDING

Total public expenditure on education is derived by the Australian Bureau of Statistics (ABS) from data on the operating expenses for all levels of government. Those operating expenses on education include: employee expenses; non-employee expenses; depreciation of fixed assets; and current and capital transfer expenses.2

Growth in recent years has been strong. Between 1998-99 and 2004-05, operating expenses increased by 51% overall, with increases of 51% in primary and secondary education, and 45% in tertiary education (see Figure 2.2).

The operating expenditure in 2004-05 was $47.2 billion, an increase of $3.8 billion (9%) from the previous year. This largely reflects increases in expenditure on primary and secondary education of $2.3 billion (9%) and tertiary education of $1.1 billion (7%) over the same period (see Figure 2.3).

Figure 2.4 from the ABS summarises operating expenses on education for each level of government from 1998-99
Over this period, total operating expenses of state and local government increased by 51%, while expenses for the Australian Government increased by 49%.

Intra-sector transfers are transfers or transactions that occur between different levels of government for the purposes of education, the net effect of which is to reduce total government operating expenses on education (See Figure 2.5).

Figure 2.6 provides details on the Australian Government’s expenditure on education. Schools, (both primary and secondary) were the major recipient of Government grants at $7,268m in 2004-05, while universities (within the multi-jurisdictional sector) received a total of $4,693m in the same period. These figures represented increases of 11% and 7% respectively from 2003-04.

PRIVATE EXPENDITURE

A very significant proportion of total expenditure on education comes from the private sector.

According to the ABS this is made up of two sources: gross fixed capital formation by private educational institutions and household final consumption expenditure on education services. The former is estimated from statistics of the value of work done on new building and major additions to buildings of private educational institutions. The latter is estimated as: fees paid by persons to government schools (including technical and agricultural colleges); fees (other than boarding fees) and gifts to universities, independent schools, business colleges, etc; plus current expenditure of non-profit educational institutions (net of fees and other current receipts).

Figure 2.7 below shows that private sector expenditure on education increased every year between 1998-99 and 2003-04. For 2004-05, the total private expenditure on education was $19.7 billion.

SCHOOL AND POST-SCHOOL EDUCATION SECTORS

School Sector

In August 2005, there were 9,623 primary and secondary schools in Australia. They employed over 265,000 teachers and received total public funding of around $26 billion in
At the same time there were 3,348,139 full-time school students and while government schools represent 72 percent of all schools, attendance at government schools was 67.1 percent.

Non-government school attendance has risen sharply over the ten years to 2005, with attendance increasing by 22.2 percent. The corresponding increase in non-government schools was 1.7 percent.²

States and territories have regulatory and funding responsibility for government schools and provide supplementary assistance to non-government schools.

For its part the Australian Government is the primary source of public funding for non-government schools and...
provides supplementary assistance to government schools.

Nominally, schooling is free. However, fees are charged on a user pays basis for items such as hire of text books and school equipment. Most schools seek voluntary contributions from parents to supplement the funding received from governments.

Individual parents and their children may receive some form of assistance from governments in the form of scholarships, bursaries, transport and boarding allowances.

In the case of non-government schools the overwhelming proportion have some religious affiliation. Of those over 60 per cent of students are enrolled in Catholic schools.

**Vocational Education and Training**

Training is delivered by registered training organisations (RTOs), which can include Institutes of Technical and Further Education (TAFE), private providers, individual enterprises and community-based providers.

In addition, Australian Apprenticeships are available in most sectors of business and industry. The Australian Apprenticeship Scheme received an additional $729m in 2005.

The latest data available shows that in 2005 there was an estimated 1.64 million students enrolled in the publicly and/or private-publicly funded VET system. Unfortunately, data on the number of people undertaking training in purely private accredited institutions is not available and therefore the sector’s output is understated to some extent.

In 2005 there were an estimated 3,000 Registered Training Organisations (RTO) currently operating in Australia. Those that receive public funding receive approximately 48% from state and territory governments, 33% from the Australian Government, 19% from fees and charges and 4% from ordinary operating activities.3

A number of major reforms to Australia’s national training system were introduced on 1 July 2005.

The principal legislative backing is the *Skilling Australia’s Workforce Act 2005*. The Act is underpinned by a framework that includes a multilateral agreement with all states and territories (the 2005-2008 Commonwealth-State Agreement for Skilling Australia’s Workforce), a bilateral agreement with each state and territory, and a Vocational Education and Training Plan from each state and territory that sets out implementation arrangements.

The system is founded on a partnership between governments and industry. A key feature is that employers and industry play a central and critical role in determining training policies and priorities, and in developing training qualifications to deliver the skills employers need.

The Australian Government has established new governance arrangements for the system, which ensure access for industry to the Ministerial Council for Vocational and Technical Education (MCVTE) and the National Senior Officials Committee (NSOC).

Australian business has been given a stronger voice in national planning and priority setting, through:

- formal structures such as the National Industry Skills Committee and the National Quality Council
- less formal arrangements such as working groups and consultation on individual programmes and activities
- establishment and operation of Australian Technical Colleges and the Institute for Trade Skills Excellence, which provides industry with the capacity to identify, acknowledge, reward and promote excellence in trade skills development and training.

In addition the National Quality Council was established to ensure national consistency in the sector and includes representatives from industry, states and territories, client groups as well as training providers.

The Council is considering a range of initiatives, including whether Australian Quality Training Framework standards can become more outcomes focused, improving the national consistency of audit arrangements (particularly for providers operating across a number of states or offshore), and looking into public reporting arrangements for training providers to allow clients to make more informed choices when choosing a training provider.

The DEST Annual Report 2004-05 noted that employer satisfaction (Figure 2.8) was measured more specifically in 2005 with a change from ‘satisfaction with vocational and technical education’ to become ‘satisfaction with quality of training’. The results indicate that the upward trend with satisfaction levels by TAFE graduates continued in 2005.
Higher Education

The higher education sector in Australia comprises 39 universities (of which 37 are public institutions and two are private), one Australian branch of an overseas university, four other self-accrediting higher education institutions and approximately 150 non-self-accrediting higher education providers accredited by state and territory authorities.

University attendance has been strong with 720,000 domestic students attending university, while Australian universities attracted 239,495 international students. An emerging feature of the Australian education sector has been the growth of international students attending domestic universities. International student numbers have risen significantly, rising by 52.3 percent from 2001 to 2005.

Australian Government funding for higher education institutions is provided under the Higher Education Support Act 2003, which amounts to approximately 42 percent of the total revenue. Further detail is provided in Chapter 10. Targeted funds under the Australia Government’s Workplace Productivity Programme have injected more funds into the sector where reforms such as human resource practices, management and rationalisation of resources have been instigated.

The student loan schemes HECS – HELP, FEE HELP and OZ HELP support students in a variety of ways to pay for their individual contribution towards the costs of their degree. This accounts for approximately 15% of operating revenues. Other fees and charges make up a further 23%. The contribution made to the revenue of higher education institutions by accepting overseas students is approximately 15% although some institutions rely more heavily on this source of income than others.

EDUCATION AS AN EXPORT INDUSTRY

Australia also provides educational services to overseas students (see Figure 2.9).

These students provide a major source of income for domestic educational institutions and as more domestically training foreign students reside in Australia after studies, they help meet the challenge of Australia’s skill shortages.

According to published data, education exports are Australia’s fourth largest export sector after coal, tourism and iron ore, with 345,000 international student enrolments in 2005. It contributed about $7.5 billion to the Australian economy in 2004.

Education exports contribute significantly to international competitiveness, as well as promoting Australia’s national interests.

As we will discuss in detail in Chapter 15, the Government has an important role in encouraging and facilitating education and training exports.

INTERNATIONAL COMPARISONS

A comparison of Australia’s education and training performance to other nations can be very revealing (see Figures 2.10 and 2.11).

While expenditure on education may provide some indication of the stock of human capital, the quality of education as measured by the comparative results of international examinations in science, maths and reading provides another metric of educational quality. For example the OECD noted that:

Spending is not necessarily a guarantee of higher quality in terms of education, though: Australia, Belgium, the
Czech Republic, Finland, Japan, Korea, the Netherlands and New Zealand all have moderate expenditure on education per student at the primary and lower secondary levels but are among the countries where 15-year-olds perform strongest in key subject areas.

Figure 2.12 gives an international comparison of Australia’s position. Australia scores particularly well.

However, there is also a separate question about the numbers of students graduating with the relevant science and maths qualifications. There is a general view that Australia could do much better with respect to the provision of science and maths training and this is explored in Chapter 11.

**SKILL SHORTAGES**

To some degree Australia is a victim of its own success. Years of economic growth have placed a great strain on Australia’s pool of labour resources.

Throughout most of the last three decades Australia has been able to call on vast reserves of under and un-utilised human capital.

However, as policy has successfully implemented micro-economic reform in all sectors of the economy, competition for workers has become a major constraint to continuing employment and economic growth.

Training by individuals and firms in addressing skill shortages is a vital part of adding flexibility to the labour market while reducing the incidence of skill mismatch.

Australia is facing serious skills shortages which, unless addressed, could threaten the sustainability of our economic growth, our healthy productivity performance and our international competitiveness. Demographic changes, most notably the ageing of the domestic labour force and skilled labour shortages, are an issue not just for Australia, but also for developed economies around the world.

Skill shortages are either seen as a failure of government to invest in education and training or a symptom of Australian economic success. Whatever the cause industry must have access to skilled workers at prices, which reflect their productivity.

The definition of Skills Shortages adopted by DEST:

Employers are unable to fill or have considerable difficulty in filling vacancies for an occupation, or specialised skill needs within that occupation, at current levels of remuneration and conditions of employment, and reasonably accessible location.

Contributing to Australia’s skills shortage is the decline of the unemployment rate to around 30-year lows, reducing the pool of suitable labour from which business access suitable candidates. In December 2006, the unemployment rate remained at 4.6 per cent. While the official unemployment figures are currently strong, there are problems with the use of this number: measuring unemployment on its own does not account for underemployment.

ABS data on labour underutilisation shows that despite the reduction in the unemployment rate there continues to be
### Figure 2.10
Distribution of Persons Aged 25-64 Years
by Level of Educational Attainment

<table>
<thead>
<tr>
<th>Country</th>
<th>Reference Year</th>
<th>Below Upper Secondary Education (a) %</th>
<th>Upper Secondary Education &amp; Post-Secondary Non-Tertiary Education (b) %</th>
<th>Tertiary Type B Education © %</th>
<th>Tertiary Type A and Advanced Research Programs (d) %</th>
<th>Total (e) %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>2003</td>
<td>38</td>
<td>31</td>
<td>11</td>
<td>20</td>
<td>100</td>
</tr>
<tr>
<td>Canada</td>
<td>2003</td>
<td>17</td>
<td>40</td>
<td>22</td>
<td>22</td>
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</tr>
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<tr>
<td>France</td>
<td>2003</td>
<td>36</td>
<td>41</td>
<td>9</td>
<td>15</td>
<td>100</td>
</tr>
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<td>36</td>
<td>6</td>
<td>12</td>
<td>100</td>
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<td>Italy</td>
<td>2003</td>
<td>53</td>
<td>36</td>
<td>(f)</td>
<td>10</td>
<td>100</td>
</tr>
<tr>
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<td>8</td>
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<td>n.a</td>
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<tr>
<td>New Zealand</td>
<td>2003</td>
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<td>100</td>
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<td>n.a</td>
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</tr>
<tr>
<td>Sweden</td>
<td>2003</td>
<td>17</td>
<td>40</td>
<td>15</td>
<td>18</td>
<td>100</td>
</tr>
<tr>
<td>United Kingdom</td>
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<td>16</td>
<td>56</td>
<td>9</td>
<td>19</td>
<td>100</td>
</tr>
<tr>
<td>United States of America</td>
<td>2003</td>
<td>13</td>
<td>49</td>
<td>9</td>
<td>29</td>
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<td>n.a</td>
<td>n.a</td>
<td>n.a</td>
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</tr>
</tbody>
</table>

(a) International Standard Classification of Education (ISCED) levels 0, 1 and 2. For Australia this includes Preschool, Primary School and lower Secondary School levels as well as the Basic Vocational level.

(b) International Standard Classification of Education (ISCED) levels 3 and 4. For Australia this includes Year 12 completion as well as the Skilled Vocational level.

(c) International Standard Classification of Education (ISCED) level 5B. For Australia this includes Associate Diplomas and Undergraduate Diplomas.

(d) International Standard Classification of Education (ISCED) levels 5A and 6. For Australia this includes Bachelor degree level or higher.

(e) Component totals when added may not equal 100% due to rounding.

(f) Data included in Tertiary Type A and advanced research programs.

**Figure 2.11**
Educational Participation (a) and Expenditure

<table>
<thead>
<tr>
<th>Country</th>
<th>Reference Year (b)</th>
<th>15-19 %</th>
<th>20-29 %</th>
<th>30-39 %</th>
<th>40 and over %</th>
<th>Reference Year (b)</th>
<th>Total Public Expenditure as a Proportion of GDP (c) %</th>
<th>Total Public and Private Expenditure as a Proportion of GDP (d) %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>2003</td>
<td>82.1</td>
<td>33.4</td>
<td>15.1</td>
<td>6.8</td>
<td>2002</td>
<td>4.4</td>
<td>6.0</td>
</tr>
<tr>
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<td>…</td>
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<td>2003</td>
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<td>France</td>
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<td>20.4</td>
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<td>3.9</td>
<td>-</td>
<td>-</td>
<td>2002</td>
<td>1.2</td>
<td>1.9</td>
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<td>19.3</td>
<td>2.7</td>
<td>-</td>
<td>2002</td>
<td>4.6</td>
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<td>2002</td>
<td>3.5</td>
<td>4.7</td>
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<td>27.3</td>
<td>1.9</td>
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<td>7.1</td>
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<td>8.4</td>
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<td>2002</td>
<td>5.6</td>
<td>6.8</td>
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<td>Sweden</td>
<td>2003</td>
<td>86.8</td>
<td>34.5</td>
<td>13.6</td>
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<td>6.7</td>
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<td>2003</td>
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<td>26.3</td>
<td>15.7</td>
<td>7.8</td>
<td>2002</td>
<td>5.0</td>
<td>5.9</td>
</tr>
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<td>United States of America</td>
<td>2003</td>
<td>75.4</td>
<td>22.2</td>
<td>5.9</td>
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<td>2002</td>
<td>5.3</td>
<td>7.2</td>
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<tr>
<td>Vietnam</td>
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<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
<td>…</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
</tbody>
</table>

(a) Participation rates are based on full-time and part-time enrolments.
(b) 1 January of the reference year is considered a good proxy for the midpoint of the school year except for New Zealand, Australia and Korea where 1 July is used as the midpoint of the reference period.
(c) Includes both purchases by the government agency itself on educational resources and also appropriations by the government agency to educational institutions which have been given responsibility to purchase educational resources themselves. Also includes public subsidies to households attributable for educational institutions, and direct expenditure on educational institutions from international sources.
(d) Public expenditure refers to the spending of public authorities at all levels. Private expenditure refers to expenditure funded by private sources i.e. households, private business firms and nonprofit organisations of religious, charitable or business and labour associations.

### Figure 2.12
Student Performance on Combined Reading, Mathematical and Scientific Literacy Scales (a)

<table>
<thead>
<tr>
<th>Country</th>
<th>Reference Year</th>
<th>Combined Reading Literacy</th>
<th>Mathematical Literacy</th>
<th>Scientific Literacy</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Males Mean Score</td>
<td>Females Mean Score</td>
<td>Males Mean Score</td>
</tr>
<tr>
<td>Australia</td>
<td>2003</td>
<td>506</td>
<td>545</td>
<td>527</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Canada</td>
<td>2003</td>
<td>514</td>
<td>546</td>
<td>541</td>
</tr>
<tr>
<td></td>
<td></td>
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<td></td>
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<td>China</td>
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<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
<tr>
<td>France</td>
<td>2003</td>
<td>476</td>
<td>514</td>
<td>515</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Greece</td>
<td>2003</td>
<td>453</td>
<td>490</td>
<td>455</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hong Kong (SAR of China)</td>
<td>2003</td>
<td>494</td>
<td>525</td>
<td>552</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Indonesia</td>
<td>2003</td>
<td>369</td>
<td>394</td>
<td>362</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Italy</td>
<td>2003</td>
<td>455</td>
<td>495</td>
<td>475</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Japan</td>
<td>2003</td>
<td>487</td>
<td>509</td>
<td>539</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Korea (Republic of)</td>
<td>2003</td>
<td>525</td>
<td>547</td>
<td>552</td>
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<td></td>
<td></td>
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<td></td>
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<tr>
<td>Malaysia</td>
<td>...</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
<tr>
<td>New Zealand</td>
<td>2003</td>
<td>508</td>
<td>535</td>
<td>531</td>
</tr>
<tr>
<td></td>
<td></td>
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<tr>
<td>Papua New Guinea</td>
<td>...</td>
<td>n.a.</td>
<td>n.a.</td>
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<tr>
<td>Singapore</td>
<td>...</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
<tr>
<td>Sweden</td>
<td>2003</td>
<td>496</td>
<td>533</td>
<td>512</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>United Kingdom</td>
<td>...</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
<tr>
<td>United States of America</td>
<td>2003</td>
<td>479</td>
<td>511</td>
<td>480</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vietnam</td>
<td>...</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
</tbody>
</table>

(a) A scaling method assigns scores so that 500 is the OECD average in each domain.

a significant number of underemployed; the latest data for September 2005 shows underemployment was recorded at 566,600 individuals, or 5.9 per cent of the labour force.

Additionally, the ABS study on discouraged job-seekers showed that in 2004, there were 119,200 workers who had either dropped out of the labour market altogether or who were not available to start in the reference week. Adding these workers to those that are unemployed and underutilised gives what the ABS terms the extended labour force underutilisation rate (see Figure 2.13).

Assuming the difference between underutilisation and unemployment has remained constant since 2005, the current rate of extended labour force underutilisation will be around 11.0 per cent. In some regard successful reforms to the labour have not been the panacea that policy makers and industry had hoped.

ACCI’s Survey of Investor Confidence shows that firms rank the availability of suitability-qualified employees as highly as government taxes and regulations as a constraint on investment (see Figure 2.14).

Added to this the world and the economy are changing faster than ever before. Information and knowledge are no longer seen as residuals to economic growth but drivers.

Greater understanding of the contribution education and training makes to economic growth and the advancement of living standards requires a renewed emphasis be placed on improving the current educational framework.

The benefits of developing and maintaining an educated and skilled workforce have been widely noted by a number of economic institutions.

For example, the OECD and IMF have noted that increasing human capital through education and training is a critical component of growth in both advanced and developing economies.

Individuals invest in human capital, formal education and on-the-job training, to increase life long earnings while firms benefit through higher productivity, competitiveness and profitability. Education creates a number of positive externalities or spillover effects.

These spillover effects can generally be captured by macro-economic level estimates. Estimates of individual returns to education are likely to underestimate the full returns to education if education is a public good.

The inability of an economy to provide the number and quality of employees required has long lasting and negative consequences for a society. As noted by former US Federal Reserve Chairman, Alan Greenspan:

Research on wealth creation in both emerging and developed nations strongly suggests that it is the knowledge and the skill of our population interacting under our rule of law that determine our real incomes, irrespective of the specific jobs in which these incomes are earned and irrespective of the proportion of domestic consumption met by imports.

As the nature of work becomes increasingly global then the nature of competition becomes global. Integrating into the world economy presents great opportunities but in equal measure requires strong foundations.

<table>
<thead>
<tr>
<th>Figure 2.13</th>
<th>Labour Underutilisation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2002 Persons ('000)</td>
</tr>
<tr>
<td>Total Unemployed</td>
<td>636.4</td>
</tr>
<tr>
<td>Underemployed Workers</td>
<td></td>
</tr>
<tr>
<td>Underemployed Full-Time</td>
<td>47.9</td>
</tr>
<tr>
<td>Underemployed Part-Time</td>
<td>536.5</td>
</tr>
<tr>
<td>Underutilised Labour</td>
<td>1,215.7</td>
</tr>
<tr>
<td>Groups with Marginal Attachment</td>
<td>121.9</td>
</tr>
<tr>
<td>Extended Underutilised Labour</td>
<td>1,337.6</td>
</tr>
<tr>
<td>Labour Force</td>
<td>10,017.5</td>
</tr>
<tr>
<td>Unemployment Rate (%)</td>
<td>6.4</td>
</tr>
<tr>
<td>Extended Proportion (%)</td>
<td>7.1</td>
</tr>
<tr>
<td>Extended Unemployment Rate (%)</td>
<td>13.4</td>
</tr>
</tbody>
</table>

Education contributes to economic growth both directly through increasing the productivity of workers and indirectly, but leading to the creation of knowledge, ideas and innovation.

Today the importance of life-long learning is at the forefront in education. While education prior to entering the workforce provides the basic knowledge, further education allows employees to adapt to changing market skills and requirements.

The type of work offered and undertaken by employees has also evolved with the economy placing greater emphasis on skilled rather than unskilled labour. A paper by Laplagne, Marshall and Stone\(^\text{12}\) noted that increases in demand for a skilled worker were primarily driven by skilled-based technical change in Australia rather than greater competition from unskilled intensive imports.

If Australia as a society is to continue to maintain its relative standard of living then the productive capacity of the labour market must rise at least in concert with those of our trade competitors.

‘New’ growth theory has transformed traditional notions of capital by including human capital, investment in education and training in the production process. As noted by former Reserve Bank Governor, Bernie Fraser:

[I]t highlights the contribution of human capital to the production process. Studies suggest that investment in human capital leads to increased investment in physical capital. With more education and training, people adapt more effectively to new technologies, thereby raising productivity and economic growth.\(^\text{13}\)

A US Congress Joint Economic Committee study\(^\text{14}\) noted that education contributes to economic growth through two mechanisms:

The first, and most highly publicized, is through the creation of new knowledge, known as Schumpeterian growth. Schumpeterian growth is growth attributable to increases in human capital. More highly educated individuals translate into more scientists, analysts, technicians, and inventors working to increase the stock of human knowledge through the development of new processes and technologies.

This leads us to the second way that education affects economic growth. Education affects economic growth through the diffusion and transmission of knowledge. Schools provide the education level necessary to understand and digest new information, and a way to transmit new information. Increases in educational levels helped the invention and innovation in the computer industry over the past 30 years, yet without schools to teach how to use computers and new applications, the effect of such innovation would be reduced.\(^\text{15}\)

As access to capital increases alongside globalisation, the transformation of industrialised economies into knowledge economies is taking place. In today’s modern economies knowledge has become another factor of production, like land, labour and capital it propels individuals to become more productive and wealthy, and provides higher living standards for society.

Information technology and R&D are considered critical drivers of economic growth in industrialised countries of which education and training are essential components.
Skilled labour is considered complimentary to physical capital whereas unskilled labour is substituted for physical capital.

Furthermore, the extent to which public policy makers intervene in the education and training market will depend on the degree of market failure or externalities associated with human capital.

So far, the empirical evidence does not weigh heavily on one side or the other. Put another way, there is a place for both the private and public sectors in the provision of education.

Research conducted through ACCI-coordinated, DEST-funded projects identified a number of common elements that contribute to shortages. These include:

- the ageing of the Australian population means that across a wide range of industries, a significant number of skilled workers have either retired, or are about to retire;
- career moves where skilled workers have moved to other roles within their industry or moved into other industries “going off the tools”;
- new and emerging technology has put many existing workers at a disadvantage because they have not been trained to use these technologies and in some cases are resistant to change or to undertaking training;
- many young people, and their parents, have outmoded perceptions of some industries that do not encourage school leavers to seriously consider a career in those industries and these perceptions are not always accurately addressed by the career counselling services available to them;
- a training regime and delivery system that does not fully meet the needs of employers and potential employees and does not reflect realities of the modern workplace or workplace practices;
- the complex and complicated structures of, and information about, the Vocational Education and Training (VET) system and the New Apprenticeships program that discourage employers from engagement; and
- the different career expectations of Generation X and Y compared to those of previous generations meaning that they do not necessarily expect to remain in the one occupation or with the same employer for extended periods of time. Consequently, employers may be reluctant to invest in training when there is a realistic possibility that the employee will not remain with them long enough for them to achieve a return on their investment in the training.

A common finding was that there is a need for many industries to look beyond the traditional sources of new recruits (usually school leavers) and consider women, mature-aged people, Indigenous Australians and up-skilling existing workers. The point was made in several of the projects that those already employed, particularly in industries that have a high turnover, could well be the best candidates for higher level roles if the possibility was put before them and realistic training plans developed to allow them to build on their skills and industry experience.

Another common finding was that training outcomes do not always meet the needs of employers and employees and that many employers are providing their own non-accredited training, or making other arrangements to cover shortages to meet short term needs. Many of the projects identified the need for improvements to the national training system, the Training Packages for their respective industry and the delivery of training.

Skill shortages can also be addressed through skilled migration programs. However, the challenge for immigration policy makers, and for business, is to ensure Australia is recognised as a destination of preferred choice for scarce skilled migrants.

Skilled migration is not, and should not be seen as, a panacea for skill shortages or a substitute for a robust domestic training effort. While skilled migration can deliver skilled labour for immediate or emerging shortages in relatively short time-frames, it can only complement domestic training arrangements, which must deliver the backbone of Australia’s skilled labour needs.

The skilled component of the migration program should complement other initiatives to meet skills shortages, such as training Australian school leavers and the expansion of the labour pool through training or retraining existing personnel to upgrade their skills and facilitate people returning to the workforce after early retirement, injury, unemployment or as recipients of welfare.

There is also a need to encourage skilled qualified labour whose skills are underutilised in their current employment
to move to locations within Australia where those skills are in high demand.

**WORKFORCE PARTICIPATION**

Training, as distinct from other forms of education, is the development of skills that might be useful in their current employment. Just like formal education, VET shows employer provided training is transferable from one job to the next. Furthermore, individuals with higher abilities, educational attainment or occupational status are more likely to participate in training.16

Individuals that are unskilled compete for employment that is often low paid and intermittent in nature. Furthermore, individuals with highly specialised skills can find themselves in a similar position when those skills are no longer in demand. Training and re-training programs must be flexible in providing marketable skills to employees, to adjust to changing economic and industry structures.

In 2004, approximately 193,800 young people between the ages of 15-19 were not fully engaged (86 percent were consider fully engaged) to either full-time education and employment or a combination of part-time education and employment.17 The ABS noted the importance of the transition from education to work for young people:

For young people, the decisions made during the transition from school to continued study or full-time employment can have long-term implications. These can be for the young people themselves and their community, as well as for industry and governments, with significant health, welfare, and national productivity implications. During this period of transition, continued participation in formal skill development, learning and employment can be particularly important.18

Young individuals not fully engaged faced a greater risk of falling into long-term unemployment, underemployment or being marginally attached to the labour force.19

Studies have noted early abilities, formal education and on-the-job training are strongly complimentary.20

The Monash University – Acer Centre For The Economics Of Education and Training (CEET) *The Future Labour Market and Qualifications in Australia*21 report (see Figure 2.15) shows that of those that are unemployed only 38.7 percent have qualifications. Likewise of those not in the labour market only 33.2 percent have qualifications. The unemployed and not-in-the-labour-force figures contrast markedly with 58 percent of employed people who have qualifications.

The two ways to reduce the incidence of low skilled employees are by either encouraging retraining of the low skilled or reducing the flow into the unskilled labour pool. Both strategies should be employed. Over the longer term reducing the number of people who fall through the

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**Figure 2.15**

Qualification Profiles of 15-64 Year-olds in the Civilian Population in May 2005 by Labour Force Status, Australia (%)

<table>
<thead>
<tr>
<th>Non-School Qualification</th>
<th>Employed</th>
<th>Unemployed Not in the Labour Force</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Full-Time</td>
<td>Part-Time</td>
<td>All</td>
</tr>
<tr>
<td>VET</td>
<td>37.3</td>
<td>29.2</td>
<td>35.0</td>
</tr>
<tr>
<td>Adv Diploma</td>
<td>4.7</td>
<td>5.3</td>
<td>4.9</td>
</tr>
<tr>
<td>Diploma</td>
<td>4.1</td>
<td>3.3</td>
<td>3.9</td>
</tr>
<tr>
<td>Certificate IV</td>
<td>3.3</td>
<td>3.5</td>
<td>3.4</td>
</tr>
<tr>
<td>Certificate III</td>
<td>18.5</td>
<td>8.5</td>
<td>15.6</td>
</tr>
<tr>
<td>Certificate II</td>
<td>3.9</td>
<td>4.9</td>
<td>4.2</td>
</tr>
<tr>
<td>Certificate I</td>
<td>2.7</td>
<td>3.8</td>
<td>3.0</td>
</tr>
<tr>
<td>Higher Education</td>
<td>25.2</td>
<td>17.5</td>
<td>23.0</td>
</tr>
<tr>
<td>With Qualifications</td>
<td>62.5</td>
<td>46.8</td>
<td>58.0</td>
</tr>
<tr>
<td>Without Qualifications</td>
<td>37.5</td>
<td>53.2</td>
<td>42.0</td>
</tr>
<tr>
<td>All</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>

NFD = Not Further Defined.
Certificate III/IV NFD have been distributed proportionately across Certificate III and Certificate IV; Certificate I/II NFD across Certificate I and Certificate II; and Certificate NFD and Level not determined across Certificate I, II, III and IV.

training cracks reduces the stock of low skilled but does not alleviate the immediate issues of low skills. In particular those that remain low skilled are more vulnerable to repeated or long-term unemployment or becoming disenfranchised and leaving the labour market altogether. Therefore, it is important to also encourage the low skilled to do further training.

Encouraging the take-up of skills must hinge on improving the incentives to training and the flexibility of training providers to meet market demand. The virtuous cycle that emerges from training is that training tends to increase the value that is produced by the economy, raising real wages, which reinforces incentives to training by providing monetary and other rewards.

Currently completions of Certificate III and IV represent 54% of the existing labour force. Even given some net retirement and net skilled migration one can see that simply focusing on training new labour force entrants will not make a sizeable difference to the availability of skills over the short-term.

Looking at the international data it is clear that Australia has some way to go in terms of raising the level of incentives to acquiring skills. Figures 2.16 and 2.17 show that the higher education sector performs well against international benchmarks, but the relatively small proportion of intermediate skills and high proportion of low skill employees presents a much more sombre scenario.

Intermediate skills are generally thought of as the implementation skills and are critical to the production process. Countries such as the United States, Japan and Germany have significantly lower proportions of low-skilled employees and high or intermediate proportions. Australia and the UK on the other hand do not stack up well against these three other nations. In particular Australia and the UK have followed similar paths in the apprenticeship system.

The data highlights the key improvement areas for the Australian education system. Namely moving low skilled employees to a higher skill level and ensuring that those with the ability and inclination to achieve a higher skill level do so.

To date there has been some limited success in improving skill levels but more is required. Over the 2001 to 2005 period the reduction in employees without formally recognized qualifications fell by 1.6 percent. This figure reflects the attrition of low skilled employees, new entrants tending to have higher skills and some retraining of low skilled employees. However, the long-term approach of greater initial training for new entrants should be combined with a greater stimulation of interest in training for existing labor market participants. For example, at the average rate of growth over the past five years of the labour force and of skilled and unskilled employees Australia would be on par with the USA, Germany and Japan after approximately 25 years given those economies do not themselves improve further.22

Figure 2.16
Comparison of Skills in the Labour Force

Looking at the change in qualifications in 2001, 46.7 percent of labour force participants had no formally recognized qualifications. In 2005, that number had fallen to 43.1 percent but remains very high when viewed alongside the high, intermediate, and low skill composition of some of our main international competitors such as the USA, Germany, and Japan. These countries have significantly higher levels of skills amongst the labour force and the data is presented in the following section.

Domestic and international evidence indicate skilled employees are less likely to be unemployed (see Figure 2.18) and if so suffer shorter durations (see Figure 2.19).

Of persons with a non-school qualification, 81% were employed, compared to 61% without a non-school qualification. Of employed persons with a non-school qualification, 77% were full-time workers, compared to 64% of employed persons without a non-school qualification.

Furthermore, 15.4% of persons with a non-school qualification were not in the labour force while 33.8% of persons without a non-school qualification were not in the labour force (see Figure 2.19).

Other benefits beyond duration and attachment to the labour force from a better-educated workforce include a more effective labour supply. Whatever the answer may be with respect to incentives or disincentives, part of the answer to unemployment lies in lifting the quality of the labour supply of the unemployed. The level of unemployment exerts
little pressure on wages because the long-term unemployed do not constitute part of the effective labour supply. They are not a ready substitute for those already in the labour force or those merely between jobs. In the case of those out of work for an extended period their skills atrophy, the routine of working life is interrupted and the simple fact they are unemployed may make employers reluctant to give them employment. Australia has maintained a high level of long-term unemployed relative to other OECD countries for at least the past decade (see Figure 2.20).

In this way, short-term unemployment attributable to cyclical fluctuations in the economy can lead to long-term unemployment if those who lose their jobs fail to readily attain alternative employment. Some part of the solution to unemployment lies in labour market programs which enhance the work habits and skills and therefore marketability of the long term unemployed.

This trend is identified by the relationship between the proportion of the long-term unemployed and educational attainment. The ABS has noted:

In July 2004, almost two-thirds (63%) of unemployed persons reported they were without non-school qualifications, while 11% reported a Bachelor Degree or above as their highest level of non-school qualification.

Just over one-fifth (21%) of unemployed persons in July 2004 were long-term unemployed, that is, they had been unemployed for 12 months or longer. Of the unemployed persons who were without non-school qualifications, 15% had been unemployed for two years or more compared to 11% of those with non-school qualifications.

While labour market participation increases with education, policies that encourage lifelong learning can maintain labour market attachment in the event of a downturn or structural changes to the economy.
What the data show is that the focus for improving training outcomes must be on reducing low skills while continuing to promote higher education. In terms of productivity and participation the main gains to training lie in re-training low skilled workers to increase their adaptability, those out of the workforce looking to return, and those on welfare programs. This will reduce the current stock of low-skilled employees while other programs designed to tighten the training framework will avoid recreating the large pool of low-skilled that we have now.

ACCI NATIONAL EDUCATION AND TRAINING SURVEY

As part of ACCI’s ongoing work on education and skills and the linkages with industry, a new major survey of employers was conducted, canvassing the views of 1,175 businesses with a combined total of 284,423 employees (the details are given in Chapter 3).

The ACCI National Employment, Education and Training Survey shows that while 47.4 per cent of employers were able to attract employees with the right level of qualifications 52.6 per cent of employers had mixed results.

The survey indicated that only 55.8 per cent of employers found TAFE graduates had appropriate skills for their industry and only 52.4 per cent thought those skills were up-to-date. While 46.7 per cent of employers felt that TAFE graduates met their expectations.

TAFE flexibility remains a key concern as revealed by the survey, indicating that significant work needs to be conducted in improving flexibility of training times, the location at which training occurs, and the times classes are held.

In terms of the equipment used in teaching only 51 per cent of employers felt that modern equipment was used and alarmingly only 39.4 per cent of employers agreed that the teachers had industry skills that were up-to-date. The data on teachers highlights a critical area where business feels that emphasis should be placed.

Skilled migration is also an important target area for government policy with business strongly endorsing a skilled migration policy with 73.3 per cent of employers indicating agreement that Australia will only be able to fully address its current skill shortages through policies that include programs and skilled migration to supplement the supply local skills.

With the workforce ageing 83.0 per cent of business stated they provide training for those workers over 45 years of age.

AGEING POPULATION

The Federal Government’s Intergenerational Report outlined the nature of demographic change likely to take place in Australia over the next forty years. On average, the Australian population will experience further ageing, “the proportion of the population that is very old (over 85 years of age) is expected to triple, while the proportion in the prime working age range of 15 to 64 is expected to fall.”

The projection is a consequence of past and future fertility rates and a decline in levels of mortality. The prospect of such a large rise in the number and proportion of people of retirement age leads in turn to consideration of the adequacy of current arrangements for both public and private sources of income during retirement.

To some extent, Australia is a better position than many European countries to deal with its ageing population. As noted by the OECD:

Over the past ten years, Australia recorded above average rates of employment and economic growth which helped to put a brake on the trend decline in the labour force participation of older men and reinforced the rising trend for older women.

This does not mean that Australia can afford to become complacent. More work is required to decrease the amount of older workers existing the workforce before the age of 60. The OECD has also noted that participation rates for older Australian workers, both male and female, are lower than the OECD average:

Currently, older workers in Australia tend to exit the labour market early. In 2003, at the age of 60, 38% of men and 65% of women were not participating in the labour force – which is somewhat higher than the OECD average, and significantly more than in Japan, several Nordic countries and the United States.

The ageing population still, although not the same extent as other countries, presents considerable challenges for Australia’s policy makers. One policy solution remains to increase the participation rates for older workers. An increasingly skilled workforce can mitigate the effects of an ageing population by increasing productivity and extending the average working life (see Figure 2.21).
At present the Australia’s participation rate of workers above 50 years of age deteriorates quickly. Workers are retiring well before retirement age.

At a broader macroeconomic level, higher literacy and numeracy skills help to improve employee productivity and reduce demands on health systems, both valuable outcomes at a time when many governments are struggling to finance the cost of providing health services to ageing populations.29

A report, released by the Department of Employment and Workplace Relations (WEWR) on 24 November 2005 entitled Workforce Tomorrow estimates as a result of population ageing Australia faces a potential shortfall of 195,000 workers in five years’ time. That is, while employment is expected to continue to grow at a solid pace over the next five years, it is likely to be substantially less than it could be if the age structure of the adult population were to have remained unchanged.

In a recent report30 by the Productivity Commission (PC) into the men’s disengagement from the labour market “finds that a major factor underlying the growth of labour disengagement by prime-aged males is the growth of the Disability Support Pension, reflecting reduced tolerance in the contemporary economy for the employment of men with disabilities and lower skills, accentuated by incentives posed by the welfare system.”

Keeping older employees in the workforce longer can help to alleviate the negative effects of Australia’s ageing population. While there are a number of different incentives created by the government to encourage workers to stay a longer time in paid employment, raising education and training levels can make a significant difference to retirement rates which ultimately affect labour supply and the pool of skilled employees.

**Figure 2.21**

*Participation Rate by Age, Education Attainment and Sex*


**HOW EDUCATION CAN DELIVER HIGHER LIVING STANDARDS?**

Education works in many ways to provide an impetus for growth.

These effects are generally classified as productivity enhancing. Education increases the flexibility of the labour market, allows the ready adoption of emerging techniques, and leads to the creation of new technologies. There are also less obvious but important sources of returns from education in the form of a reduction in social problems and better health outcomes.31

In addition higher skilled participants in the workforce tend to stay working longer. With an ageing population is an added benefit of promoting skills development.

However, education by itself is not enough to get us higher living standards – there must also be a return from education.

A return from education stems from two sources, the value the community places on education and the private returns to the educated individual through increased earnings and/or life satisfaction.33

Private earnings benefits are derived from the value industry places on the education obtained by an individual and can be seen as the premium paid to those who are more educated relative those who are less educated.

For an extra amount of education to be worthwhile it must have a return greater than its costs. If we are to foster a knowledge-based economy we must ensure that returns to extra education are greater than the costs otherwise we do ourselves a disservice.
The efficient allocation of resources will be improved by fostering market-based solutions since this will match student’s demand for qualifications with industry demand.

The private benefits of education accrue from the wages or profits in applying education industriously. Issues that stifle innovation or the drive to work will reduce the returns to education and hence reduce the take up of education. This will dampen economic growth as the human capital that would have otherwise been applied is not applied.34

The main hindrances to increased benefits from education are high taxes on income, taxing capital heavily and lack of sufficient wage differentials amongst low skilled and skilled employees. Taxes discourage investment in education by reducing the after tax return to education and reducing the incentive for innovation. High minimum wages and rigid employment conditions in many industries also reduce the benefits to education by reducing the wage differential amongst skill levels. For example a recent analysis by Dr Tom Karmel and others of the VTE sector showed that there was not a universal return in the form of higher wages from completing a VTE qualification. As noted in the analysis:

Some groups benefit, but not all do so.

- Those who already have low level qualifications (certificate II or below) benefit from undertaking, and particularly completing, qualifications at around certificate III or IV or higher.
- Those who already have higher level qualifications (certificate IV or higher) get no wage benefit from undertaking or completing a further VET qualification at any level...35

Benefits from education also accrue in the form of reduced welfare payments and associated costs of unemployment and through increased wages reducing the burden of taxation overall since tax rates can be reduced as wages rise and maintain government revenue. This will reduce the distortions caused by higher marginal tax rates.

Nonetheless it should not be overlooked that while the benefits from education are relatively clear and well defined the costs of education are often overlooked.

The costs of education come from several avenues.

- Government expenditure raised by distorting taxes is not costless. The marginal cost of funds (MCF) is estimated to be approximately 1.2 for Australia, meaning that for every dollar of tax revenue raised 20 cents of value is lost and thus a return of about 20 percent is required to make the expenditure worthwhile. This is aside from the costs of the Australian Taxation Office (ATO), tax attorney and accountants.

- Forgone earnings while attending school.
- Less working life to official retirement though there tends to be a longer period working past official retirement age for the more educated individuals.

It is critical to keep the costs of education programs in the forefront of discussions and to be proactively addressing these costs.

The solution to increasing the level of skills within the Australian economy is to raise the total return to education while minimising the total costs.

This Blueprint sets out several avenues that should be explored to improve education outcomes.

CONCLUSION

Creating the best possible educational institutions and ensuring that the best possible education outcomes are accessible to individuals are critical components of raising living standards.

A key to this is having market-led solutions that maximises choices for students, parents, business and education providers.

As global markets continue to expand it will be critical that Australia plays to its strengths. A culture of rewarding education and skills and fostering the desire to undertake ongoing education is critical.

Australia must continue to strive for excellence to maintain a growing and vibrant economy.

There are a number of key issues that we will be addressing in the course of this Blueprint.

Firstly, the resourcing of Australian education and training and whether it is adequate to the purposes.

Secondly, the integration between the various education sectors and whether it is satisfactory.
Thirdly, whether the quality of the output is adequate and how does it compare with the things that employers are looking for, viz:

- Satisfactory employability skills;
- High educational and technical proficiency; and
- An understanding of the requirements of the workplace.

And lastly have we an adequate level of national consistency.

1 Year Book Australia, Commonwealth of Australia, Canberra, 2007.
2 ABS Catalogue number 4221.0.
3 Year Book Australia, Commonwealth of Australia, Canberra, 2007.
4 Comparisons of international test scores have been subject to some discussion on their validity as a measure of quality, culture bias and a number of other criticisms. In recent years a number of measures have been taken to address these concerns.
7 ABS, Labour Force, Cat No 6202.0.
8 ABS, Underemployed Workers, Cat No 6265.0, page 5.
10 Barbara Sianesi, John Van Reenen (2000), The Returns to Education: A Review of the Macro-Economic Literature, London School of Economics and Political Science.
15 Ibid.
17 Australian Bureau of Statistics (2005), Australian Social Trends, Cat.4102.0.
18 Ibid p93.
19 Ibid.
23 Ibid.
28 Ibid.
29 OECD, Governments Should do More to Help Adults Retain, Develop Skills says OECD, Media Statement.
32 Given the assumption that earnings from employment yield a close approximation of marginal labour productivity.
34 See Robert Solow’s work in developing the neo-classical growth model and further work on the endogenous growth theory by Romer. Also see Jonathan Temple, J., Growth Effects of Education and Social Capital in The OECD Countries, OECD Economic Studies No. 33, 2001/II.
APPENDIX

Estimating the Returns to Education: The Empirical Evidence

In general the macro and micro-economic evidence agree that more education leads to a higher level of output on the long run. However, there has been some debate on the empirical evidence when considering the effect of education on long-run growth rates.

There is a large volume of empirical work regarding the contribution that education makes to productivity and economic growth. Much of the work focuses on estimating the return to education for individuals, growth accounting and cross-country regression modelling. Studies vary in approach from macro and micro estimates while others use neo-classical or new growth theory for their economic framework.

While different methods produce different results the majority of evidence points towards education having positive effects on economic growth and productivity.

Early estimates of the returns to education were considered to suffer from a number of problems. They did not account for selection or ability bias, i.e., they did not separate out the proportion of income earned from education and innate talent. However, additional techniques and improvements to old methodologies have recently tilted the balance of evidence toward education having a positive effect on welfare.

A number of empirical estimates use different techniques and measure different concepts, it is important to distinguish between a number of measures such as private and social returns to education.

The private rate of return is derived by comparing the costs actually borne by the student (earnings foregone and tuition fees) with the benefits received (the increase in after-tax income). The social rate of return takes account of both private and social costs and benefits, including the costs of publicly-provided education and the increased tax payments of more highly educated individuals.

While a number of problems in estimating the earning function of individuals have been rectified in recent years, some persist. Therefore, additional estimation techniques such as those revolving around natural experiments have been undertaken. The evidence of these studies largely provided similar results to other labour market methodologies.

Labour market estimates of returns to education, if individuals do not capture all of the benefits associated with education, are likely to underestimate social returns. In fact, private returns to education may not be an appropriate estimate for social returns, as noted below by the OECD:

The general problem is that estimates of earnings functions capture, at best, the private return to education, yet it is the social return which is of most interest to policy-makers. The two may diverge for a number of reasons, including the possibility that education acts mainly as a signaling device.

A number of research and discussion papers using the methodologies described above have provided estimates on the returns to education for Australia. A paper by Leigh and Ryan comparing three natural experiment techniques, instrumenting schooling using month of birth, compulsory schooling laws and outcomes for twins, estimated that overall rates of return to education where around 10 percent for Australia.

A further study by Borland on the returns to university education in Australia found that the average private returns were 14.5 percent for a three-year bachelor degree. The study also noted a wide degree of variation depending on the degree undertaken. A study by the Melbourne Institute found that full-time employed graduates receive, on average, 65 percent higher wages above employed non-graduates.

Private returns to employees having undertaken employer provided and vocational training are estimated to be approximately 5 percent. While training that results in middle or higher vocational qualifications returns are approximately 5 - 10 percent. Studies have also found that wage gains from education deteriorate over time, therefore illustrating the importance of continual education.

While all models have the relative strengths and weaknesses the results of the latest research indicates agreement as to the positive role education plays in the economy, the degree and speed at which it does so is more contentious.

Quiggin, J (1999), Human capital theory and education policy in Australia, Australian Economic Review 32(2).


42 Ibid.
Chapter 3
ACCI National Education and Training Survey

As part of ACCI’s ongoing work on education and skills in the linkages with industry, a new major survey of employers was conducted. This chapter details the major findings from the survey of 1,337 employers with a combined total employment of 291,828 employees.

The survey covers a broad range of areas such as:

- Skills shortages and labour shortages;
- School to work transition;
- Apprentices;
- Types of skills, literacy and quality of the education system;
- Qualifications; and
- Public and Private TAFE.

The data from respondents generally reflects the numbers and sizes of firms in the industries that make up the Australian economy. However, some variation in industry and size of firm can occur and therefore the data is weighted by industry and size of firms within each industry. This post-stratification ensures that no one industry or size classification can skew the results away from what would result if all firms were covered.

The firm size categories that are used are small, medium and large businesses. For the purpose of our surveys small businesses are those that employ less than 20 employees, medium firms are those from 20 to 99 employees and large 100 employees or more.

The weighting data is provided by the ABS and comes by broad industry classifications by our size classifications. This ensures that our data reflect the relative importance of particular industries and sizes of firms within these industries in the national economy.

The major findings are illustrated below and the full tabulation of the results is presented as an attachment.

SKILLS AND SKILL SHORTAGES

Sustained economic growth over the past 15 years has significantly improved labour market prospects in Australia. Unemployment has fallen from the peak of 10.7 percent in February 1993 to 4.5 percent in January 2006. This fall of the unemployment rate creates significant opportunities in terms of greater welfare and supporting economic growth but also presents challenges in meeting this growth. The SAI Global – ACCI Survey of Investor Confidence tracks information on the availability of suitably qualified employees as a constraint on investment (see Figure 3.1). The significant rise of the index over the past four years highlights how critical this area has become for Australia’s economy.

![Figure 3.1: Constraints on Investment Availability of Suitably Qualified Employees](source: SAI Global - ACCI Survey of Investor Confidence, 2007.)
Survey provides further detail in this key area. This major national survey shows that while 47.9 percent of employers were able to attract employees with the right level of qualifications this left 52.1 percent of employers with mixed results.

The survey was then able to drill down deeper into this area and indicated that 55.2 percent of employers found TAFE graduates had appropriate skills for their industry and 51.5 percent thought those skills were up-to-date. However, only 44.9 percent of employers felt that TAFE graduates met their expectations overall.

TAFE flexibility remains a key concern with the survey indicating that significant work needs to be conducted in improving flexibility of training times, the location at which training occurs, and the times classes are held (see Figure 3.2).

In terms of the equipment used in teaching 50.3 percent of employers felt that modern equipment was used but that only 38.1 percent of employers agreed that the teachers had industry skills that were up-to-date. The data on teachers highlights a critical area where business feels that emphasis should be placed.

Another priority area is providing enough choice between TAFE and non-TAFE training providers. The survey showed that 25 percent of employers felt they did not have enough choice between the public and private sector training providers.

While the data on specific industry products showed that 51.7 percent of employers felt that training on the products their company used was more important than further qualifications. However, the data is a fair degree of heterogeneity across industry sectors (see Figure 3.3).

Within broad industry groups there is likely to be significant variation. For example in intermediary services such as wholesale and retail trade, and transport and storage the data is significantly more polarised than within manufacturing sector. Manufacturing largely agreed that vendor training was more important where as in the intermediary industries there was a significant agreement and disagreement indicating that some areas within sectors required increased levels of vendor training compared with others.

Skilled migration is also an important target area for government policy with business strongly endorsing a skilled migration policy. 73.9 percent of employers indicated agreement that Australia will only be able to fully address its current skill shortages through policies that include programs and skilled migration to supplement the supply of local skills.

An interesting aspect of the skill shortage issues that business has indicated an inclination to provide training for those workers over 45 years of age with 82.5 percent of employers stating that they do indeed provide this

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**Figure 3.2**

<table>
<thead>
<tr>
<th>TAFE Flexibility</th>
<th>Satisfaction (%)</th>
<th>Neither (%)</th>
<th>Dissatisfaction (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Training Times</td>
<td>45.2</td>
<td>36.0</td>
<td>18.8</td>
</tr>
<tr>
<td>Training Venues</td>
<td>48.5</td>
<td>36.1</td>
<td>15.5</td>
</tr>
<tr>
<td>Hours of Operation</td>
<td>47.1</td>
<td>35.7</td>
<td>17.1</td>
</tr>
</tbody>
</table>


**Figure 3.3**

<table>
<thead>
<tr>
<th>Cross Tabulation on Training on Company Products and further Qualifications by Industry</th>
<th>Agree (%)</th>
<th>Neither (%)</th>
<th>Disagree (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary</td>
<td>53.4</td>
<td>29.0</td>
<td>17.5</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>57.6</td>
<td>26.9</td>
<td>15.5</td>
</tr>
<tr>
<td>Construction</td>
<td>44.9</td>
<td>38.1</td>
<td>17.0</td>
</tr>
<tr>
<td>Wholesale and Retail Trade/Transport and Storage</td>
<td>56.0</td>
<td>16.0</td>
<td>28.0</td>
</tr>
<tr>
<td>Personal Services</td>
<td>50.7</td>
<td>31.8</td>
<td>17.5</td>
</tr>
<tr>
<td>Services to Business</td>
<td>58.5</td>
<td>26.2</td>
<td>15.3</td>
</tr>
</tbody>
</table>

EMPLOYABILITY SKILLS

Employability skills are a critical ingredient within workplaces with employability skills such as teamwork, communication, problem solving being at least as important as the technical skills a person has. ACCI has invested considerable time in ensuring that employability skills receive adequate attention in discussions with policy makers and educators. The latest survey of employers bears out this priority with 88.8 percent of employers agreeing that employability skills such as teamwork, communication, and problem solving are as important as the technical skills an individual possesses.

As shown in Figure 3.4 the most recent data is fully consistent with previous ACCI work in this area.

In a related question on entrepreneurship the data shows that it is the view of business that entrepreneurial skills can be taught but that opportunities to learn through formal programs are not generally available. Approximately 60 percent of employers felt that entrepreneurship could be taught but of these only 20.5 percent thought there were enough opportunities to learn.

Apprenticeships are also a key feature of skills development with 56.1 percent of employers stating that they employ apprentices. This is not to say that all of these employers are currently employing apprentices but simply that they do take on apprentices. This shows that there is a great awareness amongst business of the benefits of taking on apprentices.

For those that do take on apprentices 91.8 percent have indicated that apprentices are valuable to their business. However, business also felt that there were ways to strengthen the apprenticeship system by allowing students to commence an apprenticeship while completing secondary school (73 percent agreement) and that apprentices should be allowed to fast-track their studies if they’re competent at industry standards (79.1 percent agreement). Business also viewed school-based apprenticeships as a good way to attract young people to their industry with 68.4 percent of businesses in agreement on this matter. Additionally, the survey demonstrates that having senior secondary students in the workplace provided business with an opportunity to test whether or not they might be suitable for hiring when they leave school.

The survey also found that of those that employ to apprentices 59.3 percent were readily willing to pay higher wages to an apprentice to keep them in their employ.

SCHOOLS

There was an overwhelming belief within the business community that there should be benchmarking and transparent reporting of schools’ teaching performance with 83.8 percent agreement. This feeling amongst business is perhaps reflective of the data on how schools are interacting with industry – 51.7 percent of employers felt that schools had not provided up-to-date advice on careers in their industry. In a similar manner industry express significant concern that career advisors, teachers and parents did not value apprenticeship pathways equally to higher education options. Figure 3.5 shows that in particular business felt that teachers were the least supportive of the apprenticeship system.
In terms of higher education many businesses did not have any interaction with universities to provide them with advice, guidance or partnership approaches. This highlights a key area that policy makers might look to address in the higher education sector. The data showed that only about a quarter of all businesses had either a formal or informal interaction with universities. This is despite the private sector accounting for the vast majority of economic activity and employment. For example, the private sector accounts for approximately 80 percent of the labour force and about 75 percent of GDP.1

CONCLUSION

The results of this survey provide an evidence base for the policies put forward in this Blueprint.

1 GDP data sourced from December 2006 5206.0, Employment data from August 2005 6310.0.
APPENDIX - ACCI NATIONAL EMPLOYMENT AND TRAINING SURVEY

**Question 10(a)**
When I hire staff, I am about to attract employees who have the right level of qualifications for my business.

<table>
<thead>
<tr>
<th>Response</th>
<th>Data</th>
</tr>
</thead>
<tbody>
<tr>
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<td>7.9</td>
</tr>
<tr>
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<td>40.0</td>
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<td>15.5</td>
</tr>
<tr>
<td>Disagree</td>
<td>28.3</td>
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<tr>
<td>Strongly Disagree</td>
<td>8.3</td>
</tr>
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Weighted by Industry and Employment Characteristics.

**Question 10(b)**
Do you employ apprentices?

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</thead>
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<tr>
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Weighted by Industry and Employment Characteristics.

**Question 10(c)**
Apprentices are valuable to my business.

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</tr>
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</table>

Weighted by Industry and Employment Characteristics.

**Question 10(d)**
Students should be able to commence an apprenticeship while they are completing their secondary schooling.

<table>
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<tbody>
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</tr>
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</tr>
<tr>
<td>Disagree</td>
<td>11.8</td>
</tr>
<tr>
<td>Strongly Disagree</td>
<td>2.0</td>
</tr>
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Weighted by Industry and Employment Characteristics.

**Question 10(e)**
Employing school based apprentices is a good way to attract young people to my industry?

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<td>8.8</td>
</tr>
<tr>
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Weighted by Industry and Employment Characteristics.

**Question 10(f)**
Having senior secondary students in the workplace provides you with an opportunity to test out whether or not they might be suitable for hiring when they leave school?

<table>
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Weighted by Industry and Employment Characteristics.

**Question 11(a)**
TAFE graduates have appropriate skills for my industry?

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<td>Strongly Disagree</td>
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Weighted by Industry and Employment Characteristics.

**Question 11(b)**
TAFE graduates have skills that are up to date for my needs?

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Weighted by Industry and Employment Characteristics.
### Question 11(c)
Private non-TAFE, including VET, graduates have skills for my industry?

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Weighted by Industry and Employment Characteristics.

### Question 11(d)
Private non-TAFE, including VET, graduates have skills that are up to date for my needs?

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Weighted by Industry and Employment Characteristics.

### Question 11(e)
The quality of TAFE graduates meets my expectations?

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Weighted by Industry and Employment Characteristics.

### Question 11(f)
The quality of non-TAFE graduates meets my expectations?

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Weighted by Industry and Employment Characteristics.

### Question 11(g)
TAFE courses provide flexibility:
(i) training times, eg over summer?

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<tr>
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Weighted by Industry and Employment Characteristics.

### Question 11(g)
TAFE courses provide flexibility:
(ii) Training venue, eg at your workplace?

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Weighted by Industry and Employment Characteristics.

### Question 11(g)
TAFE courses provide flexibility:
(iii) hours of operation that are not restricted to 9am - 5pm?

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</table>

Weighted by Industry and Employment Characteristics.

### Question 11(h)
Non-TAFE courses provide flexibility:
(i) training times, eg over summer?

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Weighted by Industry and Employment Characteristics.
**Question 11(h)**
Non-TAFE courses provide flexibility:

(ii) training times, eg at your workplace?

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Weighted by Industry and Employment Characteristics.

**Question 11(h)**
Non-TAFE courses provide flexibility:

(iii) hours of operation that are not restricted to 9am - 5pm?

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Weighted by Industry and Employment Characteristics.

**Question 11(i)**
TAFE courses use modern equipment when teaching trade skills?

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Weighted by Industry and Employment Characteristics.

**Question 11(j)**
TAFE Teachers have industry skills that are current and up-to-date?

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Weighted by Industry and Employment Characteristics.

**Question 11(k)**
Apprentices should be able to fast track their studies if they are competent at industry standards?

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Weighted by Industry and Employment Characteristics.

**Question 11(l)**
Vocational Education and Training Institutions should be able to raise funds by charging fees to students to provide more resources for TAFEs?

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Weighted by Industry and Employment Characteristics.

**Question 11(m)**
I am willing to pay higher wages to an apprentice to keep them in my employ?

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Weighted by Industry and Employment Characteristics.

**Question 11(n)**
I have enough choice between TAFE and non-TAFE providers to meet my training needs?

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Weighted by Industry and Employment Characteristics.
Question 11(o)
Training on products my company uses is more important than obtaining further qualifications?

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Weighted by Industry and Employment Characteristics.

Question 11(p)
Employability skills such as teamwork, communication, problem solving are as important as the technical skills a person has?

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Weighted by Industry and Employment Characteristics.

Question 11(q)
Can entrepreneurship be taught?

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Weighted by Industry and Employment Characteristics.

Question 11(q) continued
If yes, are there enough opportunities to learn through formal programs?

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Weighted by Industry and Employment Characteristics.

Question 12(a)
Australia will only be able to fully address its current skill shortages through policies that include programs of skilled migration to supplement the supply of local skills?

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Weighted by Industry and Employment Characteristics.

Question 12(b)
Do you provide training for workers over 45 years of age?

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Weighted by Industry and Employment Characteristics.

Question 12(c)
There should be benchmarking and transparent reporting of school teaching performance?

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Weighted by Industry and Employment Characteristics.

Question 12(d)
Schools are providing up-to-date advice on careers about my industry?

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Weighted by Industry and Employment Characteristics.
Question 12(e)
Careers advisers/teachers/parents value apprenticeship pathways equally to higher education options:
(i) careers advisers?

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Weighted by Industry and Employment Characteristics.

Question 12(e)
Careers advisers/teachers/parents value apprenticeship pathways equally to higher education options:
(ii) teachers?

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Weighted by Industry and Employment Characteristics.

Question 12(e)
Careers advisers/teachers/parents value apprenticeship pathways equally to higher education options:
(iii) parents?

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Weighted by Industry and Employment Characteristics.

Question 12(f)
University graduates have a good level of literacy and numeracy to meet my business needs?

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Weighted by Industry and Employment Characteristics.

Question 12(g)
Does your business have any interaction with universities to provide them with advice, guidance or partnership approaches etc?

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Weighted by Industry and Employment Characteristics.
PART B: EDUCATION SECTORS

Chapter 4
Early Childhood, Pre-School and Primary School Education

Chapter 5
Secondary Schools and Transitions to Post-Compulsory Education

Chapter 6
An Overview of Vocational Education and Training (VET) in Australia

Chapter 7
Resourcing Issues in Vocational Education and Training

Chapter 8
VET Institutional Arrangements and Quality Issues

Chapter 9
VET and Industrial Relations Issues

Chapter 10
Higher Education: Providing Skilled Workers and R&D
Chapter 4
Early Childhood, Pre-School and Primary School Education

INTRODUCTION

Employers are concerned about pre-school and primary school education because it is where foundational skills are acquired and where connections to lifelong learning are made. Quality outcomes for pre-school and primary school education, especially in the areas of language, literacy and numeracy, are essential in building the framework through which other skills can be acquired and social disadvantage mitigated.

The early years of a child's learning makes a significant difference to the way they develop and go on to learn throughout their lives. Getting it right at this vital stage of a child's development will build the lifelong foundations of success, not only for our children, but also for Australia.

In this chapter we look at the issues with respect to preschool and primary school education.

EARLY CHILDHOOD AND PRESCHOOL EDUCATION

Background

From a national perspective, early childhood education is characterised by fragmentation, varying degrees of quality and no equitable access. Early childhood education is also without a national vision, commitment or consistent approach. The number of different approaches, funding formulae, terminology, child ratios, curriculum, costs, delivery hours and models promote inequity across Australia for young children and their parents.

Consideration of Issues

Early childhood education and care have been discussed and debated for decades in Australia. In recent years it has undergone significant changes that reflect wider social and political trends and which many believe are shifting the focus of early childhood services away from the needs of children and families. Some forms of services, like long day care, are seeing new interest groups like shareholders entering the picture, with relatively untested outcomes for children.

In recent years a number of reports have highlighted the importance of the early childhood years. In February 2006, the Australian Council of Social Service (ACOSS) published a ten point plan that brought together Australian and International research on early childhood education and care and related policy perspectives. It agreed on the need for a nationally coordinated, planned approach to an integrated system of early childhood education and care (ECEC). Discussion supported an ECEC system that gives priority to the needs of children and their well-being, places the issue of high quality care and education more centrally on the policy agenda, and recognises the pressing need for increased public funding to ensure universal access to early childhood education and care services for all children from birth to school entry.

The Council of Australian Governments (COAG) also met to consider a National Reform Agenda covering, amongst other areas, Human Capital. The official communiqué of the 10 February 2006 COAG meeting “noted the importance of all children having a good start to life” and affirmed the commitment of Australian Governments to ensure that all children were equally provided with opportunities to enhance their life chances. The communiqué acknowledged the critical importance of developing “high quality and integrated early childhood education and care services” to equip children with the “basic skills for life and learning”. The resulting communiqué includes Human Capital reforms in four priority areas including:

- Early childhood – with the aim of supporting families in improving childhood development outcomes in the first five years of child's life, up to and including school entry.

Australian Research Alliance for Children and Youth (ARACY) supported the COAG commitment in saying that:

The exciting thing about the COAG commitment is that it is going to take a united and concerted effort from all levels of Government, working across a range of portfolio areas, to make a real impact on the wellbeing of children and their families.

It's not just about health, education and community development – it's also about infrastructure such as transport, housing and the environment.
As well as the commitment to early childhood development, the COAG communiqué includes commitments to improving standards of literacy and numeracy through the educational system, and to improving the processes by which young people transition from school to work.

Empirical and anecdotal evidence strongly suggests that children who have not had the opportunity to attend an early childhood education program may be disadvantaged when they begin school. Children without an early childhood experience have greater levels of difficulty in making the transition to the first year of school, take longer to settle into the routines of a classroom and find it harder to respond appropriately to tasks and expectations.

Since August 2003 the development of a framework for a National Agenda for Early Childhood has identified a vision for Australia as a place where young children are valued and have equal opportunities to be all they can be, now and into the future. The framework set out an ambitious aim, a series of goals, and principles for taking the National Agenda forward, and key action areas as a basis for developing policy and programs for children 0-5 years. It also provided an overarching structure for linking together and expanding the work that governments, service providers, non-government organisations, academics, communities and families are already doing to improve the lives of children.

The Australian government has noted the importance of all children having a good start to life. Opportunities to improve children's life chances, especially for children born into disadvantaged families, exist well before children begin school, and even before birth. High quality and integrated early childhood education and care services, encompassing the period from prenatal up to and including the transition to the first years of school, are critical to increasing the proportion of children entering school with the basic skills for life and learning. COAG will give priority to improving early childhood development outcomes, as a part of a collaborative national approach. The decision of the COAG to adopt a national, collaborative approach towards improving outcomes for young Australians has been a positive step forward.

The greatest barrier to access to high quality early childhood education is the lack of a national vision and commitment. Other barriers include:

- geographic location impacts upon children's access to early childhood education. There are significant differences in access to quality and number of early childhood education programs in rural and remote areas of Australia;
- inadequate transport in some metropolitan, rural and remote areas stops children from accessing early childhood education. Bus programs that transport children to early childhood education are for many families the only means by which their child can access an early childhood education program;
- the provision of good quality Early Childhood Education and Care (ECEC) is expensive;
- the very rapid and unplanned expansion of childcare services in the last decade, has put enormous pressure on the system to deliver places while guaranteeing good quality care;
- different government departments being responsible for childcare, pre-school and schools is a challenge, particularly in New South Wales and Victoria;
- there are huge gaps in curriculum continuity for children in pre-school and the transition from early childhood education to school can be more challenging than it need be;
- there are also accessibility problems for specific population groups and in particular for Indigenous children and children with disabilities;
- Aboriginal and Torres Strait Islander children remain significantly under represented in all forms of Commonwealth funded child care;
- lack of links between services adds complexity and difficulty for families and children in understanding what to access and how to access appropriate services and programs;
- differences in terminology for early childhood education and the first year of school reflect a fragmentation of early childhood education programs across Australia and are particularly problematic for families who move between states;
- differences in age of entry to early childhood education and the first year of school create further confusion for families and inequity for children across Australia;
- significant differences in content and organisation of curriculum for pre-school across Australia promote
inconsistency. This also inhibits development of a national perspective about learning and expected outcomes for children in early childhood education; and

• significant differences in government funding levels and models contribute to unequal access to early childhood education across Australia.

Conclusion

Whether provided in dedicated pre-schools or in day care centres, a quality pre-school education sets the foundations for cognitive, physical, emotional, social and language development. While preschool education is an important experience in itself, it also provides children with an invaluable foundation for their entry into formal schooling. It is often essential in terms of the detection of impediments to learning, which if not attended to could affect a child's learning potential for the rest of their life. Research has shown that the benefits of a quality preschool education can be long-lasting, through school and into adult life.

ACCI Proposals

ACCI proposes that:

• governments implement policies that avoid fragmentation, inconsistent quality and provide equitable access;

• governments work towards a national vision and quality standards in the areas of funding formulae, terminology, child ratios, curriculum, costs, delivery hours and models; and

• a better flow on between pre-school and primary school curricula so that there is greater alignment between them.

PRIMARY SCHOOLS

Background

In Australia, primary education is still considered the first ‘formal’ period of education as part of mandatory school attendance for children. Primary school education is of importance to employers because it is where the foundational skills are formed, most importantly literacy and numeracy and where further connections are made to lifelong learning.

Without solid foundations in skill formation individuals may be disadvantaged in further learning and make costly errors in undertaking basic business tasks.

In addition, the foundations for career development are laid down as part of lifelong learning.

Learning includes a variety of methods to develop students’ skills in thinking, communicating, investigating, reflecting and making judgments. Students develop simple investigative and research skills, information technology skills and creative skills through classroom and hands on activities and real life experiences.

Consideration of Issues

Whilst there is a strong primary education sector, there are still opportunities to build on its strengths.

There needs to be a continued focus on achievement in literacy and numeracy, as there are still primary pupils going on to secondary school without capabilities in literacy and numeracy that allow them to optimise their education.

Families need to have access to joined-up services such as childcare and schooling.

Governments should ensure that primary schools work closely with parents/carers of children, seeing them as true partners in the education of their children.

There should be an elimination of the unacceptable variances in performance between schools. There should not be a tension between high standards and a broad and rich curriculum. Every school should excel in developing children's literacy and numeracy skills without narrowing the curriculum.

Indeed, the primary school years provide an opportunity to build strengths in maths and science. This is explored in Chapter 11 – Maths and Science.

There needs to be a continuing and expanded emphasis on the use of information and communication technology to support better teaching.

Business and industry also considers that physical education is a vital part of a child’s education and so a curriculum that includes compulsory physical education and school sport each week is important.
Similarly the compulsory learning of a foreign language from 7 years of age or earlier and the opportunity for all students to learn a musical instrument in primary school are also key issues.

There should be a debate about extending the opening hours of school premises so that they remain open between 8.00am and 6.00pm to enable childcare for 48 weeks of the year, to enhance the opportunities for before-school and after-school care, and care during some school holiday periods.

Lastly, governments need to get more serious about the closure of non-performing schools and rapidly turning around weaker schools.

Further, as discussed in chapter 5 with respect to secondary schools, there needs to be significantly enhanced professional development for teachers in schools. Further, there needs to be a concerted push by governments to introduce flexibility and performance pay for primary school teachers and all primary school principals be given the power to hire and fire.

Very importantly, all governments need to ensure that the community is furnished with better data about primary school standards; and it is important for all governments to acknowledge that increasing public confidence in primary school education will come through explicit and defensible standards that guide improvement in students’ levels of educational achievement and through which the effectiveness, efficiency and equity of schooling can be measured and evaluated.

**Conclusion**

Primary education in Australia is at a high standard compared to the rest of the world. Nonetheless there are areas where more can be done to improve quality outcomes.

For example to fully engage in a globalised world it is considered that the compulsory learning of a foreign language is vital.

**ACCI Proposals**

ACCI proposes that:

- there needs to be significantly enhanced professional development for teachers in schools;
- the need for a flexible industrial relations system to underpin the principles of performance pay for teachers;
- all primary school principals be given the power to hire and fire;
- all governments need to ensure that the community is furnished with better data about primary school standards;
- the acknowledgement by all governments that increasing public confidence in primary school education will come through explicit and defensible standards that guide improvement in students’ levels of educational achievement and through which the effectiveness, efficiency and equity of schooling can be measured and evaluated;
- that there needs to be a concentration on the basics of English, reading, writing and maths for every child in order for them to achieve their optimal progress in their primary years;
- primary school students are provided with accurate and up to date information about career pathways and options and are exposed to a variety of sources of information including talks by employers;
- there needs to be a continuing and enhanced focus on the use of information and communication technology to support better teaching;
- the curriculum should include compulsory physical education and school sport each week;
- to effectively participate in a globalised world there should be the compulsory learning of a foreign language from 7 years of age or earlier;
- there should also be an opportunity for all students to learn a musical instrument in primary school;
- there should be a closer relationship between the school and parents/carers of children;
- there be consideration of school premises remaining open between 8.00am and 6.00pm to enable childcare for 48 weeks of the year to cover before and after school care and some school holiday periods;
- governments get serious about the closure of non-performing schools and rapidly turning around weaker
schools; and

• there needs to be significantly enhanced professional development for teachers in schools.

Chapter 5  
Secondary Schools and Transitions to Post-Compulsory Education

INTRODUCTION

A strong secondary school system and transitional arrangements to post compulsory education are an essential combination to build world-class skills and maintain Australia's competitiveness in a global market in the 21st century.

This chapter examines the following components of the school system and the transition from school to work:

• Secondary Schools;
• Schools-industry Policy;
• Australian Technical Colleges; and
• Australian Certificate of Education.

SECONDARY SCHOOLS

Background

Australia's future depends upon each citizen having the necessary knowledge, understanding, skills and values for a productive and rewarding life in an educated, just and open society. High quality schooling is central to achieving this vision and secondary schools provide students with the ability to build on what they know, to assist them to reach their full potential and acknowledge the capacity they have to learn.

Governments set the public policies that foster the pursuit of excellence, enable a diverse range of educational choices and aspirations. Common and agreed goals for schooling establish a foundation for action among state and territory governments with their constitutional responsibility for schooling. The Australian Government, non-government school authorities and all those who seek the best possible educational outcomes for young Australians, seek to improve the quality of secondary schooling nationally.

Consideration of Issues

Retention to Year 12

According to the Australian Year Book 2007, there were 1,425,400 secondary students in Australia in 2005.1 Retention rates of secondary school students is a measure of the number of these students who complete Year 12 before entering the world of work, or embarking on further studies. Generally, a high retention rate is considered favourable to an economy.

Retention rates for Year 12 students are generally high in Australia compared to overseas. In 2005 the apparent retention rate of full-time secondary school students from Year 7/8 to Year 12 was 75%. As in previous years, the 2005 apparent retention rate to Year 12 for female students was higher (81%) than the corresponding rate for male students (70%),2 (see Figure 5.1).

Retention rates are more complex than is immediately apparent because retention rates measure the quantity, not

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<tr>
<td>Full-Time Students</td>
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<td>77.0</td>
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<td>79.4</td>
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(a) Includes part-time students.

Source: ABS data available on request, National Schools Statistics collection.
quality of the education being received. In general, the more education and training an individual receives, the more likely they are to gain better jobs and incomes and achieve higher standards of living. Retention rates have been considered as a proxy for gaining more skills.

ACCI urges caution about generalising the inference of better education and training and access to better jobs and pay across all sections of the population.

Many currently highly paid executives did not “fit the mould” and were not successful at school. Similarly, many tradespersons who left school early are now running highly profitable businesses and contributing to the overall success of the Australian economy.

While everybody will benefit either directly or indirectly by acquiring more skills, there is no formula that says where the starting point should be. Many individuals will start to acquire skills only once they have entered the workforce and may not proceed to gain higher level skills until they are much older. Improving retention rates is an alluring policy direction but differing rates of maturation and motivation need to be considered.

A significant number of young people, particularly young men, may become disaffected and permanently disengaged if compelled to complete Year 12 whereas they may benefit from leaving school early and obtaining more skills at a later point in life.

Naturally, there is also concern about the students who “slip through the crack” and the fate that awaits those who never permanently attach to the labour force. Often the reasons for disengagement of this group are a complex mixture of socio-economic background, lack of financial resources, inadequate parenting and other factors.

Compelling this group of students to remain at school and complete Year 12 will not necessarily provide them with the skills and conditions necessary to change the patterns of their life. Flexible entry and exit points are more important to improving the overall quantum of skills than a retention rate measure and individual differences must be considered. This approach is consistent with lifelong learning.

A Good General Education – Quality Issues

Curriculum debate around the way in which subjects should be organized and studied highlights ongoing concern in the community about the quality of education and how it can be improved.

The quality of teaching is an area where improvements can be made.

Employers strongly support strategies that reward excellence in teaching, including performance-based pay and alternative pathways for teacher registration.

The quality of some educational outcomes has long been of concern to employers. The Australian Government’s stated intention of working more closely with the States and Territories to introduce flexibility and performance pay for teachers and ensure that the community is furnished with better data about school standards, are two important measures that will improve the quality of education outcomes.

As Australia’s population ages, new ways of diversifying the Australian teaching skills base will become increasingly important. Giving school principals the power to hire and fire will help to raise the bar by making sure that teachers who do not perform are not “carried” by other staff that have higher standards. Combined with performance-based pay, excellent teachers can be recognised and appropriately rewarded.

An important facet of quality in secondary schooling is to attract good quality teachers, who have mastery over their subject matter content and who can cater for the individual needs of students.

In addition good quality curriculum will provide individuals with access to quality language, literacy and numeracy skills (see Chapter 13) and Maths and Science (see Chapter 11). It is highly desirable that a national curriculum be introduced to gain consistency and, avoid unnecessary duplication and provide standards so that effective comparisons between schools and systems can be made.

Conclusion

ACCI supports the view that Australia’s future depends upon each citizen having the necessary knowledge, understanding, skills and values for a productive and rewarding life. In addition, secondary schools provide students with the ability to build on what they know, to assist them to reach their full potential and acknowledge the capacity they have to learn.

ACCI Proposal

ACCI proposes:
the need for a flexible industrial relations system to underpin the principles of performance pay for teachers;

that performance pay be seen as part of a total suite of initiatives to improve teacher quality such as improving initial teacher education by providing increased opportunities for practical classroom experience, and recognising and rewarding formal professional development once a teacher commences teaching;

that all governments need to ensure that the community is furnished with better data about school standards;

that all school principals be given the power to hire and fire;

the acknowledgement by all governments that increasing public confidence in secondary school education will come through explicit and defensible standards that guide improvement in students’ levels of educational achievement and through which the effectiveness, efficiency and equity of schooling can be measured and evaluated;

that while desirable for all students to complete Year 12, false targets have distorted the debate, especially in terms of young people. This is a matter of lifelong learning and completion should occur at times relevant to individual circumstances;

therefore, while there should be encouragement of individuals to obtain a good general education and foundational skills, there should be no compulsion of individual students to remain at school to complete Year 12;

that there be flexible entry and exit points in the education system;

the implementation of a national curriculum;

the implementation of programs that take account of individual differences in ability, learning style and level of maturation;

that there be interesting, broad and rich curriculum with greater choice and wider out of school opportunities but not to the exclusion of foundational skills;

that policies ensure that students finish their compulsory years of schooling equipped with the knowledge, skills and personal qualities needed for further education, work and life;

that there needs to be significantly enhanced professional development for teachers in schools;

that governments strongly support and encourage the provision of pathway planning for students;

the development of a much closer relationship between schools, VET providers and Higher Education providers, allowing greater flexibility in the movement between the three sectors; and

that governments continue to implement plans to improve services and support for students with disabilities.

SCHOOLS-INDUSTRY POLICY

Background

Industry needs a skilled, flexible and motivated workforce that contributes to economic growth and assists in achieving economic goals. A school system that helps meet the particular needs of industry is integral in achieving competitiveness. Cooperative and strategic partnerships between employer and educational stakeholders are necessary to achieve these goals at local, State, Territory and national levels.

An important element of the education system is the transition from secondary school to post secondary school education. This issue is examined in the remainder of the Chapter. Of critical importance to industry is the transition from education and training to the world of work.

Consideration of Issues

Much has been written about the numbers of young people and the extent to which they will be able to provide for Australia’s future skills needs. The Dusseldorp Skills Forum has estimated that there will not be a shortage of young people over the next ten years and that “Australia is not running out of young people.”

When considering policy issues around Australia’s skill base and future potential, it is therefore important to include consideration of the different pathways available to young persons and how best to manage the transition from school to work and the world beyond. ACCI favours options which offer choice and flexibility to young people and
their parents, the capacity to test options without penalty, including entering employment arrangements while studying or simply using VET as a taster. The full range of models needs to be considered.

There is a range of issues which impact on the effective and successful transition of a student through school and from school to further education, training and employment.

Schools have a vital role in educating young people and assisting them to make a successful transition through school and from school to further education, training and ultimately employment. To achieve this, schools need to ensure there are linkages between career pathways and advice given to students and the realities of the world.

As discussed in Chapter 12, the Employability Skills Framework comprises a set of personal attributes and eight key skill areas required by employers in order to gain employment, establish an enterprise, or to progress within an enterprise or expand employment capability, so as to achieve one's potential and contribute successfully to enterprise and strategic directions. Employability skills are acquired from a variety of sources including the home, school, the wider community, sport and through exposure to the workplace. The acquisition of these skills is developmental and the skills can be transferred from one context to another.

There should be no formal teaching, assessment or reporting on the personal attributes but they can be highlighted to students where relevant. The eight key skill areas need to be made explicit to students through pedagogy, assessment, recording and reporting. Students should be encouraged to record their progress in developing employability skills in different contexts. These records would ideally be lodged in an e-portfolio and contain a mixture of formal and informal records. A statement of employability skills should be available on exit from school or where relevant, at the qualification level.

Enterprise Education

Enterprise education covers a range of areas, which are not clearly defined. It involves educating individuals to be more enterprising, via learning about entrepreneurship, simulated business development learning, understanding the world of work and preparation for the possibility of self-employment.

In addition, innovation and enterprise go hand in hand. Unless people have the ability to turn innovative ideas into marketable and profitable products, ie, have the enterprise skills to make it happen, then there will be little value added or the opportunities will be lost to Australia as the innovators seek support elsewhere. Enterprise education is critical if we are to make the most of the investment being made in innovation skills.

Activities that are suitable enterprise education activities allow students to:

• run their own company through computer simulation of the Australian economy;
• undertake an innovative training strategy for the development of business skills and business thinking;
• establish and run their own business with the help of a real business partner and a network of firms which together generate a simulated market economy;
• undertake a structured one week work placement during which they are confronted with real life challenges, requiring them to use enterprising skills and a total quality management approach;
• undertake five days work experience during which time they receive training in continuous improvement tools and processes, using activities such as data gathering, data analysis, problem solving and planning; and
• be exposed to enterprise days in which businesses, schools and the community are linked.

Simulated Learning

There is a role for simulated learning as a pedagogical approach within the school curriculum. In terms of vocational education and training, there is a place for simulated learning to supplement opportunities where on-the-job learning with employers is not available or only partially available. However, employers prefer student learning in vocational education and training areas to be competed in real workplaces.

VET in Schools

It is of vital importance that industry is put in the driving seat where vocational education and training or other schools-industry initiatives are involved and that there is a move away from the main emphasis being on the provider.

Vocational education and training is vocational education
and training – no matter where it is delivered. Whether it is in schools or in a post-school training environment, the same standard of delivery should be employed. Where schools are unable to meet the same standards as those provided by Technical and Further Education or private providers, alternative arrangements should be made through partnership, auspicing or outsourcing approaches.

On-the-Job Learning

On-the-job learning is a key component of preparing students for the world of work both through the acquisition of specific skills and more broadly through general exposure to the expectations of employers.

Employers highly value on-the-job learning because of the learning styles available, the direct relevance of the skills acquired and the assurance of the skills imparted.

From an employers perspective, the quality delivery of vocational education and training in schools is not possible without an on-the-job component.

Schools as Registered Training Organisations

In terms of the delivery of vocational education and training, ACCI members do not support processes that allow for the automatic and blanket registration of schools as Registered Training Organisations. Arrangements that ensure consistency of standards for Registered Training Organisations, are therefore of great concern to industry.

Training Packages

Training Packages are a critically important element of vocational education and training in schools. Industry knowledge and competencies that characterise Training Packages ensure a synergy between industry requirements and the education and training received by students.

It is imperative that Boards of Studies do not alter units of competence or qualification requirements as outlined in the approved Training Packages. This will lead to dissatisfaction by students and employers in relation to outcomes.

Australian School-Based Apprenticeships (ASBAs)

The ASBAs provide an important pathway for those students seeking an employment outcome while they are completing their education. The purpose of ASBAs is to provide direct links to employment at the end of an individual’s schooling. ASBAs provide part of the suite of options that provide Australian youth with flexibility in their transition from school to a working environment. (Also see Chapter 8 on this topic)

Teacher Release to Industry

The quality of delivery of vocational education and training in schools and enterprise education to school students is affected in part by the teacher's mastery of content. In some instances, teachers delivering vocational education and training courses to students have little, outdated or no experience within an industry, let alone the industry area that they are meant to be teaching. This is further exacerbated by the ageing profile of the teaching workforce. In delivering training programs based on national industry standards, vocational education teachers move beyond classroom and school settings to facilitate learning in the workplace.

This means that vocational education teachers play a pivotal role in developing alternative school structures to accommodate the implementation of vocational courses. It also requires working closely with local employers and possibly industry bodies or other training providers. ACCI favours a system where teachers can be released to industry to gain industry relevant experience. Careers advisers should also be given release to industry opportunities.

Assessment is a critical issue in the delivery of vocational education and training. To satisfy the quality assurance requirements teachers need to complete all components of an approved training program or gain formal recognition of individual qualifications, relevant recent industry experience or other training. Teachers not qualified in the areas or without knowledge of current industry standards and practices should not undertake assessment on students taking VTE options.

Teacher Education

It is critical that teachers have adequate literacy and numeracy skills themselves before undertaking teacher education programs.

Traditionally, many teachers have had little or no experience of industry or employment outside the education sector. Therefore, their understanding of the importance of education and training for future employment of the greater population is more academic in nature.

It is therefore essential that teacher education programs include information about enterprise education,
employability skills and careers systems. Compulsory units should be developed and incorporated into all teacher training courses so that teachers gain a better understanding of the importance of these aspects of education and training for their students.

ACCI believes that there is considerable need for trainee teachers to gain extensive practical skills in teaching methodologies and behavioural management before entering the classroom as a graduate teacher. Most education programs stipulate blocks of practicum for trainee teachers, usually for 80 days in the fourth year of study. ACCI believes that this is not sufficient practical experience to prepare trainee teachers for the rigours of teaching. Increased exposure to the classroom environment at an earlier stage in the program of study would give trainee teachers realistic expectations of a career in teaching and decrease early exists from the profession due to unrealistic expectations.

Federal Arrangements

Education is primarily a state and territory responsibility but there is a role for the Federal government to take in ensuring a degree of national consistency, sufficient resourcing to allow the offering of vocational education and training choices, the collection of data and research and analysis.

Consultation with industry through formal and informal structures that provide advice to Ministers will assist the education sector in setting priorities and ensuring demand responsiveness in respect to federal arrangements.

Student Records of Achievement

Clear and consistent reporting on schools and students across Australia, incorporating objective performance measures is a vital ingredient of effective parental involvement.

National consistency and reporting in plain English would assist students, parents and employers during schooling, but especially in the transition to work.

Transition Plans

It is desirable that students are given the opportunity to develop career options and to plan their transition from school to further education, training or employment and active participation in the community.

VET in Schools Quality Issues

Successful transitions from school to the world of work and beyond are of critical importance for Australia’s youth and society in general. NCVER research shows that School VET programs have a particularly positive effect on the transition to successful post-school activities for early school leavers. There are very few people in Australia who will not participate in paid or unpaid work at some point in their lives. An understanding of the world at work and access to quality VET in Schools programs contribute towards achieving successful transitions.

Industry is concerned that students have access to quality VET in Schools offerings during their secondary school years but particularly in Years 11 and 12. Many schools now also offer VET in Schools in Year 10 and there may be benefit in extending VET in Schools to Years 8 and 9 students where local needs and conditions permit and the ingredients essential to quality VET in Schools are met.

ACCI recommends the following ingredients as essential to quality VET in Schools programs:

• appropriate levels of resourcing from State and Territory governments to fund teaching, commercial standard equipment and placement requirements;

• appropriate matching between students and employers, with industry involvement in the selection of students;

• school teachers with the right level of skills and industry experience to deliver courses to industry standards;

• on-the-job learning as a critical component of courses undertaken including flexible school timetabling arrangements to support student access to such;

• the use of relevant Training Packages to ensure industry standards are met;

• access to flexible pathways across the full range of industries; and

• connections to local and regional economic development needs.

Conclusion

A successful VET in schools program is the result of a combination of factors. Engagement with industry contributes in a number of ways but most importantly
though incorporating quality requirements into teaching and on-the-job learning. VET in schools is an important pathway available to students and does not necessarily need to result in an employment outcome.

**ACCI Proposals**

ACCI proposes that:

- students should have access to a statement of their employability skills on exit from school;
- the early intervention of enterprise education in schools is important in educating individuals to be more enterprising, understand entrepreneurship and the world of work, and prepare for the possibility of self employment;
- that units be developed for teacher education courses to include the areas of employability skills, enterprise education and careers systems;
- that study of such units be compulsory for all teachers;
- that a prerequisite for entry into teacher education be adequate levels of literacy and numeracy for themselves;
- there is a role for simulated learning as a pedagogical approach within the school curriculum but only where on the job experience is not available;
- the automatic and blanket registration of schools as Registered Training Organisations is not supported;
- Australian School-based Apprenticeships (ASBAs) provide an important pathway for those students seeking an employment outcome while they are completing their education. VET in schools provides an alternative pathway but does not involve an employment arrangement;
- a compulsory unit of study should be introduced into teacher training programs in relation to vocational education and training;
- training for teachers should include more exposure to the classroom at an earlier time in their course;
- a system should be established where teachers can be released to industry to gain industry relevant experience. Careers advisers should also be given “release to industry” opportunities;
- alternative models of fast-tracking entry into teaching and contract delivery where specialist industry knowledge is involved should be explored; and
- reporting against the eight key employability skills should be adopted and delivered to Australian parents. National consistency and reporting in plain English on these skills would assist students, parents and employers during schooling, but especially in the transition to work.

**AUSTRALIAN TECHNICAL COLLEGES**

**Background**

Australian Technical Colleges (ATCs) contribute, in part, to the solution to Australia’s skill shortages by targeting identified skills needs. They are one model amongst a number that provide an alternative pathway for young people who combine industry experience with secondary education.

The Federal Government is spending $289 million over four years to establish 25 Australian Technical Colleges across the nation to help combat the skills crisis. About 7200 Year 11 and 12 students are expected to attend the colleges by 2009.

Australian Technical Colleges (ATCs) play a role in providing prestige opportunities for quality students to undertake an employment pathway in Years 11 and 12.

ATCs are for students in Year 11 and 12. Students enter into a Australian School based Apprenticeship (ASBAs) in a trade at the Certificate III level, which leads to a nationally recognised qualification; study academic subjects, leading to a Year 12 certificate; and also gain IT, employability and business skills, enabling them to run their own business if they desire. They can also keep the option to go on to further study at university. Each college will provide places for 300 students, a total of 7,200 places.

Each College is linked with, and endorsed by, industry. It has a governing body chaired by a local business or industry representative and should draw its members from the regional community including industry, parents and education and training providers. Input from industry representatives ensures that what is being taught in the Colleges is directly relevant to the needs of industry and thus enhances young people’s prospects for further training.
and employment.

Colleges will be expected to demonstrate a level of commitment and engagement from local industry, especially in relation to the placements of an ASBA, which assures the ongoing value and sustainability of the College.

The principal objective of the Australian Technical Colleges is to address the current and future skills needs of the Australian economy through the achievement of a number of key goals, such as:

- promoting pride and excellence in trade skills training for young people;
- providing skills and education in a flexible learning environment;
- having an industry-led governing body for each Australian Technical College which sets out its strategic directions and performance objectives;
- providing trade training that is relevant to industry and that leads to nationally recognised qualifications through Australian School-based Apprenticeships; and
- providing academic and vocational and technical education, which is relevant to trade careers and leads to a year 12 certificate.

ACCI supports the establishment of ATCs where:

- there are skills needs;
- a high youth population and a strong industry base as part of its longer-term response to skills shortages; and
- also to raise the status of vocational education and training in Australia.

This is based on the principle of improved opportunities for the commencement of industry valued and recognised school based vocational education and training. In order to achieve this the role of the Government is to monitor, evaluate and through targeted funding, influence the availability and delivery of qualifications that are recognised by industry and provide a realistic way for students to gain credit for previous study when progressing to a full time Australian Apprenticeship.

An evaluation of the model needs to be undertaken once the ATCs are fully operational and if industry validates it as providing successful transition outcomes it should be promoted and adopted more widely. A key criterion for measuring the relevance of the model will be the degree to which students’ learning is acquired in the workplace and not from institutional learning. It should be recognised that all the existing ATCs models are very different and the evaluation would need to take account of that.

**ACCI Proposal**

ACCI proposes that:

- there be a focus on improved opportunities for the commencement of industry valued and recognised school based vocational education and training;
- an evaluation of ATCs be undertaken and where relevant, the model promoted and extended; and
- the extent of industry based learning should be a key criterion in validating the model.

**AN AUSTRALIAN CERTIFICATE OF EDUCATION**

**Background**

In May 2005 the Australian Government commissioned the Australian Council for Educational Research (ACER) to investigate and report on models and implementation arrangements for an Australian Certificate of Education (ACE) for the final years of secondary school.

**Consideration of Issues**

A key question in this investigation was whether an Australian Certificate of Education would best be introduced as a new certificate that would sit alongside existing state and territory senior secondary certificates, or whether to establish a single ACE for the final years of secondary school.

Four options were investigated and a conclusion reached. The most desirable long-term outcome would be the emergence of a single ACE awarded by each of the Australian states and territories in place of the existing nine certificates.

The framework of a single senior certificate is more likely to promote consistency in senior secondary arrangements, to provide comparability of student results across Australia,
and to ensure nationally consistent high standards of curriculum provision.

Achieving a single ACE may be more difficult than introducing a tenth certificate to sit alongside existing state and territory certificates. A single national certificate inevitably will require time to implement, and may have to be achieved in stages.

The vision is for a single ACE, undertaken by senior secondary students throughout Australia and within which students are able to pursue a range of pathways, including academic and vocational studies in schools, workplaces and other community settings. It is envisaged that the national certificate will be awarded by all state and territory authorities, through the Australasian Curriculum Assessment and Certificate Authorities (ACACA agencies).

Under the ACE, schools and awarding bodies would be encouraged to develop, assess and report on general skills required for life and work beyond school. The employability skills framework of the Australian Chamber of Commerce and Industry (ACCI) and the Business Council of Australia (BCA) identifies eight such skills.

**Conclusion**

The introduction of an ACE has the potential to provide greater national consistency in senior secondary arrangements; to set nationally consistent high standards; to improve the comparability of student results across Australia; to advance efforts to ensure that all young Australians develop the knowledge and skills required for life and work beyond school; and to establish a national qualification with international standing. If Australia is to maintain a world-class educational system changes the introduction of an ACE is necessary.

**ACCI Proposals**

ACCI proposes that:

- a national standards body should set minimum requirements for the award of the ACE;
- curriculum essentials would spell out a core of curriculum content (fundamental knowledge, principles and skills) to be taught in an ACE subject across all awarding bodies offering that subject. Achievement standards would be set in these nominated subjects;
- achievement standards should provide a nationally consistent framework of levels;
- under ACE, schools and awarding bodies would be encouraged to develop, assess and report on employability skills required for life and work beyond school; and
- there should be an ACE Award of Excellence: a certificate awarded to students throughout Australia who meet high standards of achievement in their studies.

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1 ABS, 1301.0, Year Book Australia, 2007.
2 Ibid.
Chapter 6
An Overview of Vocational Education and Training (VET) in Australia

THE VET SYSTEM IN 2007

The VET system is of critical importance to employers because of its contribution towards the development of skills. Employers require skilled workers to supply the labour necessary to produce goods and services.

Skills required by employers include academic and vocational skills and employability skills. They vary from industry to industry but the need for employability skills is ubiquitous for all sizes of businesses and across all industry categories. This is discussed more fully in Chapter 12.

While all skills are important, practical skills gained through studying VET and the ability to learn them in the workplace are particularly important to employers. Skilled labour can assist employers in expanding business operations, directions and opportunities. It assists employers and employees in utilising technology and competing in global markets.

Employers see themselves as a major client of the VET system and much of the policy in this blueprint is based on the client/provider relationship and the desire for client customer service.

The role of the VET system in meeting employer needs revolves around providing qualifications that have industry endorsement, providing entry level skills so that individuals can enter the workforce, updating the skills of the existing workforce, developing new skills to meet emerging needs and providing a pathway to further education.

The system is founded on a partnership between governments and industry. A key feature is that employers and industry play a central and critical role in determining training policies and priorities, and in developing training qualifications to deliver the skills employers need.

Australian business has been given a stronger voice in national planning and priority setting, through:

- formal structures such as the National Industry Skills Committee (NISC) and the National Quality Council (NQC);
- less formal arrangements such as working groups and consultation on individual programmes and activities; and
- establishment and operation of Australian Technical Colleges (ATC) and the Institute for Trade Skills Excellence (ITSE), which provides industry with the capacity to identify, acknowledge, reward and promote excellence in trade skills development and training.

ACCI proposes that:

- this engagement should continue and grow.

MAIN FEATURES

IN 2007, a Productivity Commission report, Report of Government Services identified the key aspects of the VET system:

In 2005, 1.6 million people participated in VET delivered at 9698 delivery locations across Australia. Of these students, 1.2 million participated in programs funded by government recurrent expenditure through state and territory agencies. These government funded students completed over 286.6 million hours of VET programs, delivered at 8842 locations. Of these locations, 1129 were TAFE and other government provider locations.

Government recurrent expenditure on VET totalled $4.1 billion in 2005 — a real increase of 2.2 per cent from 2004.

Of the TAFE graduates who were unemployed prior to their course and took the course for employment related reasons, 51 per cent indicated they were employed after the course.

82 per cent of TAFE graduates undertaking a course for employment related reasons indicated gaining at least one work-related benefit from completing their course.

79 per cent of employers were satisfied with apprenticeships/apprenticeships as a way of providing employees with skills required for the job in 20051.1

These facts indicate that overall Australia has an effective VET system with high levels of satisfaction,
particularly with nationally accredited training, noting that apprenticeships/traineeships are only one of the nationally accredited pathways available for gaining VET skills. However, there is clearly room for improvement, especially in gaining employment outcomes after a vocational course is completed.

Further detail will be outlined in this Chapter.

**FEDERAL STATE RELATIONSHIPS**

Federal arrangements apply in training. That is, the delivery of training across Australia is primarily the responsibility of the States and Territories although the Commonwealth plays a significant role in ensuring the system is responsive to emerging national economic and social priorities.

State and Territories are responsible both for the administration and major funding of vocational education and training. In discussing a national approach and issues around national consistency, it is important to remember that delivery of VET is the constitutional and major financial responsibility of the States and Territories and their individual and collective support are essential in ensuring national strategic directions and goals can be met.

VET is currently delivered by TAFE institutes, multi-sector higher education institutions, registered community providers and registered private providers.

Current funding and resourcing for the VET sector is drawn from a number of sources. The greatest contribution comes from the States (see Figure 6.2), with the majority of this funding going directly to the TAFE system in each State.

Funding continues to increase from all sources, growing by around 2-3% annually from 2001 - 2004. 2004 to 2005 saw an strong increase of approximately 6%, from $4,678.5 million in 2004 to $4,957.3 million in 2005. In 2005, the Commonwealth Government and State and Territory governments were the primary sources of recurrent revenues, accounting for 77.6% of total recurrent revenues of that, the States and Territories provided $2,619.4 million, more than half (55.6%) of total revenue.

The Commonwealth Government contributed $1,049.3 million (22.2%). Other revenues were: fee for service $534.3 million (11.3%); ancillary trading and other $294.7 million (6.2%); and student fees and charges $233.7 million (4.9%) (see Figure 6.3).

Of the total, only 8% of Federal and State and Territory funding went to non-government training providers for training delivery.\(^3\)

The vast majority of expenditure in VET goes towards training delivery services accounting for 64.8% of total VET expenditure in 2005. Employee costs for both training staff and support staff (wages, on-costs etc) accounted for 60.4% of total VET expenditure in 2005 and supplies and services accounted for 24.2%.\(^4\)

Compared to the schooling sector, the amount of money contributed to VET is comparatively small (see Figures 6.4, 6.5 and 6.6).\(^5\)

**NUMBERS OF STUDENTS UNDERTAKING VET**

The most recently published data from the Australian Bureau of Statistics,\(^6\) shows there were 1.6 million students enrolled in a publicly-funded VET course in 2005 (see Figure 6.7).

The data shows that Australian youth are no longer the only significant group consuming VET. While their numbers still dominate, large numbers of men and women in their 30s and 40s are studying VET courses and there is a significant spread into the mature age cohort.

Also of note is that of this group 389,000, or approximately one quarter, were apprentices and trainees.\(^7\)

AQF III and IV level qualifications continue to attract the lion’s share of VET enrollments and delivery hours, with 73.7% of new Australian Apprenticeship enrollments at AQF III and 10.8% at level IV.\(^8\) AQF III and IV level qualifications accounted for approximately 50% of the total VET qualifications awarded in 2005 (see Figure 6.8).

**STUDENT PARTICIPATION IN VET**

The number of students participating in VET has increased steadily since the mid 1990s. 2004 saw a slight decrease in student numbers (see Figure 6.9) with a resurgence in 2005. The same is true for the total number of hours of training undertaken in VET for the same period, although 2005 peaked higher than in previous years and a growth of 2.9% over 2004. Participation rates remain strong, with around 12% of the Australian working age population (15 – 64) engaging in VET.\(^9\)

The majority of students (70.8% in 2005) engaged in VET
are in government funded programs, with fee for service training accounting for 25.1% (see Figure 6.10).

Participation in VET is stronger in the younger age group, with the 15 – 19 years group at 34.5% in 2005 and the 20 – 24 group at 21.7% (see Figure 6.11). These figures highlight the importance of User Choice\textsuperscript{10} funding as a means of resourcing VET and why there is a need to focus on this area (see Figure 6.12).
In 1997 ACCI contributed to national policy developments that led to reforms to the national system which were largely successful in:

- shifting the focus from off-the-job training to a combination of off- and on-the-job training through the establishment of New Apprenticeships (now called Australian Apprenticeships);
- introducing nationally recognised, industry-developed training across all sectors of the economy, particularly those with limited formally recognised training;
- introducing some choice of provider to employers in...
Figure 6.6
Recurrent Expenditures by Activity as a Proportion of Total
Recurrent Expenditure, 2001 to 2005


Figure 6.7
VET Students (a), Vocational and Preparatory Courses (b)
2005

<table>
<thead>
<tr>
<th>Age Group (Years)</th>
<th>Males '000</th>
<th>Females '000</th>
<th>Persons (c) '000</th>
</tr>
</thead>
<tbody>
<tr>
<td>19 or under</td>
<td>215.1</td>
<td>169.1</td>
<td>384.2</td>
</tr>
<tr>
<td>20 – 24</td>
<td>157.0</td>
<td>115.6</td>
<td>272.9</td>
</tr>
<tr>
<td>25 – 29</td>
<td>88.0</td>
<td>74.3</td>
<td>162.5</td>
</tr>
<tr>
<td>30 – 39</td>
<td>150.6</td>
<td>146.6</td>
<td>297.7</td>
</tr>
<tr>
<td>40 – 49</td>
<td>118.2</td>
<td>147.0</td>
<td>265.8</td>
</tr>
<tr>
<td>50 – 59</td>
<td>73.0</td>
<td>83.2</td>
<td>156.5</td>
</tr>
<tr>
<td>60 and over</td>
<td>28.9</td>
<td>31.0</td>
<td>60.1</td>
</tr>
<tr>
<td>Not stated</td>
<td>17.0</td>
<td>22.7</td>
<td>41.6</td>
</tr>
<tr>
<td>Total Students</td>
<td>847.7</td>
<td>789.5</td>
<td>1,641.3</td>
</tr>
</tbody>
</table>

a: Includes all VET delivery by TAFE and other government providers, multi-sector higher education institutions, registered community providers and publicly-funded delivery by private providers. Fee-for-service VET delivery by private providers has been excluded. School students undertaking VET in schools have also been excluded. A student is an individual who was enrolled in a subject or completed a qualification at any time in 2005.
b: Courses leading to a vocational award.
c: Includes ‘sex not stated’.

Source: NCVER, data available on request, 2005 VET Provider Collection.

Figure 6.8
VET Hours Undertaken by Course Level
2001 - 2005

Source: DEST 2006.
the new training market to increase the effectiveness of taxpayers money;

- establishing new and more responsive training products to engage small and medium sized enterprises (the bulk of ACCI membership) into formal training; and

- attempting to develop industry-led arrangements at national, State/Territory and regional levels.

Since 1997, ACCI, together with its members, has also been working on a range of projects with government that meet some other critical points that previous national reforms have not adequately addressed including:

- developing up-to-date careers materials for school students, teachers and parents on traditional trades and other priority industries;

- investigating alternative pathways in some industries which, despite employer interest, have not been endorsed through the National Training Packages;

- exploring alternative sources of labour for industries which have had trouble attracting young people in some regions and developing different approaches for the ageing workforce;

- exploring ways to decrease the need to undertake full training if a person has clear competencies required for a qualification;

- working with some unions on reforming the National Training Wage and introducing Australian School Based Apprenticeships;

- working with a number of industries to identify people...
attracted to careers in those industries to allow them to more effectively target their recruitment practices; and

- developing ways of upgrading existing worker skills to enable them to work with new technology.

Thinking has evolved in the VET sector to acknowledge the importance of market forces, as the reality of globalisation increasingly determines Australia’s position in the world. Together with the growth of markets in China and India and the subsequent resources boom, Australia is now precariously poised on the brink of an unprecedented period of continued economic growth and prosperity. A market led approach is not only desirable, it is essential if the benefits of the economic bounty are to be accessed.

**Policy Questions Arising**

1. Does the VET system provide for the skills needs of employers?

2. Should more people be trained?

3. Who should pay for that training and what proportion of the costs should be borne by various stakeholders?

4. Is the current funding mix right?

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2. Ibid, p 15.


4. NCVER 2007


7. Ibid.


10. ‘User Choice’ relates to funding arrangements. Money is provided by the Commonwealth to support the apprenticeship system.
Employers and employees choose the RTO which best meets their needs including key aspects such as where, how and when the training is provided. Although the money for User Choice is provided by the Commonwealth, it is administered by state and territory governments.
Chapter 7
Resourcing Issues in Vocational Education and Training

INTRODUCTION

The fundamental principle for resourcing the VET sector should be a responsiveness to demand.

The allocation of funding and resources for Vocational and Technical Education (VET) needs to directly focus on creating improved choice and diversity, efficiency, responsiveness, quality, flexibility, innovation and access and equity within training delivery.

In determining the future funding and resourcing needs of VET there are numerous factors to take into consideration. These include:

• the balance of public and private investment in VET, taking account of the efficiency of public investment;

• the roles of government, industry and individuals in funding VET;

• the degree of choice available to individuals and employers for training;

• building the capacity of regional providers to meet regional demand; and

• the changing social and economic environment and government policy on demand for VET.

BACKGROUND

VET in Australia has undergone a dramatic reformation over the last decade.

Rapid generational economic growth and unemployment rates at a generational low have created critical skills shortages within many industries.

Access Economics, in its Future Demand for Vocational Education and Training report indicates an expected growth of 1.3% per annum in VET intensive occupations. Particularly strong growth is expected in the areas of Business and Administration associate professionals (3.5% per annum) and Services and Personal Care (3.4% per annum and accounting for 32% of commencing Australian Apprentices in 2006), sectors heavily reliant on VET for skills development. Continued growth in the traditional trades areas is expected to continue in the current resources boom, with the Traditional Trades areas accounting for 14.5% of Australian Apprenticeship enrolments for 2006.

The increased demand for higher level technical skills by industry is expected to continue as low skilled and non-skilled positions decrease. A significant shift in the Australian workplace has seen more jobs created that require higher level vocational qualifications or skills sets in addition to traditional trade level qualifications. There has also been a considerable growth in the number of positions that require a broader base of cross industry skills or the coupling of technical skills with “soft skills” or employability skills and higher level skills such as project management or business management.

Continued expansion of VET delivery is essential for Australia’s economic development. A 2003 Australian National Training Authority (ANTA) study found that VET hours would need an annual growth of 2.7% nationally between 2002 and 2010, in order to meet the needs of Australian industry.

CONSIDERATION OF ISSUES

Funding Responsibilities

Funding for the training system is primarily a State and Territory responsibility but federal arrangements apply in training. That is, the delivery of training across Australia is primarily the responsibility of the States and Territories although the Commonwealth plays a significant role in ensuring the system is responsive to emerging national economic and social priorities.

States and Territories are responsible both for the administration and major funding of vocational education and training. In discussing a national approach and issues around national consistency, it is important to remember that delivery of VET is the responsibility of the States and Territories and their individual and collective support are essential in ensuring national strategic directions and goals can be met.

The three components of funding in the Australian training system are:
• State and Territory funding to cover recurrent and capital expenditure;

• Federal Government direct grant and targeted initiative funding; and

• other sources such as fees and charges made to students.

State and Territory Funding

In 2005, the States and Territories provided $2,619.4 million, more than half (55.6%) of total revenue for VET in Australia (see Figure 7.1).

Funding is used by States and Territories for training support and delivery, administration and general services, property, plant and equipment and student services. Further details of state and territory funding can be found in Chapter 6 of this Blueprint.

Government Direct Grant/Targeted Initiative Funding

Government Direct Grant/Targeted Initiative Funding is funding that is intended for specific priority areas such as industry and government priorities, skill shortages and training needs of equity target groups. Funding is usually allocated via a competitive purchasing arrangement. Government Direct Grant/Targeted Initiative funding ideally targets the direct and immediate needs of business and enterprise in need of training outside of the User Choice programs.

The key value of Government Direct Grant/Targeted Initiative Funding is its potential flexibility and responsiveness to immediate needs of business. However, the systems vary from state to state and have only limited availability and applications. Government Direct Grant/Targeted Initiative Funding would be an ideal system to fund higher level training for employees with existing qualifications who are often exempt from receiving User Choice funding.

Industry Contributions to Training

Australian industry has, for many years, been a strong supporter of training. Businesses have been free to train or not train in accordance with their business needs. The total contribution made by industry to training their employees is difficult to determine, no accurate figures are collected for the total industry contributions to training. With employees receiving accredited and non-accredited training, on-the-job and off-the-job training, workplace mentoring and releases to public and private providers, there is a significant distribution of funds.

Barrett and Smith in their article, Mechanisms for Increasing Employer Contributions to Training: An International Comparison, found that the level of employer expenditure on training in Australia, often assumed to be lower than that in other comparable countries, shows that levels compare favourably with those of countries often held as models for Australian policy and practice.4

NCVER research indicates that direct expenditure on VET training by industry in 2001-2002 financial year amounted to $3652.7 million (NCVER 2005). This figure does not include the costs related to training, which include, but are not limited to, the cost of replacing the employee released for training, allowances relating to training (travel, accommodation, meals, some materials etc.), supervision of apprentices and trainees, mentoring and lost productivity as a result of the absence of the employee undergoing training.

Figure 7.1

Recurrent Revenue as a Proportion of the Total VET Revenues

A separate NCVER Report, *Employers’ Contribution to Training* (NCVER, 2004) puts the total investment by industry into formal and informal/in-house training at somewhere near $30 billion per annum or an equivalent $36.5b in 2007.

Master Builders Australia estimates the average cost to an employer of an apprentice in the building industry to be $128,000 over the four year indenture (Master Builders Australia, 2006), while the Government incentives for an Apprentice amount to between $4,000 – $6,000 over the four years. This clearly identifies that during the course of training there is significant cost incurred by business with little return on investment until after the completion of training (see Figure 7.2).

The Australian Bureau of Statistics report, *Employer Training Expenditure And Practices, 2001 –2002* (ABS, 2003), indicates that approximately 80% of employers provide training. Of this approximately 40% of employers provide structured training to their employees and a further 40% provide unstructured training. Eighty percent of the remaining 20% not providing structured or unstructured training believe their current employees are already adequately trained. Based on an analysis of this ABS data, only about 4% of employers are not engaged in training or do not see it as a need for their business (see Figure 7.3).

The evidence clearly points to a high level of engagement and contribution on the part of employers in training for their skills needs.

### Costs of Training for Businesses

Incentives for businesses to provide accredited training would help to relieve the financial burden on business and ultimately help address skills shortages. Current levels of incentives for businesses under User Choice and Targeted Initiative Funding only meet a small proportion of the total costs of training.

Reform of current incentives for training is needed to streamline the payment framework, minimise administration and maximise the benefits gained from publicly funded training incentives.

### Incentive Arrangements

Incentive arrangements support employers in this financial

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Incentive arrangements support employers in this financial
commitment to training and need to reflect the commitment of industry. The principles of using incentives to encourage employer participation in training should be based on encouraging commencements and completions. They should also be flexible to reflect specific circumstances if the needs of industry change.

Similarly, incentives paid to employees should be based on the same principles.

There has not been a review of the framework of the financial incentives for quite some time. The approach taken has been to bolt on additional incentive arrangements to respond to specific issues as they arise.

The relativity of incentives for Tier 1 and Tier 2 pathways for existing workers as well as the relativity of incentives for certificate II level and also then for Certificate III and IV does nothing to address the changes in the skills environment since this structure was established.

The dramatic impact of an ageing population, rapidly escalating skill shortages, changes in the profile of the workforce, and changed policy settings need to be taken into account. Whilst incentives do have a focus on competency attainment through Qualification level, there also needs to be consideration given to qualifications with greater nominal hours which take longer to complete.

**Marketing of Australian Apprenticeships System**

The Australian Job Network is charged with the responsibility to place job seekers into employment, whether they are fully Job Network Eligible or only seeking Job Search Services. However, Job Network does not have a financial incentive to place job seekers into Australian Apprenticeships. Nor does Job Network have the expertise and understanding of how Australian Apprenticeships operate within the Australian Qualifications Framework.

Other key providers such as RTOs and Group Training Organisations have the expertise but are also motivated by self interest. The Australian Apprenticeships Centres are contracted to promote the system and develop strategies to improve take-up of training arrangements. They have the expertise and yet there is only a 10% differential in payment arrangements for Tier II packages over Tier I arrangements. This makes no allowance for the additional workload and complexity of Tier II packages.

**Structure of Incentives**

The Government has introduced new incentives for higher level qualification and also introduced wage subsidies for the Mid Career Initiatives targeting existing workers.

However, there needs to be consideration given to ensure that incentives reflect the complexity and commitment needed to achieve the qualification. The payment arrangement, based on competency attainment, needs to be maintained; however when qualifications have greater nominal hours which require longer durations to complete (i.e. over 2 to 4 year periods) there needs to be recognition of the associated costs born by the employer that should be off-set.

Given the complexity of mature aged new entrants and welfare recipients returning to work through training arrangements, there needs to be recognition of the complex issues facing these job seekers, their transition to work and the additional commitment made by the employer to ensure a sustainable outcome is achieved.

**Skill Shortages**

The rapid changes affecting the structure of the workforce require sufficient additional incentives to encourage take-up into employment through Australian Apprenticeships. These shortages need to be identified via a formal mechanism such as the Migration Occupations in Demand List (MODL).

The additional incentive applicable to rural and remote locations should be expanded to accommodate the skill shortage occupations formally identified.

**Completion Rates**

The non-completion of Australian Apprenticeships is unacceptably high. The huge disparity across occupations, particularly in traditional trades, is having a negative impact on industry productivity. Many non-completers are being sourced for positions in resource projects. Incentives need to be considered to address this issue and provide outcomes that support the employer and trainee/apprentice. The causes of non-completion also warrant further investigation.

**Australian Apprenticeship Take-Up Rates**

There is greater need for increased take-up rates of Australian Apprenticeships in all occupations, particularly
sectors identified as experiencing skill shortage. It is worrying that instead of take-up rates increasing to meet growth expectations, the trend appears to have reached a plateau or is even decreasing (i.e. in Victoria a 14% decrease in July-December 2005 period to corresponding period to the end of December 2006).

Training Levies

The Training Guarantee was introduced in 1990 as a result of concerns by the then Labor Government about businesses that did not train staff. The aim was to spread throughout industry the cost of training, rather than to rely on a proportion of firms providing the bulk of on-the-job training. The assumption was that the level of workplace skills development was sub-optimal since firms which did train could not ensure that staff would not be poached before a return on their training costs was realised.

To spread the costs of training to the entire business community the Training Guarantee was introduced. Firms (other than small businesses) were expected to spend 1.5% of their total wage costs on training or pay any shortfall to the Tax Office.

It is generally regarded that a levy will not encourage business to further engage in training and can actually breed resentment and a cost culture of training in Industry. The Training Guarantee Levy created dysfunction within the VET sector by creating a fixation with supply side issues in public VET providers while not increasing uptake of training to any great degree.

Individual Contributions to Training

The contributions of individuals undergoing VET remain relatively low. The total share of individual expenditure on VET through public providers has been in the range of 4.1 to 4.4% over the period 1995 to 2003 (NCVER 2004). Information on the contributions of individuals undertaking training through private providers is difficult to determine as private providers are not required to report fee-for-service training arrangements under Australian Vocational Education and Training Management Information Statistical Standard (AVETMISS) requirements. The cost of training to individuals is considered to be significant, with tuition fees, materials and equipment and lost earnings for the duration of the training making a significant contribution to the total cost.

There is at present, no HECS (Higher Education Contribution Scheme) or FEE HELP (Higher Education Loan Program) loan system for individuals undertaking VET at public or private providers. There are, however, concessional fee rates available from most TAFEs for pension recipients.

The Federal Government’s recently introduced Skills for the Future (SFF) package will provide some relief of the burden for employed people who wish to undertake training.

Fees and Student Contribution Scheme for TAFEs

Current models of funding depend on Annual Hours Curriculum (AHC) for delivering training. This makes a dollar connection to the volume of training in hours rather than the quality of the training outcome. For example, to study a Certificate IV at Swinburne, the charges that apply include:

- Tuition Fee ($1.34 per student contact hour);
- General Service Fee (GSF);
- Materials Charges (where applicable); and
- Ancillary Fee (where applicable).\(^7\)

In 2007 the Victorian TAFE tuition fee was $1.34 per nominal student contact hour with the minimum fee of $53 and a maximum fee of $860 per year.\(^8\)

Figure 7.4 shows NSW TAFE charges in 2007.\(^9\)

Other costs apart from the TAFE NSW fee were:

- course-related charges;
- Student Association membership;
- an OTEN Student Materials and Handling Charge;
- temporary visa holders tuition fees;
- fees for commercial courses;
- licence fees;
- Commercial Recognition fees; and
- car parking (semester or annual fee).\(^10\)

Or if an individual were to undertake Restricted Split System Air Conditioning Installation as part of a Certificate II in
Engineering Production (Air Conditioning) at Claremont Link Centre in Tasmania, the cost would be $950.\(^{11}\)

The Queensland Government advertises that “TAFE Queensland students don’t pay HECS fees”\(^{12}\) and that the costs of programs are often considerably less than those programs offered by universities or private training providers due to Government subsidies. The total maximum standard offering Tuition and Student Services fee for a program of study in Queensland is $1003.35

Part of the problem in some parts of the publicly funded VET system is that some students receive free training while some pay full fees. The current requirement to pay up-front fees for fee-for-service courses may disadvantage some students and may deter some students from taking higher level VET courses. Some students may take VET courses to avoid debt through HECS or FEE HELP at university as openly advertised on the Queensland Government website above.

Currently, the fee structure of VET is low compared to the fee structures in the higher education and to some extent the school sector. This is in part a reflection of the comparatively poor return on investment for undertaking training and the expected wage increases in relation to other education sectors. When added to the opportunity cost of time and lost wages in training, higher fees can act as a disincentive to undertake training for the individual.

A connected problem is the populist image of VET as a second-rate option with little understanding of career options and current industry trends. In particular there is a lag in community understanding and knowledge about the application of modern technology in some industries and of the new requirements of underpinning knowledge to undertake certain qualifications.

Despite the potential problems in determining what the real level of fees should be in relation to the effects on the supply of students, the system cannot operate effectively without a fee structure to indicate what the value-for-money proposition is for different courses. If fees that truly reflect the costs of providing training were introduced, notwithstanding some level of government financial support in building social overhead capital, a companion system of fee help or loans for students would need to be introduced.

Without such a structure the danger of resource wastage is ever present, with little incentive on the part of some RTOs to improve their quality because of a lack of competition. Competition drives firms to become more efficient and to allocate resources more effectively. A market-driven approach to training includes a fee system for students and a fee help or loan system to support it.

Some stakeholders are concerned that the introduction of FEE HELP for fee-for-service students would be a precedent for the introduction of HECS in the publicly funded part of TAFE and that there would be less control of the level of fees, resulting in increases.

In fact, this would be the outcome in a market-led approach but it would be countered by increased quality and a more efficient distribution of resources.

There are some who believe there should be no fees at all for TAFE and that all education and training should be free. This is a philosophical argument and would involve a completely different resourcing discussion, meaning current government resources used for other purposes would need to be diverted to the education and training system. While this proposition holds some idealistic appeal, the reality is that a management approach to resource allocation is needed.

A model of fees, student contributions and loan support operates effectively in the higher education system. This model should now be used in the training sector. The use

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of student vouchers, where government funding for places is given directly to students via a voucher, is an ideal way to make this model work.

**Learning Accounts and Bonus**

Some form of incentives for individuals to undertake training has been debated in the public arena. One suggestion, broadening the tax deductibility criteria for individuals undertaking formal education and training, is an ACCI proposal suggested in Chapter 16.

Other proposals include a learning account, to which individuals, parents or employers would contribute. Another is the idea of a learning bonus, which could be paid upon the completion of relevant formal training.

In relation to learning accounts there is some merit in encouraging a system to fund an approach to lifelong learning, and various models could be considered. However, it is important that any scheme considered be voluntary and the contributions made are circumscribed for use on acquiring formal skills.

Therefore, a Learning Bonus is proposed which provides an allocation to an individual who completes a formal qualification at Australian Qualification Framework level 3 or above. The Bonus should not be limited to Australian Apprenticeships but rather be a simple financial incentive to encourage formal training in the workforce. The measurable outcome would be in the recognition of formal skills of the Australian workforce.

The level of payment would be equivalent to the relevant commencement amount for entry level training. Whilst there may be variations in the costs of training or in the amount of formal training required to complete a certain qualification, there would be no variation in the amount of the Learning Bonus payment. The current Skills for the Future program should be extended more fully to act as an incentive for individuals to take up training using qualifications from Training Packages since the application of a training intervention benefits not only the individual, but also an enterprise, their industry and the community.

Once instituted, an evaluation of the impact of the Learning Bonus scheme and its encouragement of formal training should be conducted by the Australian Government.

**VET Flexibility**

One of the key components of an industry-led, demand-driven VET system is the flexibility and responsiveness of the system as a whole. Flexibility in training delivery is essential for lowering the overall costs of training to both industry and the individual. Training that occurs on-the-job, or outside work hours, would significantly reduce the burden of lost wages for individuals and lost productivity for business. It is also essential to ensure that training is relevant to the needs of industry. As technology and work practices change, the content of training packages and the delivery methodology and resources of the RTOs must change with them.

**User Choice Funding**

User Choice funding is the funding amount available for training Australian Apprentices (both apprentices and trainees) while indentured to an employer. User Choice funding enables employers and apprentices/trainees to determine:

- the structure and content of the training;
- where the training will be delivered;
- how it will be delivered;
- when the training will occur; and
- which trainer/facilitator will conduct the assessment of training.

User Choice was designed to provide choice, flexibility and a degree of ownership by the employer in regards to the training of the Australian Apprentice. Ideally, an employer would be able to choose the training provider and have significant input into the development of the training program of the Australian Apprentice.

Training authorities in each State and Territory decide which apprenticeships and traineeships are to be funded annually. The allocation of User Choice funds to learning areas takes into consideration:

- strategic initiatives that need to be addressed;
- changing demands for training;
- budgetary constraints; and
- qualifications with low enrolment numbers.

It is to be noted that TAFE institutes often receive User
Choice funding as a direct grant from the relevant State (or Territory) Training Authority (STA) while private providers are required to bid for funding under a competitive purchasing arrangement. The funding levels too vary across states and depending on the RTO. In some states, Enterprise RTOs (i.e. RTOs that are incorporated within other businesses) receive only 50% of the nominal hour funding of public providers.

User Choice funding is allocated against certain occupations; and the occupations it is attached to and the level of funding differs in all States and Territories. Often, User Choice funding is not available for “slim market” training areas (e.g. stone masons and bee keepers in some states), often areas that require skilled employees but are not part of a sizable industry base.

To meet the overall objective of User Choice funding, there needs to be:

• greater market power to individual clients including employers to negotiate with individual training providers;
• increased responsiveness on the supply side of the training market; and
• outcomes that are compatible with an efficient use of resources.

MCVTE and NQC agreed to progress work against national consistency to aid increased opportunity for competitive tendering. The overarching issue is recognition that to improve the quality and efficiency of training provision, effective competition between training providers is important. The required action includes the establishment of national unit price bands for User Choice funds for each Australian Apprenticeship.

Resourcing principles include:

• ensuring clear information is available to clients on the funding provided to each qualification by STAs and RTOs; and
• including a set of clear and transparent criteria to explain the rationale for determining prices for various qualifications.

It will be up to the NQC to evaluate the changes in price bands and other User Choice reforms to ensure flexibility and freedom of choice are truly available to participants in the training system. Employers regard the full implementation of User Choice as a priority issue and as being fundamental to resourcing the nation’s training arrangements.

**Duplication of Bureaucracies**

The National Training System maintains two levels of regulatory authority. Both the Federal and State and Territory Governments invest heavily in maintaining the separate bureaucratic functions of the National Training System. State level bureaucracies are replicated over the eight States and Territories. This can often lead to anomalies in the availability of funding and presents significant challenges to businesses and RTOs that operate across a number of states.

Each State and Territory maintains its own regulatory Authority for RTOs that conduct compliance audits for RTOs registered to deliver in that jurisdiction. Each State and Territory also maintains bodies that develop and accredit State and Territory based courses.

Competition for resources and staff between the ATCs and Trade Schools/VETIS programs is also an area of concern.

Better ways of achieving a nationally consistent approach to avoid the unnecessary duplication of resources and infrastructure is an area of future work. Complementary work in this area should also be undertaken to better target the use of Federal funding to integrate effectively with State and Territory based arrangements to get the best return on the training dollar.

**RPL and Mature Aged Workers**

Continuing support needs to be provided for mechanisms that build the capacity of learners to enter the VET system such as a national recognition of prior learning system that is clear, easily understood and inexpensive to access.

Further resourcing to support the development of models to meet emerging needs such vocational learning for mature aged workers need to be factored into planning.

Research will be needed to understand why workers exit certain industries and whether access to vocational pathways might enable them to pursue other occupations within the industry or transfer more easily to a teaching role.

Consideration of ways to upskill existing mature aged workers while they are still in current employment should
also be made.

Tailor-made programs for individuals and industry need to be encouraged based on initial work already being undertaken and alternatives to apprenticeships and ways to fast-track need refinement and broader application in industry.

There will need to be a strong connection with the benefits of workforce development with access to specifically developed tools and promotion of the benefits of such.

As other trends and needs emerge, consideration needs to be given to the flexibility of current resourcing arrangements to respond to demand in a timely manner.

**Higher Level Qualifications and Funding**

While there is a need for a higher level of skills to respond to Australia’s technical needs, the danger in using qualifications as a proxy for skills is that unnecessary “credentials creep”, where increasing numbers of professions require higher-level qualifications or the level of qualifications required is cranked up for a specific occupation, might ensue with basic level skills potentially neglected.

What Australia needs is a rigorous qualification system that assists students, employers and parents, is clearly understood and provides value.

The drive for higher-level qualifications needs to be tempered by ensuring that the importance and integrity of entry-level qualifications is maintained and that there is a place for making the connection between skills and experience gained in the workplace and workplace planning and development.

On 16 February 2006, COAG reached agreement on a package of measures designed to underpin a new, genuinely national approach to apprenticeships, training and skills recognition. The package seeks to alleviate skill shortages currently evident in some parts of the economy.

Likely impacts from this COAG human capital reform agenda in relation to qualifications will come specifically from:

- the necessity for an appropriate system to recognise overseas qualifications through a single, pre-migration offshore assessment process;

- portability and recognition of skills and training through a new-look nationally portable Statement of Attainment to set out consistently and clearly for employers the competencies and skills a person has achieved;

- allowing intermediate or specialised qualifications as well as full apprenticeships through an examination of nationally portable qualifications for the residential building and construction industry to enable apprentices to have skills recognised at and below the full trade qualification;

- where there is industry demand, national training qualifications including identified skills sets; and

- an examination of the need for higher-level skills.

COAG also identified areas of future reform, including the need for higher level qualifications. Subsequently, the Centre for the Economics of Education and Training (CEET) produced a report *The Future Labour Market and Qualifications in Australia*, which projected that the Vocational and Technical Education (VET) sector will need to supply a total of 2.47 million qualifications between 2006 and 2016. This analysis showed that if the 2005 pattern of supply continues over the next 10 years, by 2016 there would still be a shortfall of around 240,000 people with VET qualifications.

This shortfall includes 112,000 at Certificate III. To meet the required Certificate III shortfall will require an additional 2.4 per cent increase in delivery at this AQF level each year for the next decade.

The VET sector needs to support this increase in delivery at Certificate III while also delivering significantly more qualifications at Diploma level and above.

Funding arrangements must support competency-based progression for individuals and meet employers’ needs for flexible training delivery.

Meeting future skills needs will require all current levels of spending to be increased in formal, accredited training, by governments, industry and individuals.

Strategic attention needs to be paid to interactions between funding arrangements and other sectors such as higher education and the school and community education sectors, and how State and Territory, regional and local needs can be met.
**Skills for the Future**

The Federal Government recently announced a major funding package, Skills for the Future (SFF), that provides funding for training for those currently in the workforce. The total funding will amount to $837 million over the five years from 2007.

Training Vouchers will be available for those who are currently employed and who have not completed secondary education and are over 25 years of age. The SFF will provide training vouchers of up to $3,000 to complete secondary education, undertake training or undertake VET qualifications up to AQF II level. ACCI considers the use of a voucher system for this program as a major step in the right direction towards introducing greater market signals into the training market. It is the first time vouchers have been used at the national level in the training environment. Ultimately, the allocation of resources for training would be more efficient if a voucher system or greater market signals were used.

Raising the skill levels of those with the lowest level of skills accords with ACCI analysis that indicates the greatest skill gap impacting on business is where existing skills are already low. The economic benefits of lifting the skills of this particular group will result in higher levels of GDP, and a stronger skill base for the production of goods and services.

The SFF initiatives will also provide wage subsidies for older workers undertaking taking an Australian Apprenticeship. This initiative should relieve some of the burden on mature apprentices on training wages, which can be as low as 50% of the standard Trades wage in the first year. It should also serve to entice more mature aged people towards undertaking trades training as the reduction of income will no longer be as significant a barrier.

The SFF also provides employer incentives to provide higher-level skills. Employer incentives will be available for apprentices and trainees at AQF V and VI levels with a particular focus on engineering, technological skills and childcare.

**Human Resources in the VET Sector**

ACCI supports structures that enable the best quality teachers to be engaged. Flexible industrial arrangements that include performance pay for VET teachers is one way to attract quality staff. This should be combined with a better defined career structure for TAFE teachers comparable to other sectors, to encourage an ongoing development of quality and incentive to remain in teaching.

As the impact of the ageing population hits the TAFE sector, these measures will need to be considered as part of a workforce development strategy. Flexible mechanisms to support teachers, combining working in industry with teaching and/or engaging in ‘return to work’ programs, also need to be part of this strategy. Other options to be considered include developing professional development updates on recent developments in trade, which could also contribute towards attaining a master tradesperson status.

In addition policies need to be developed that encourage tradespersons to undertake training and assessment qualifications so that there is growth in the effective transfer between industry and training.

This arrangement could also provide a transition pathway for mature aged tradespersons and retain them in industry.

**ACCI PROPOSALS**

ACCI proposes that:

- as a priority, User Choice be fully implemented and provide a fair distribution of funds between public and private providers;
- support be given to building a clear, easily understood and administered system for the recognition of prior learning as a means of encouraging learners to take up vocational qualifications;
- there be implemented a system of fees and HECS-type payments in the VET sector, along with a system of FEE HELP to accompany it;
- the Government investigate the use of student vouchers to support this system;
- under no circumstances training levies be reintroduced;
- the Government cost and evaluate the idea of a learning bonus;
- there be increased funding at all levels of qualifications to meet the needs of industry including higher level vocational qualifications and Diplomas and Advanced Diplomas in targeted skills areas attracting User Choice funding;
in building higher level qualifications the entry level qualifications should not be raised inappropriately; and

the skill outcome in terms of increasing employment and connectedness to the workplace must be the critical driver for participation in structured and accredited training and so opportunities for part qualifications and clustering of skill sets are equally important as higher level qualifications.

there be increased funding of higher level vocational qualifications and Diplomas and Advanced Diplomas in targeted skills areas attracting User Choice funding;

Governments review funding arrangements for Australian Apprenticeship Centres and enhance the marketing, promotion and take up arrangements for Australian Apprenticeships;

Governments review current incentive arrangements to ensure that higher level qualifications have a structure which reflect the complexity and duration required to achieve competency;

Governments review the structure of incentives to provide higher level of funding support to encourage employers to recruit welfare recipients into Australian Apprenticeships;

Governments review skill shortage incentives available in regional and remote locations with a view to expanding them across all formally identified skill shortage occupations;

changes due to the ageing of the workforce require the Federal Government to review the stipulation that Australian Apprentices are not eligible for incentives if they have ‘a prior qualification within the last 7 years’;

Governments research non-completion rates and consider remedies which provide incentives for employer and trainee/apprentice;

Governments investigate reasons for static take up rates and consider additional support measures to increase demand;

the research into non-completion rates and static take-up rates be a shared government and industry responsibility as there are a range of factors that contribute to non-completions - administrative, training delivery, wage rates and employment experience;

planning should be undertaken to encourage a workforce development approach to VET teachers including flexible working arrangements, performance pay, clearly identified career paths, ongoing training to maintain industry competence; and

the numbers of teachers should be grown through providing tradespersons with access to training and assessment qualifications.

1 Access Economics, 2004, Future Demand for Vocational Education and Training, DEST, Canberra
3 Ibid, p 15
4 Billett, S and Smith, A, 2004, Mechanisms for increasing employer contributions to training An international comparison, NCVER
5 Master Builders Association, 2006, Training for the Future, Master Builders Training Blueprint, Master Builders Association, Canberra
Chapter 8
VET Institutional Arrangements and Quality Issues

INTRODUCTION

Much has been written over the past ten years about Australia’s VET system, particularly about what is meant by an industry-led system.

ACCI has devoted significant attention to policy and programs for many years on behalf of Australian employers.

Over the next ten years, employers will be advocating a market-led approach with increased focus on demand and market signals.

In this chapter we provide an overview of the VET sector and concentrate on the assessment of quality in the sector and industry advisory arrangements that provide input into that quality assessment.

BACKGROUND

Australia’s training regime has had close links with the skills needs of Australia from the beginning. In the late 19th century when mining and manufacturing were pre-eminent economic activities, training began as a male dominated activity.

The Technical and Further Education (TAFE) system as we knew it emerged in the 1960s and 70s with the growth of private providers in the 1980s as the services base expanded in the economy.

By the 1990s there was a general consensus that Australia’s training system was in need of reform and in 1992, all States, Territories and the Australian Government agreed to establish the Australian National Training Authority (ANTA) and a cooperative VET system with strategic input from industry. Industry advice was provided by Industry Training Advisory Bodies (ITABs). ANTA was abolished on 30 June 2005 and its functions were absorbed into the (Australian) Department of Education, Science and Training.

Significant features of the current training system emerged in the late 1990s:

- New Apprenticeships (now known as Australian Apprenticeships);
- the establishment of the National Training Framework (NTF);
- the introduction of VET in schools; and
- the development of Training Packages.

In 2007, several industry advisory arrangements are in place to support the VET system. Essentially, there is formal industry involvement through the National Industry Skills Council and the National Quality Council, which are both Committees of the Ministerial Council on Vocational and Technical Education (MCVTE), and through the Industry Skills Councils which are funded by DEST, and provide advice on Training Packages amongst other things.

CONSIDERATION OF ISSUES

The National Training System

The national training system consists of two elements:

1. The Australian Quality Training Framework (AQTF 2007), which provides quality assurance for Registered Training Organisations. Only registered training organisations (RTOs) can issue AQF qualifications and deliver accredited training and assessment.

2. National Training Packages, which are a set of nationally endorsed standards and qualifications used to recognise and assess the skills and knowledge people need to perform effectively in the workplace.

These are supported by the Australian Qualifications Framework, which provides a unified system of national qualifications in schools, vocational education and training (TAFEs and private providers) and the higher education sector (mainly universities).
Aspects of the National Training System

1. The Australian Quality Training Framework (AQTF 2007)

Quality of the System

Where there is no adequate price mechanism to signal to the market the relative quality of products, alternative mechanisms must be used to measure quality. Generally quality revolves around standards, performance, achievement and continuous improvement.

The Australian Quality Training Framework (AQTF) 2007 has been agreed by the Federal and State and Territory Ministers as a means of ensuring quality for Registered Training Organisations (RTOs). Central to the AQTF 2007 are the Essential Standards for Registration, which are outcomes-based compared with its predecessor, the AQTF, which was more output-based. Additionally, there is a voluntary Excellence Framework that encourages RTOs to gain either a “quality committed” or “excellence” rating.

At the time of writing this Blueprint, the AQTF 2007 was yet to be introduced, but from a policy viewpoint, it should provide an important vehicle for ensuring RTOs are providing quality delivery of training.

How the AQTF 2007 is implemented, particularly in relation to assessment practices will be critical to its success. Assessment has long been of concern to employers, particularly where some RTOs do not conduct assessment properly, or employ a ‘tick and flick’ approach. As well, comparisons between RTOs indicate that poorly performing RTOs are treated in the same manner as those that perform. The importance of rigour in assessment is explored in more detail later in this chapter.

Standards

VET offerings must reflect industry standards and current business practices to meet the needs required by modern enterprises. Particularly challenging is the need to adapt and respond to changing technology and to utilise it in innovative ways.

The NQC has a key role in bringing together key stakeholders in the vocational and technical education sector - industry, unions, governments, equity groups and practitioners - to oversee and support the current and future quality of vocational and technical education across Australia. It is also critical to ensuring the successful operation of the National Training Framework – the system’s requirements for quality and national consistency in terms of qualifications and the delivery of training.

The functions of the National Quality Council include:

- reporting to the Ministerial Council on the operation of the National Skills Framework, including Training Packages, Australian Quality Training Framework standards and other quality assurance arrangements;
- advising Ministers on the endorsement of Training Packages;
- recommending approaches to improve national consistency within the operation of the National Skills Framework; and
- fulfilling accountability requirements through providing an annual report on its operations to the Ministerial Council.3

It is critical to have a proactive NQC led by industry, which is responsible for the overall quality of national training arrangements, standards for Training Packages and support materials and a national framework for outcomes-based auditing.

The capacity to be able to make comparisons, based on industry benchmarks, is one method employed to gauge quality. Making comparisons between and within industries is difficult without benchmarks or competition.

Every enterprise has the right to determine its own standards but there is no benefit to be gained from having low standards. Parties within an industry can agree to set standards and benchmark quality. However, this does not mean that what is considered a high quality standard in one industry will be the same for other industries. The requirements to achieve quality standards also vary between industries and the level of inputs sometimes cannot be compared, such as the number of hours required to attain a unit of competency.

This makes it very difficult to determine standards, even where criterion referencing and outcomes measurement assist. Private and public feedback and less direct methods such as measuring improved productivity can also be useful gauges of quality standards but with not without difficulties in isolating the efficacy of specific interventions.

Standards assist individuals and enterprises to achieve
quality. Greater consistency in rewarding individuals and enterprises that achieve high quality outcomes for their clients is also highly desirable.

The NQC therefore provides a useful vehicle for achieving the necessary standards, as it is the only Ministerial committee that has the authority to review standards that are presented on behalf of stakeholders.

To ensure standards apply inside and across industry, the NQC should consider alternative mechanisms to support the AQTF 2007 in the implementation phase.

Three alternatives exist:

• make greater use of moderation between RTOs and VET practitioners to make comparisons of standards within and between industries; or

• introduce an industry-based inspection system like the one operating in the UK; or

• progressively introduce pricing and competition into the market.

The first two options need to be costed to estimate the level of resources needed to support these quality options.

ACCI believes the third option requires changes at the systemic level but will yield the greatest change in quality. In Chapter 7 of this Blueprint, ACCI proposes the introduction of fees for the VET sector, supported by a student contribution scheme, similar to that which operates in higher education. This introduces greater pricing signals into the sector which will generate more competition.

In the paper, A Well Skilled Future, Tailoring VET to the Emerging Labour Market Sue Richardson and Richard Teese identify two models for meeting future skill needs:

The first is based on a strong collaborative community model, in which regions establish: strong community partnerships involving providers, government, employers and schools; robust mechanisms for measuring and responding to local industry needs, flexibility in delivery including in the workplace and online delivery; and inclusiveness strategies to target key groups. The second is a more market-driven model where multiple and varied VET providers (public and private) actively compete for students. The competition works to drive up enrolments, with pressure on providers to innovate in their responsiveness to local needs.6

ACCI favours a model that encourages a market approach to the delivery of VET. The benefits of opening up sectors to competition are well established. For example, when the...
telecommunications market was opened up, prices went down, the range of choices was broadened and innovation drove improved quality of products, which were enhanced through the greater use of pricing signals.

The other alternatives of implementing system of moderation, as occurs in New Zealand, or an inspectorate system as occurs in the UK are also worthy of consideration. These options must be costed and assessed as to their suitability in the Australian context.

All mechanisms which provide greater confidence in the outcomes of training are important for consideration.

**Rigour in Teaching, Assessment and Reporting**

To achieve rigour in teaching, assessment and reporting of VET learning certain factors must be considered.

In relation to teaching, employers value skills that are acquired in real workplaces and where this is not possible, through simulation that is as close to the workplace as possible. On-the-job learning is therefore a critical component of the VET system. ACCI does not favour pathways where all learning is done completely off-the-job or through institutional pathways. Any off-the-job learning must be combined with on the job learning to achieve quality learning for VET students.

It is critical when using a competency-based approach to learning, that assessment is rigorous and that there is comparability between the skills acquired by students undertaking the same course in different institutions. Internal and external moderation processes are desirable in collecting evidence that demonstrates a student’s competence for the workplace. Otherwise there is a danger of ‘teaching to one’s own standard’. The use of some type of moderation system would provide confidence to employers that RTOs were delivering to a certain standard.

Reporting on student results should be outcomes based, not a reflection of compliance with input or process driven requirements. Clear, concise statements of competence must make explicit the standards set out and achieved. A nationally consistent reporting format is supported and the current model should be extended to report on employability skills, which are being incorporated into Training Packages and are highly desired by employers.

**Governance Aspects of RTOs**

Good governance models are incorporated into the *Essential Standards for Registered Training Organisations*. RTOs are no different to any other company seeking to carry on its business in the market place and have the same fiduciary and reporting standards.

**Recognition of Excellence**

Employers seek reassurance about the quality of VET
outcomes. The establishment of the Excellence Framework as part of the AQTF 2007 will go some way towards providing a mechanism for recognising high performing RTOs as well as providing guidance as to how that standard of excellence can be achieved.

There are also a range of awards that are provided by the Federal and State and Territory Governments as well as industry to encourage and recognise excellence.

These mechanisms are important, but what employers value is a recommendation on excellence provided by their peers.

Institute for Trade Skills Excellence and the Connection with Quality

The Institute for Trade Skills Excellence (ITSE) provides an important vehicle for employers with a view about RTOs based on the experience of other employers and rated against quality criteria.

ITSE was established in 2006 by the Australian Government to be proactive in promoting trade skills excellence and raising the status and value of trades skills training to the wider Australian community, especially in those trade areas experiencing skill shortages.

Importantly, the Institute will identify and reward excellence by providing industry recognition of excellence in trade skills training conducted by RTOs aimed at improving the quality of trade training.

Currently there is little guidance for employers as to which RTOs provide high quality training except through their own experience and word of mouth. Cost implications of decisions to train where a sub-standard service is provided lead to wastage. On the part of RTOs, there is no incentive to achieve higher standards if there is little information in the market comparing them with high performing RTOs.

Employers are used to systems that grade performance within their industry and that can be easily recognised. Confidence to make decisions based on the guidance provided by an Employer Excellence Rating will avoid unnecessary costs and provide a way of making a training decision quickly and easily.

Nothing will promote the trades more effectively than a quality training system. As such, ACCI considers the Employer Excellence Rating of RTOs, combined with User Choice (discussed in Chapter 7) will provide a way for encouraging excellence.

Third Party Access to Public Infrastructure

Generally there is a need to examine the infrastructure of all education and training sectors and industry to determine an efficient and effective mix, particularly innovative combinations to respond to industry needs.

Some TAFE equipment is sought after by industry, which is good for the environment and efficiency of production, however, the capital cost of such machinery can run into millions of dollars. Industry, however, invests in these machines because they get a return on their investment through increased throughput, efficiency, environmental compliance as well as retention and motivation of their staff by providing them with the latest technology on which to operate.

Often this equipment is only accessible in capital city TAFE centres, which places stresses upon regional students as well as those employers who invested in the latest technology machines and who do not want or value the training of their staff on outmoded TAFE machinery or techniques. The net result can be a higher propensity to train staff in-house rather than through single location TAFE facilities.

In less capital intensive industries, many businesses wish to access public infrastructure for use in education and training. New ways of partnering and sharing resources and greater incentives for private investment need to be considered to respond to these needs.

In addition, there may be some conditions where after-hours third party access to infrastructure is made on a commercial basis, such as the provision of child care.

Funding for VET should be reviewed in terms of the provision of training consistent with changing technology and industry needs. TAFEs should be given greater autonomy and flexibility to respond to these needs.

Currently, a significant portion of training occurs in the workplace through repetition, without necessarily a consistent level of theoretical support. Some RTOs provide training on general theory but not on current technology.

Industry can and has offered to provide opportunities for the placement of teachers to familiarise them with current technology. Together with additional resources RTOs will be better equipped to respond to industry needs.
In addition, the current industry contribution to the VET sector is significant. Employers’ direct investment includes apprenticeship wages and on-costs, tools, non-productive and less efficient work time, supervision, mentoring, absence for training time, training fees and also the donation of TAFE resources such as materials, components and equipment.

Teacher Release to Industry

To engender further confidence in the quality of the training system, teachers must have mastery over the content of their courses at current industry levels. Where teachers have spent a considerable amount of time away from the workforce, release to industry programs will be required to achieve currency.

The Australian Chamber of Commerce and Industry (ACCI) commissioned a project under the National Skill Shortages Strategy in 2006 to develop a possible approach for an industry exchange program targeting teachers in the Vocational and Technical Education (VTE) sector and Careers Advisers in schools.

The project was primarily concerned with the traditional trade occupations nominated by the Council of Australian Governments (COAG) for priority attention. These include bricklayers; carpenters and joiners; electricians; motor mechanics; plumbers; and refrigeration and air-conditioning mechanics.

Recent research by ACCI as part of the National Skill Shortage Strategy shows that industry and employers appear to have two primary concerns in relation to the skills and knowledge of careers advisers and VET teachers.

More details can be found in the Appendix. As a result of the research, ACCI proposes a model for teacher release to industry as follows:

1. A specific industry, through its industry association or licensing body, determines in-principle that there is a need for a teacher-industry exchange program.

2. The industry scopes the parameters of the program including the industry areas proposed for attention and States proposed for the program’s operation, and nominates the annual contribution it will make to the program, including the form or ‘kind’ of that contribution.

3. Government (perhaps involving a co-contribution from the Australian and State governments) agrees to match the industry contribution.

4. The industry develops a framework for the program which supports:

   a. a teacher placement in industry for a negotiated period of time, with the specific placement assigned and approved by industry; or

   b. an industry representative spending a negotiated period of time in a Registered Training Organisation (RTO).

5. The industry nominates the specific areas of learning they will support, the number of positions available and the criteria for selection, and identifies employers where teacher placements can take place.

6. The joint funding and program guidelines are provided to the industry/employer organisation contracted to manage the program.

7. Teachers submit applications for the program, which are assessed by agreed industry representatives and the organisation managing the contract. Applications are only considered if the teacher’s application is supported by their RTO.

8. Where an applicant is successful, funding will be provided to the employer where the applicant is placed and to the applicant’s RTO.

ACCI urges the Federal and State and Territory Governments to consider this model.

2. Training Packages

At the end of 2005, there were a total of 75 endorsed Training Packages.\(^8\) Training Packages are comprised of competencies that are determined by industry as being necessary to undertaking certain tasks in the workplace. It is important to note that the current Training Package arrangements are based on the concept of an occupation. Qualifications gained via Training Packages equip individuals to work in occupations. Also, there is no curriculum contained in a Training Package.

Another important plank underpinning employer involvement in VET is the utilisation of competencies that are part of the formal training system. The reason behind this is that competencies are developed by industry...
to reflect workplace realities and build on the underpinning knowledge and skills of individuals. Qualifications based on competencies are a formal way of grouping the competencies along relevant industry pathways.

An industry based approach to the development of competencies explains how the training system has evolved. More recently there has been interest in cross industry competencies and the development of skills sets within qualifications. Innovative approaches to skilling structures will be required in order to leverage the latent potential of the workforce as the Australian economy changes yet again.

There is an argument to review the current grouping of competencies around industry pathways based on an occupation. The relevance of the occupation construct is not ubiquitous across all industries; especially where scientific and technological advancements combine previously unrelated fields and learning domains. Innovative approaches to the concept of a unit of competency are required in order to remain relevant to sunrise and emerging industries. Flexibility around packaging rules within Training Packages will also be of assistance.

Originally, the focus of training was on youth to enable them to enter into the workforce by learning skills that industry wants. However, where pathways for mature aged students, Indigenous, people with a disability, people returning to the workforce, people contracting their labour, and people choosing lifestyle options to fashion their workforce participation now typify patterns of employment, it will be crucial to capture the emerging needs of these groups and to integrate them as soon as possible into the training system.

Under the current NTF arrangements States and Territories are able to develop accredited courses for VET delivery outside of National Training Package qualifications. The original intention was for this to enable the States and Territories to fill any gaps in the qualification structure of training packages. The courses are often developed with minimal industry consultation and are not subject to the rigorous validation required for training package qualifications.

The proliferation of accredited courses has led to considerable duplication in the NTF as many are closely aligned to training package qualifications and many States and Territories develop programs with similar outcomes, especially in the vocational access field.

While a blanket statement cannot be made about the quality of all accredited courses, as a point of principle, ACCI prefers courses of study developed using Training Packages, where industry has been involved in the development of competencies.

3. Australia’s Qualifications

More than a decade ago, one of the drivers in establishing the AQF was reform to Australia’s vocational education and training system. This was in response to the increasing pressures of globalisation on Australia’s skill base.

Given the reforms now underway through the Council of Australian Governments (COAG) and other international developments, it is timely to take a fresh look at Australia’s qualification system.

Skill Sets

Of particular interest in the COAG reforms is the development of skill sets. Skill sets are able to accommodate the requirements for specific skills required for legislative requirements and in some cases can also provide a vehicle for recognising the skills gained through vendor training. They provide a vehicle for recognising skills that are common across industries.

Essentially skill sets provide different qualification pathways in that they combine general and specific units of competence but not at a full qualification. Given that skill sets can be developed and supported by the National Quality Council (NQC), they are a real response to the rapidly developing skill needs of business and the community and provide a timeframe that is relevant for businesses and individuals. They provide a niche approach that is targeted towards a real problem by thinking outside the square.

Being contemporary and responsive are two features along with quality that can provide a qualifications solution-based approach to some of Australia’s emerging skill needs.

Additionally, the standards of some products have changed and many products produced today are technologically enhanced, easier to use, more flexible in application and more efficient. A qualified tradesperson is more likely to be able to do minor trades works outside his/her area of expertise when using contemporary products and skill sets will provide a way of ensuring the work being done meets high standards.
Skill sets that are able to be responsive to using modern products while maintaining quality are of benefit to all. Apart from the benefits to be gained through specialisation and economies of scale, a qualification based on skill sets is of benefit to the individual as well and can make them attractive to employers.

Skill sets have a particular application in meeting the licensing and legislative requirements attached to particular job functions. Grouping units of competency that meet the licensing and legislative requirements for particular occupations will enable rapid acquisition of skills and value-add to existing qualifications.

Skill sets should provide pathways to a full qualification or be used as professional development of holders of an existing qualification.

**Qualifications and Lifelong Learning**

The context for examining qualifications is lifelong learning. Lifelong learning, as the expression implies, is a philosophy about learning that takes place over an individual’s lifespan from ‘cradle to grave’.

A generation ago, individuals attended school, TAFE and university, obtained skills and then expected to have a life of work where little if any additional learning would be required. This concept has now been completely turned on its head.

Lifelong learning is attitudinal – that one can and should be open to new ideas, decisions, skills or behaviours. It sees citizens provided with learning opportunities at all ages and in numerous contexts - at work, at home and through leisure activities, not just through formal channels such as school and higher education.

The acceptance of lifelong learning reflects a combination of a more comprehensive understanding of learning and learning styles and the acknowledgement that technology and changing patterns of work mean that an individual will continue to acquire new skills on a continuing basis. It covers the whole range of learning including formal and informal learning and workplace learning. It also includes the skills, knowledge, attitudes and behaviours that people acquire in their day-to-day experiences.

Qualifications that provide a view of a person’s skills and achievements at a particular point in time need to take account of this continuous learning environment. Not all skills required for work demand a full qualification.

Qualification pathways that indicate a progression in an industry based on qualifications also need to better reflect the realities of lifelong learning.

While skill sets provide an important pathway in themselves, progression to a full qualification should still be available and easy to access for those who choose to build on the skills obtained via skill sets.

**Qualifications as a Proxy for Skills**

While qualifications have intrinsic and extrinsic value, from an employer perspective, qualifications and skill sets can act as a signal of greater potential for further learning and skills acquisition, as a signal of immediate competence and to assist in recruitment decisions. It is important that employers have confidence in the qualification system and that the relationship between qualifications be transparent.

The idea of qualifications as a proxy for skills is acceptable in a broad context and as a generalisation in approaches to modelling. However, caution is needed lest the skills acquired, but not reflected in qualifications, are ignored.

These skills can provide the ‘value add’ an employer is looking for once an initial qualification is obtained. These are separate from skill sets and consist of the skills acquired through workplace learning and experience and other aspects of non-accredited and informal learning.

The question raised via the COAG reforms is: Can increased productivity and participation be obtained if more individuals obtain higher-level VET qualifications at the Diploma and Advanced Diploma levels?

Employers still regard the qualification necessary for basic entry into industry as a qualified tradesperson as Certificate III. Diplomas and Advanced Diplomas are relevant to some industries where technician level work applies.

So in some cases the answer to the question is ‘yes’. However, a person does not become immediately productive for an employer, even if they have a qualification. This may require a further one to two years in the workplace to learn the skills and requirements of a specific enterprise.

Recognition of the importance of this type of learning needs to be considered and can be critical to a firm’s potential to retain its staff. The role of such learning in workforce planning is essential to skills development. Regarding qualifications as a proxy for skills would find no place for this type of learning and the important linkages
to workforce planning and development.

Restricting the debate to traditional definitions of qualifications is limiting and the broader learning environment must be considered to understand the relational aspects of skills and qualifications.

Further, students who are encouraged to undertake a Diploma or Advanced Diploma may have unrealistic expectations of the level they should be employed at when entering the industry. Students need a balance between on-the-job experience and formal learning, but sometimes too little emphasis is put on practical experience at the Diploma and Advanced Diploma levels.

Employers often prefer skills gained through industry experience as opposed to those gained from completing a course. A higher level of knowledge and underpinning skills to obtain qualifications does not always mean a higher level of qualification is necessary to do a certain job and the two should not be confused.

Qualification levels relative to the overall level of technology in society must be considered before the jump is made to focus exclusively on higher-level qualifications. There is no point in having more highly-qualified members of the workforce, if the Diploma and Advanced Diploma do not add increased value and ignore the other skills a person will acquire in the workplace, including vendor qualifications.

Direct industry experience is often considered more valuable than qualifications, especially in businesses such as information technology and multimedia as well as some of the trades.

Qualifications have, however, become important in relation to increased regulatory requirements experienced by firms in recent years, but again this does not necessarily mean an individual would be better off acquiring these skills via a Diploma or Advanced Diploma. How this is credentialed needs to be carefully considered. Credentials should reflect competency, not whether a course has been completed or not. That is, the interpretation of competencies, customisation to the workplace, performance standards and evidence guides can provide sufficient flexibility to adapt to modern needs, notwithstanding that in some instances there is a genuine need in industry for higher-level qualifications.

**Qualification Descriptors**

How qualifications are described and put together is therefore important in obtaining the best results for providing the value construct to connect employers, students and the broader community. Robust qualification descriptors are essential in ensuring the reforms outlined above are possible.

There has been much debate about the AQF and whether or not it is still relevant to today’s society. The AQF provides the structures to describe qualifications and the descriptors used must be clear, concise, easy to understand and use, and provide meaningful distinction between levels. Any measure to make qualifications easier to understand and use is a good thing for the community.

Descriptors that are able to provide guidance on partial qualifications and informal as well as formal learning are therefore a consideration in meeting these objectives. Better information for learners and flexibility to transfer the credit as a result of learning will ensure an easier pathway between the sectors and foster lifelong learning.

From an employer perspective, the AQF provides the framework for a quality approach to qualifications. Being responsive to international trends, COAG reforms and emerging patterns of industry skill needs are achievable if there is rigour in the framework.

Employers support measures that will improve the descriptors to enhance lifelong learning and build capacity for Australian qualifications to meet modern needs.

**Industry Advisory Arrangements**

Obviously there needs to be a structure for the development, promotion and continuous improvement of Training Packages and support materials.

ACCI does not consider the current arrangements whereby Industry Skills Councils (ISCs) are the critical component in industry advisory arrangements, is working efficiently. Instead, the structure should be supported by a tendering process of National Industry Training Package functions with appropriate industry input.

In November 2006 the Australian Government announced significant changes to Industry Skills Councils. This followed the need for demonstrable reform around:

- significantly improving governance of the advisory structures, by enhancing the leadership role of industry;
• achieving more active engagement with industry organisations and employers;

• ensuring advisory structures focus their efforts on the development of Training Packages;

• setting clear expectations of the Councils’ activities over the next 15 months; and

• increasing the transparency of performance management and review.

Many of these reforms will go a long way to improving the performance of ISCs, however, ACCI does not believe these changes go far enough. Problems exist around consultation processes in relation to Training Packages. The processes involved are cumbersome and overly bureaucratic with industry the last port of call for input instead of the first. More often than not, the Training Packages are developed by consultants with little industry experience but who have expertise in the design and technical aspects of the construction of Training Packages.

ACCI considers that ISCs should be abolished and replaced by alternative arrangements so that better consultative mechanisms can be put in place.

This should be a transitional change from existing arrangements and begin with a pilot starting from 1 January 2008 and then progressively rolled out.

This is based on the critical nature of Training Packages in delivering a truly industry-led national training system and the need for a suitable industry-led mechanism to achieve this. The functions of any body formed to develop and improve quality, industry endorsed training products and services should be restricted exclusively to Training Package related functions. The body should be performance based, restricted to the following areas:

• development, review and improvement of Training Package and support materials;

• provision of advice to RTOs on products and services; and

• the extent of employer support for their activities.

Funding should only be provided for two years against these key performance indicators and an independent assessment should be provided during that period. If the organisation does not meet the criteria then the function should be tendered.

Success of these bodies should be measured against the above three key performance indicators at an 18 month period by an independent evaluation team appointed by the Department of Education, Science and Training. There is a need to examine existing Training Package approval and review processes to streamline them and allow greater responsiveness to industry need.

It is imperative that any national structure has the capacity to engage with industry and governments, in a focused way, and that public funds are used effectively. It is also critical that the bodies formed do not offer industry advice to a range of government agencies or be treated by them as the voice of industry. Business and industry associations are the direct voice of industry, not artificially created mechanisms.

Industry engagement is not just about industry leadership of the Training Package development process. The matter of increasing the pool of ‘industry champions’ should be undertaken jointly by ACCI, member organisations and the Department of Education, Science and Training.

The path to more effective industry advisory arrangements in the Vocational Education and Training sector need not be a rocky one. What is required is a simple, streamlined and seamless system with the capacity for industry to contribute in a way which ensures that national Training Products of are relevant, timely and industry-driven.

**The Role of Business and Industry Associations and the Demand for VET**

Much has been written recently about the levels of demand for VET.

It is extremely difficult to predict the levels of demand for any good or service although trends can be identified and sophisticated analysis can add to this pool of knowledge. Demand for skills is closely linked to the economic cycle and exogenous economic impacts can and do change the level of demand.

Industry and business organisations work closely with their members to anticipate future skills needs. While official data collections are extremely useful in understanding the training market, they are always published in retrospect. Industry or business organisations cannot provide relevant assistance to enterprises without anticipating future directions. For small businesses in particular, anticipating
future skills needs is particularly important in building business capacity. For example, a business or industry organisation might assist an employer in determining how many apprentices, if any, the business might employ in the forthcoming year and help them to navigate the training system to achieve the desired result.

Business and industry associations do not work with their members in silos. They work on all aspects of industry including industrial relations, small business matters, the environment, taxation issues, exporting, and networking.

In terms of training, a holistic approach is taken. A school student matched with an employer for work experience provides a potential pathway into industry. An apprenticeship may be the next progression, followed by employment in the industry and self-employment likely thereafter. After some time, the individual may then become an employer of apprentices themselves.

The support role played by business and industry organisations is not well understood outside those communities. It is these organisations that are likely to have their finger on the skills pulse. Not only does the individual enterprise receive support, but collectively trends across enterprises can be identified, barriers to participation brought to the attention of the relevant authorities and expertise accessed that would not be otherwise available.

Similarly, this aspect of industry is not widely understood across all training providers. It is essential that State/Territory governments consult with business and industry organisations to obtain the overall perspective of the enterprises that make up business and industry association membership, especially when analysing future anticipated demand and determining skills plans for training.

Training Structures to Obtain Industry Skills

Australian Apprenticeships

Australian Apprenticeships, also known as apprenticeships and traineeships in some States and Territories, provide a combined pathway of employment and training to obtain skills that are required by industry. Formerly, Australian Apprenticeships were known as New Apprenticeships.

Although mostly used as a pathway by young people, Australian Apprenticeships are available to anyone of working age and do not require any entry qualifications.

Features of an apprenticeship include:

- skills desired by industry are obtained by using Training Packages;
- paid work and structured training that can be on-the-job, off-the-job or a combination of both;
- they are ‘competency based’ which means training can be completed faster if the required skills level is reached;
- recognition of existing skills and prior experience and course credit granted, potentially reducing formal training time;
- available full-time or part-time, also available part-time in many schools;
- lead to nationally recognised qualifications and skills, which provide the basis for further education and training; and
- a pathway from school to work.

As at 30 June 2006 there were 400,200 apprentices and trainees of whom 157,700 were traditional apprentices. Traditional apprenticeships are defined as those contracts within the trades and related workers occupation group which are at AQF level III qualification or above, with more than two years expected duration for full-time and more than eight years expected duration for part-time or school-based contracts. Using this definition, from 1996, apprenticeships and traineeships are grouped into traditional apprenticeships and other apprenticeships and traineeships.

In 1996, there were a total of 154,000 apprentices in training, so the figures demonstrate the growing popularity of this system.

Some critics have raised issues in the past around whether definition issues and counting methods have disguised a downward trend in traditional apprenticeships and by implication an erosion of Australia’s skill base.

This most recently available data above indicates traditional apprenticeships are up 9% from one year previously. In recent years, the Australian Government has undertaken extensive promotional activities as part of the National Skill Shortages Strategy (NSSS), which identified a poor image of industry as a barrier to entering into an apprenticeship. The NSSS promotional campaigns and general higher level of awareness in the community about skill shortages can explain these results.
On the employment side of an apprenticeship, the employment arrangement is subject to a variety of industrial relations arrangements depending on the industry where the apprenticeship takes place. These are discussed in Chapter 9 - VET and industrial relations issues.

On the training side of the arrangement, the apprentice, the RTO and the employer prepare a training plan which covers areas such as the title and level of the qualification to be studied, the units of competence to attain the qualification, the learning resources that will be provided to the apprentice or trainee, any additional support that the apprentice/trainee may require if there are identified barriers to learning, the dates on which the RTO plans to monitor and/or assess the apprentice's/trainee's progress, and the arrangements the RTO will use to report back to the employer and apprentice/trainee on progress with the training. Training plans are attached to Training Contracts.

The apprenticeship structure is supported by Australian Apprenticeship Centres, which provide advice and support to employers and individuals wishing to enter an apprenticeship.

ACCI is a strong supporter of the apprenticeship system as providing a means for providing for current and future skills needs, but also as the preferred method of entry into industry.

**Group Training Arrangements**

ACCI supports group training as an integral component of entry level employment or skills development options for employers. Group Training Organisations are a key component in the overall policy platform in relation to Australian Apprenticeships. Since the introduction of group training arrangements in the 1970s, Group Training Organisations have played an integral role in implementing entry level training policy in Australia. As the apprenticeship and traineeship system has grown to over 400,000 and the occupations participating in the system have diversified, Group Training Organisations have also grown in size, quantity and diversity of service capabilities.

Group training arrangements enable employers to bring an Australian Apprentice into their business on an ‘as needs’ basis. The Australian Apprentice is employed by the Group Training Organisation and is placed with a ‘host employer’. As the employer, the Group Training Organisation takes on the responsibility of paying, indenturing, supporting their employee and ensuring the New Apprentice receives the appropriate training (both on and off the job). The ‘host employer’ is responsible for paying the Group Training Organisation wages and monitoring the Australian Apprentice’s on-the-job training.

Group Training Organisations provide flexibility in a constantly changing and often uncertain labour market. As has been widely acknowledged, the Australian workforce is shifting from full-time working arrangements to casual, contract and part-time arrangements. Consequently, some employers are reluctant to commit to the three or four year timeframe requirement for apprentices and the 12 month timeframe requirement for trainees. Group training provides an alternative for these employers.

This diversity and flexibility of group training arrangements emphasises the need for flexible arrangements by State and Territory and Federal Governments and Group Training Organisations must be responsive to employer needs rather than often competing interests of governments and other intermediaries. In order for growth in the group training system to continue, Group Training Organisations must continue to operate as competitive business entities, which can develop sustainable markets and provide these necessary services to employers.

**Trade Diploma**

The apprenticeship model has served Australia well and should continue to be supported. It continues to be the entry level requirement for most trade occupations. There is a need in some industries for higher level qualifications in addition to trade qualifications. There is also a need for a variety of pathways. A trade diploma arrangement is not suitable as an entry point but could be used as a pathway between a certificate course and a degree. It is best suited to existing workers and only where relevant industry and workplace relations arrangements are in place.

This needs to be examined in the overall context of the place of higher level qualifications if the training system is to become more responsive to the needs of industry, but further investigation is needed as to which industries would best benefit from such an arrangement and which Training Packages allow the flexibility to deliver higher level technical skills.

Any model developed must include relevant industry experience and workplace learning to ensure relevant technical skills meet current industry needs. Best efforts must be made to ensure that individuals do not learn via a fully institutional pathway in any model put forward.
Testing for trade competence for the purposes of licensing should only follow nationally endorsed methods aligned to Training Package competencies.

When developing the model, the term ‘diploma’ should only be used where it is fully consistent with AQF guidelines.

The following principles should be used:

The factors industry will be considering when investigating this proposed higher level qualifications option include:

- the extent of industry consultation and involvement in developing the option;
- its relevance to each individual industry and the skills profile for running individual businesses within that industry;
- the amount of training that takes place in the workplace and not through fully institutional pathways;
- the extent to which current Training Packages enable higher level qualifications to be pursued;
- the extent to which the diploma meets with AQF requirements;
- the extent to which the additional skills will add value to industry;
- whether any proposed changes will mean that individuals will be able to progress along a previously unidentified career path and therefore be more likely to stay in industry; and
- whether the introduction of the higher level qualifications will provide better articulation between education and training sectors and open up opportunities for further study.

Other issues such as the wage level of graduates and employer incentives to train workers at the higher level will also need to be discussed in collaboration with other stakeholders.

**CONCLUSION**

Australia is recognised as a world leader in VET, which results from employer engagement and leadership in working with governments and RTOs. The closer the match between the realities of the workplace and current industry standards, the greater will be the efficacy of training in meeting industry skills needs.

The apprenticeship model has served Australia well and should continue to be supported. Barriers to the Trade Skills Diploma being considered as an alternative pathway to apprenticeships need to be addressed.

In the context of Australia’s high performance in VET, employers consider the quality of training to be a matter of continuous improvement and as such support mechanisms that support that quality.

In particular, consistency in the quality of assessment undertaken by RTOs remains a vexed question for employers. Confidence in the system can be engendered by a variety of means, including Employer Excellence Rating awarded by the Institute for Trade Skills Excellence.

**ACCI PROPOSALS**

ACCI proposes that:

- Industry Skills Councils be replaced by a competitive tendering process to allow for a more efficient provision of advice on the preparation of Training Packages. This should begin with a pilot program on 1 January 2008, and then move rapidly to full implementation;
- continuing attention needs to be paid in ensuring Training Packages adequately provide for competencies around industry pathways;
- Training Packages need to have the utmost flexibility to ensure that they are not just focussed on youth, but also mature aged workers, people re-entering the workforce, independent contractors, people with disabilities, and Indigenous Australians;
- VET Pathways should concentrate on skills being developed in workplaces;
- the National Quality Council should ensure that it is responsive to industry needs;
- teachers need to consistently undertake refresher courses to keep them up to industry standards via release to industry programs;
- Federal and State and Territory Governments should consider the model for teacher release to industry proposed in this paper;
• ITSE should move towards the implementation of a graded Employer Excellence Rating and make the ratings publicly available;

• the Federal Government should conduct a study to identify and address barriers to a Trade Skills Diploma;

• further consideration should be given to developing a model for higher level qualifications and their suitability for existing workers. Work to identify which industries would benefit from such arrangements and which Training Packages currently provide for these needs are the first steps in this process of developing a suitable model; and

• State and Territory governments should ensure that systems are in place to ensure third party access to infrastructure.

5 http://www.atpl.net.au/nqc/.
8 DEST, Op Cit, p10.
10 http://www.australianapprenticeships.gov.au/about/default.asp#*
APPENDIX

In recent years the Commonwealth Government has paid increasing attention to careers counselling services in schools. In 2004 the Australian Government announced 54 places would be available in a scholarship program for careers advisers in schools to undertake study or an industry placement in 2005.

Under the program, representatives from DEST, the Curriculum Corporation and members of industry organisations assess applications and priority is awarded to applicants who aim to achieve:

- enhanced career education outcomes for students at the school level;
- an enhanced approach at the school level to career education;
- enhanced career education beyond their own school; or
- to benefit a prospective host workplace (for Industry Placement Scholarships only).

In 2005, the Government committed to fund the scholarship program for another four years as part of the CAA initiative. The commitment included funding 27 Study Scholarships and 27 Industry Placement Scholarships for teachers employed in any Australian school or college who are working or have worked in the previous 24 months as a Careers Teacher/Adviser. The first group of Career Advisers graduated from the program in 2005.

State Programs

There are a range of diverse programs across States which provide teachers with opportunities to be involved with industry. The major programs are briefly described below.

Deferred Salary Scheme for Teachers in Schools and TAFE and Related Employees, Institute Managers and Chief Education Officers (NSW)

This program is run by the Department of Education and Training in NSW and allows participants to take a year away from the Department for professional development and renewal.

A large number of staff can be approved under the scheme each year:

- 2,000 eligible staff in State schools;
- 4% of eligible staff in a TAFE Institute or educational service division; and
- 4% of eligible staff in State Office Directorates and District Offices.

It is a five year program whereby participants defer a percentage of their annual salary for the first four years and have it paid in the fifth year when they are engaged in professional development.

Teacher Industry Placement Trials (Queensland)

This program entails the placement of a select group of teachers in an ICT business or research facility for up to four weeks. The program is funded by the Queensland Government and is directed at State school teachers.

The program aims to increase participants’ technical knowledge and to develop their management and leadership skills.

The Premier’s Industry Award for Teachers of Science and Mathematics (South Australia)

This program is conducted in conjunction with Business South Australia and provides an opportunity for 18 science and mathematics school teachers to spend ten days working in an industry or business.

The aim of the program is to provide teachers with an up-to-date understanding of the relevance of science and mathematics to industry.

Following the placement, participants are entitled to another five days out of the classroom to develop resources based on the placement and to attend presentation ceremonies. Participants can organise their own placement or be assigned a placement by the program organisers. If a teacher participates in the program their school is provided with 15 days of teacher relief.

TAFE Return to Industry Program (Tasmania)

In its 2004-2005 Annual Report, TAFE Tasmania describes an ‘innovative’ return to industry program for TAFE teachers. The Annual Report notes that 37 teachers participated and that the program provided teachers with an opportunity to understand the business environment and meet the vocational requirements of Training Packages.
eLearning Industry-School Partnership Program
Teacher-Industry Exchange (ELISPP) (Victoria)

This program aims to develop mutually beneficial relationships between Victorian eLearning Companies and Victorian Schools. The program results in a placement of a teacher in an eLearning company or a placement of a representative of an eLearning company in a school. The program is supported by the Victorian State Government through the provision of $250 per person, per day of exchange, to the school or company. To ensure funding is received the exchange program needs to be approved.

TAFE Industry Skills Scheme – Victorian TAFE Development Centre

This program is managed by the Victorian TAFE Development Centre on behalf of the Victorian Government and has been allocated two million dollars over three years.

The aim of the program is to support arrangements between TAFE Institutes, enterprises and industry bodies that provide opportunities for TAFE staff to increase their industry knowledge. Each TAFE Institute is awarded an annual grant of $30,000 as base level funding. The program is open to all staff and a detailed program proposal, developed by the participant and the partner organisation, must be submitted. Additionally, the proposal must have the written endorsement of the CEO or relevant Director.

The program is very flexible in its scope as projects should target learning needs in new, specialised and emerging skill areas or areas with identified shortages of current industry skill. Participants are able to use the funding for a range of purposes including tuition, travel and accommodation, equipment and resources and salary and project management costs.

Teacher in Industry Placement Scheme (Western Australia)

This program is designed for VET in School teachers to increase their knowledge of industry. The steps involved include:

• individual teachers initiating involvement in the program;
• the individual teacher and line manager working together to identify skill gaps;
• the teacher identifying an industry placement and making arrangements; and
• the teacher keeping a daily record book/diary during the program and providing a program evaluation.

Participants can choose between a one day placement at different work locations and a block placement at one location. Each participant is entitled to five days teaching relief and individual schools can choose to supplement this. Teachers can be approved for a placement each year, conditional on the placement differing from previous years.

Additional Programs

In addition to the current programs outlined above, other schemes have been in place in States at various times over the last decade. The most comprehensive program was the Teacher Release to Industry Program (TRIP) in Victoria. The program was run between 1991 and 2003 by VECCI on behalf of the Victorian Department of Education and Training (DE&T).

TRIP was an intensive professional development program where school teachers were placed in industry on a full-time basis for 40 weeks to forge stronger links between education and industry and to develop a shared understanding between the two sectors. During the 40 week period the teacher remained a full-time employee of DE&T with full pay and normal salary benefits. Teachers who participated in the program were expected to return to their school after their industry placement and transfer the knowledge learned to their school community.

The TRIP program has been widely acknowledged as a successful model of a large-scale comprehensive professional development program.

Analysis of Current Programs

VET Teachers

Current programs within the States are extremely varied in both their scale and focus, with some directed to school teachers and others to VET in Schools teachers or TAFE teachers. In addition to these state-wide formal programs, the majority of TAFE Institutes have internal programs for teaching staff. There is little evidence of schools undertaking dedicated internal programs for either their
VET in Schools teachers or school teachers.

When considered in the context of the personal professional development needs of individual teachers and the needs of their employing organisation, the State programs have significant strengths. They provide important opportunities for those teachers who make a commitment to their own development to work with their organisation and industry/employer partners to upgrade or learn new skills.

The dominant focus on personal development and organisational needs tends to result in programs designed in such a way that the needs of industry are a secondary consideration. While some projects have an 'external' industry focus with teaching staff updating their industry knowledge (e.g. some of the projects under the Victorian TAFE Development Centre’s TAFE Industry Skill Scheme), the majority are concerned with individual personal development (e.g. study tours, formal training) or the needs of the organisation (e.g. leadership training, project management training).

This emphasis on personal development and developing skills to assist organisational capability is extremely important, but does not address the primary concerns of industry that training provided in the VET system does not prepare students for the realities of workplace practices, particularly in the traditional trades.

Career Advisers

The programs run at a State level do not have particular relevance to Career Advisers as they are primarily focused on teacher development.

The Australian Government’s CAA initiative is important and relevant because of the industry placement component and the emphasis on enhancing career education outcomes for students and schools.

The limitation of the program for the purposes of this project is that there are only 27 scholarships across the country each year, and the focus is quite broad so will not necessarily contribute to resolving the primary concern of industry and employers around the negative perception of trade occupations.

Proposed Industry Exchange Models for the Traditional Trades

Distinct models are proposed to ensure the differing circumstances of both VET teachers and Careers Advisers are addressed.

VET Teachers model

A range of current programs are directed to the professional development needs of teachers. As a by-product of some of these programs the needs of industry and employers are addressed, but there is no program in place that takes the needs of industry as the starting point for the program’s design.

The proposed model for a VET Teachers Industry Exchange needs to ensure greater mutuality of benefit, with industry need, and in particular the preparation of learners for the realities of workplace practices, providing the main driver of the program’s content.

For example, if a teacher participates in one of the current programs, the activity undertaken would generally be selected based on the needs of the individual or their organisation. These could result in an increased understanding and linkages with industry, but this is incidental to the primary purpose. It is only the final example which is directly connected to meeting the needs of industry because the teacher is refreshing their knowledge in their primary teaching area. This refreshment can then be used in their teaching which should, in turn, result in students being prepared for the realities of workplace practices.

The need for flexibility in both the design and funding of the program has been emphasised by industry. Some industries believe a six month placement would be appropriate. Another feels that two weeks every year is required. There is also concern about the level of interest by teachers in such a program. There is a sense that the program could take some time to develop and become embedded in the national system. Nonetheless, there is strong support for a program such as described below and industry bodies are interested in assisting in the development, and potentially
the management, of such a program.

**Principles and Guidelines**

Against this background, it is suggested that the following principles and guidelines could form the foundation of an industry driven VET Teacher Industry Exchange model:

1. Industry/employer needs are the driving force and determine the scope of engagement; depending on the particular industry’s perspective on the relevance of trade training, a teacher/industry exchange program will be attractive to some, but not all, industries;

2. Program design, including length and number of participants, is determined by industry/employers;
   - the nature of the exchange program will need to be flexible enough to cater for the differing operations of individual industries/employers;

3. The program is funded co-operatively between industry and government;
   - a funding partnership recognises the mutual benefits (to industry and the individual teacher) derived from the program;
   - the funding could be used for three streams of activity: to cover the cost of managing and administering the program, to provide relief funding to backfill the teacher vacancy and to provide financial support to the employer placing the teacher; and

4. The program management is contracted to an industry/employer organisation.

The principles and guidelines have been designed to provide flexibility and to allow adaptation by industry, employers and training providers. The principles and guidelines would therefore result in a range of programs tailored to the specific needs of each of the priority industry areas in the traditional trades.13

**Indicative Program**

An indicative program consistent with the principles could operate as follows:

1. A specific industry, through its industry association or licensing body, determines in-principle that there is a need for a teacher industry exchange program.

2. The industry scopes the parameters of the program including the industry areas proposed for attention and States proposed for the program’s operation, and nominates the annual contribution it will make to the program, including the form or ‘kind’ of that contribution.

3. Government (perhaps involving a co-contribution from the Australian and state governments) agrees to match the industry contribution.

4. The industry develops a framework for the program which supports:
   - a teacher placement in industry for a negotiated period of time, with the specific placement assigned and approved by industry; or
   - an industry representative spending a negotiated period of time in a Registered Training Organisation (RTO).

5. The industry nominates the specific areas of learning they will support, the number of positions available and the criteria for selection, and identifies employers where teacher placements can take place.

6. The joint funding and program guidelines are provided to the industry/employer organisation contracted to manage the program.

7. Teachers submit applications for the program which are assessed by agreed industry representatives and the organisation managing the contract. Applications are only considered if the teacher’s application is supported by their RTO.

8. Where an applicant is successful, funding will be provided to the employer where the applicant is placed and to the applicant’s RTO.

A variation of this model could involve the industry identifying a particular RTO and focusing their program around the RTO.

**Career Advisers Models**

In contrast to the situation for VET teachers, a national program exists which focuses on industry engagement for careers advisers. This program is broad-based and does not have a specific focus on the traditional trade areas.
During the first round of consultations for this project, Group Training Association Victoria (GTA Vic) provided information about a Teacher Industry Experience Program concept under development by the Association. GTA Vic proposes a program where classroom teachers, Careers Counsellors and Victorian Certificate of Applied Learning and VET Co-ordinators are placed in a Group Training Organisation (GTO) to increase their industry knowledge and experience.

One of the major barriers to industry exchange for school staff is the lack of connection between schools and industry. GTA Vic suggests that the GTO network is an unutilised resource that is well-placed to overcome this barrier.

Both industry associations and Group Training Organisations have a network of host employers that is broad and varied. Access to this network would enable participants to visit workplaces to increase their understanding of traditional trades and the career opportunities within the trades areas. Additionally, it could inform the teacher’s understanding of the processes and policies associated with apprentices. This would position teachers to better assist students when they return to school after the placement. As with the VET teacher model, the concept would need to be adapted to the needs of each industry.

A second model, suggested by the Victorian Automobile Chamber of Commerce (VACC), involves a trade-qualified adviser visiting schools and presenting industry-specific information to school students. As pointed out by the VACC, a trade-qualified adviser would be able to answer specific questions from students and provide a genuine insight into the operation of their industry. This model would allow Careers Advisers to focus on providing time and space for an industry expert and guide students towards such people for specific industry advice. The VACC has previously trialled such a model and experienced significant success.

A final option would involve a similar approach to that proposed for VET teachers whereby Careers Advisers are directly placed in workplaces to gain an understanding of a particular industry.

In considering the different approaches, it is important to keep in mind that the main concern about Careers Advisers relates to perceptions of trades and their lack of understanding of pathways and the apprenticeship process. As such, a model that provides Careers Advisers with alternative avenues for assisting students or a broad perspective of industry, pathways and the apprenticeship process could be more appropriate.

13 This model would not necessarily work across all industries, particularly if there is no industry body through which industry opinion can be expressed. However it must be remembered that the model has been designed specifically to address industry concern about the perception of traditional trades and teacher knowledge of the workplace. Therefore, it is assumed that if there is sufficient concern within a specific industry there will be an organisation, such as an industry association or licensing body that will be in a position to develop and auspice a model to meet the needs of their industry.
INTRODUCTION

Not all training arrangements have a direct link to employment, whether the training is formal, non-formal or informal. However, a dual relationship between training and employment exists in various widely used training arrangements such as apprenticeships where individuals enter into a contract of employment as well as a formal training plan.

All employment arrangements are governed by industrial relations and other employment laws. Where dual arrangements exist, the nature of the relationship should, as a general principle, be that training considerations drive industrial relations arrangements insofar as those arrangements apply to apprentices and trainees, not the other way around, which has become the norm in recent years.

BACKGROUND

Current training wage arrangements are patchy and complex. They have developed in an ad hoc manner and have not effectively supported education and training.

Historically there have been multiple legal frameworks for determining industrial relations arrangements for trainees, apprentices and juniors. Individuals working in the same occupation in the same industry can be subject to different industrial relations frameworks depending on the structure of the enterprise for which they work, and in some cases, depending on the often random or complex coverage of the industrial relations system.

For example, an individual’s wage can be subject to the State or Federal industrial relations systems depending on whether or not the enterprise is incorporated, where the business conducts its activities or (even under current transitional arrangements) whether or not it has been found to be subject to an industrial dispute for regulatory purposes.

Prior to the commencement of the WorkChoices legislation in 2006, duplicate and overlapping Commonwealth and State industrial relations systems separately established minimum wages and conditions for the employment of apprentices and trainees, without any rational basis for determining which employers or employees were covered by the laws of one jurisdiction or the other.

Notwithstanding the substantial improvements arising from the WorkChoices reforms, there is still no single system of industrial relations, minimum rights or obligations. Unincorporated small businesses in particular are vulnerable through their lack of accessibility to federal arrangements.

Further, while there is a general recognition of the importance of industrial relations arrangements, there is inertia in some industries in developing suitable industrial relations arrangements to support both the employment and training of trainees and apprentices.

Some opponents of education and training reform have used industrial relations processes to frustrate and block effective access to training, in particular through using the industrial relations system to block appropriate wage arrangements for trainees and apprentices.

The potential for the industrial relations system to be used to frustrate the employment of trainees and apprentices across all industries sectors has reflected badly on the system for many years. With the commencement of WorkChoices in 2006, Australia has moved closer to better supporting the training system through industrial relations. However, there remains a long way to go to deliver a simpler, more supportive approach to industrial relations for apprentices and trainees.

CONSIDERATION OF ISSUES

Under our industrial relations laws, apprenticeship and training contracts constitute employment relationships, and the ordinary mutual contractual rights and obligations between employers and employees apply.

This employment relationship should be governed by a single, nationally consistent framework for industrial relations regulation of trainees and apprentices, informed by the structures and requirements in the training system. Overlapping, dual industrial relations obligations for employers create undue regulatory burden and confusion for employers and employees equally. They also act as a disincentive for employers to take on apprentices and trainees.
Regulation, where it exists, needs to eliminate roadblocks stopping employers getting on with the job of employing, training and increasing the skills of Australians. There can be no justification for administrative or regulatory red-tape acting to deny employment and skills development to young people.

Dedicated minimum wage arrangements are required to support the entry of young people into training. Consistent with this approach should be the realisation of a single minimum wage for all apprentices and trainees, underpinned by a set of genuine safety net conditions and standards.

Additionally, minimum training wages must be capable of application to all emerging apprenticeships and traineeships, without the need for specific revision in the wake of each evolution in training reform. A simpler, single minimum wage would achieve this.

The underpinning principles for setting minimum wages should include the relative contribution to the business; time spent off and on the job, the investment of additional supervisory time for such employees and other relevant considerations. This is based on the well established and widely recognised principle that apprentices and trainees are not as skilled or productive as other members of the workforce, particularly during the earlier stages of their training.

Minimum wages for apprentices and trainees must also be genuine minima. Recruitment and retention in training should be based on compliance with minimum arrangements as a safety net, supplemented by individual or enterprise arrangements for wages or conditions beyond the minima. This is largely the WorkChoices schema.

Minimum wages should not be inflated in an attempt to attract and retain young people to training in particular industries, as this may exclude other young people from entering the labour market and act to the overall disadvantage.

There is no reason why apprentices and trainees should not aspire to enterprise-based reward or remuneration in excess of a safety net, or why their regulated wages should not be structured as genuine minima to properly support this outcome. Minimum wages should operate as a genuine safety net of minimum terms and conditions. Employers have paid, and do pay wages to apprentices and trainees above regulated wage minima where this is appropriate and as a result of the proper functioning of the labour market. More should have a genuine opportunity to do so.

Wage arrangements must reflect time spent both on and off the job. There should be no scope for ambiguity as to when wages are and are not applicable.

The current system of Australian School-based Apprentices (ASBAs) (including trainees) provides an employment pathway for secondary students that results in an industry recognised qualification. Wage arrangements for ASBAs should be an integral and important part of the industrial relations framework to allow employees to gain experience in vocational education and employment. Any future training reforms should also be properly supported.

Minimum wage arrangements for all apprentices and trainees should, to the extent possible, be simple and concise. In time there should be scope for a single schedule of minimum wages for all apprenticeships and traineeships underpinned by minimum conditions.

There should be no legally imposed obligation to provide ongoing employment at the completion of any agreed program of apprenticeship or training. Entry into an education or training arrangement with a young person should create legal obligations only for the life of that program, and not beyond. Doing so would interfere with basic contractual rights, and create a disincentive to offering employment to apprentices and trainees in the first place.

Employers should have scope to terminate the employment of persons undertaking contracts of training in line with prevailing employment law. Training authorities should not be able to block or delay employers exercising their proper capacities to discipline and terminate employment where this is necessary or justified.

Where employment protection applies (for example in relation to unlawful termination), relief should be limited by the agreed term of employment (only until the scheduled expiration of the training contract/term). Any awards of employee reinstatement should strictly apply only for the completion of scheduled training, and any damages or other relief should reflect the non-ongoing nature of the training contract.

Employers and employees undertaking training should be free to negotiate agreements, whether collective or individual, which include additional conditions in excess of minimum wages and conditions which may be tailored to suit different industries or sectors which have their own unique considerations.

Employers and employees undertaking training should
not be impeded from formulating their own employment arrangements by industrial relations laws or education/training frameworks. Industry is best placed to implement workable training frameworks which address industry considerations, and ultimately to help address skills shortages where they may apply.

Reforms to industrial relations frameworks for training is not an aspiration, it is an imperative. It requires bi-partisan support of industry and all levels of government. Unions can play an effective role in the consultation and development of such frameworks where they act in a truly representative and constructive manner. To this end, appropriate bi-partite and tri-partite consultation is a necessary part of the overall policy framework.

Wages and conditions should reflect training reform, including how those reforms are reflected in training packages. They should not impede training initiatives and vice versa. The extent to which skills can be recognised and portable within an industry should be an outcome of the education/training framework and not the industrial relations framework.

In addition to minimum wage arrangements for apprentices and trainees, the industrial relations system must also provide separate arrangements for the employment of young people under the age of 21 years not in apprenticeships or traineeships, including through the continued (and expanded) provision of universal and simple junior age-based wage rates. The concessional junior wages should be based on a continuing recognition that they are an effective and legitimate proxy for maturation factors. This system of age-based junior wages for those young people who are not apprentices or trainees is essential if industrial relations arrangements are to effectively encourage, promote and provide employment and job skill opportunities for young Australians, particularly at the entry levels of the labour market.

**Interface between the Industrial Relations and Training Sectors**

In addition to the fundamental concepts outlined above, there are very immediate critical blockages and delays in the Industrial Relations system that are inhibiting training arrangements. It is important that the Federal Government becomes directive to the industrial relations system so that these pressing industrial relations blockages are eliminated.

In order to support the evolving system of VET, Australia needs employment regulation that:

- is flexible;
- is capable of supporting the full range of current and future range of training arrangements, including new evolutions and developments as they emerge; and
- provides proper incentives to employ apprentices, trainees and other employees undertaking vocational training.

This system should, aside from the separate minimum wage arrangements for young people not in apprenticeships or traineeships, be universal and predicated on the premise that concessional wage rates reflect the fact that persons undertaking training make an increasing contribution to production based on the amount of training and experience gained. While the initial return on investment in training may be low, over time the returns increase as skills and experience add increasing value to the productive capacity of the enterprise and the productive well-being of the individual and society.

**ACCI Proposals**

ACCI proposes:

- a dedicated system of concessional minimum wages and conditions for both adults and juniors, which:
  - recognises the nature of apprentice and trainee employment;
  - provides appropriate recognition of the dual training and employment functions of training arrangements; and
  - provides incentive for employers to engage employees under training arrangements.
APPENDIX

The Federal Government should direct that the Australian Industrial Relations Commission (AIRC) and the Australian Fair Pay Commission (AFPC) recognise all existing Training Packages and new Training Packages as soon as they are operational. Failing to do so for all current and future Training Packages, effectively means that employers cannot provide jobs to prospective trainees as there is no appropriate trainee rate and employees undertaking the traineeships will not be competitive in the labour market.

Currently there is no default wage structure for any new Training Package generated by the training system. The AFPC should immediately address this issue and investigate options to ensure there are no lags in fully implementing changes and no gaps in minimum wages.

Additionally, the Federal Government should ensure that wage guarantees in WorkChoices do not stop new wage structures for new Training Packages, or age based structures in industries that don’t have junior wages. Gaps in coverage should be filled to ensure that junior trainee rates are provided across all industries.

There should be no restrictions or impediments on the availability of part-time apprentice and training arrangements.

The Federal Government should not allow state and territory governments to prevent apprentices/trainees being employed on any legally available industrial instrument under federal law (e.g. AWAs).

There should not be dual regulation for employing persons under 18 years. The Federal Government should not allow state and territory governments to impose wage and condition regulation on the employment of persons under 18 years where employed by corporations (i.e. NSW child labour laws).

The Federal Government should ensure that junior rates continue to be recognised as appropriate concessional wage arrangements and should be permanently enshrined in law. The AFPC should not require industry to justify their continuance.

The Federal Government should not allow State and Territory Training Authorities to impede the registration of training contracts by virtue of industrial arrangements. Any impediments should be identified and removed to allow for all industrial and employment arrangements to exist outside of the registration system.

School-based apprenticeship and traineeships are an important stepping-stone into full-time skilled employment and should continue to have default wage arrangements. The Federal Government should ensure the ability to pay concession wage rates to school-based trainees/apprentices is not impeded by the State and Territory Training Registration system.
Chapter 10
Higher Education: Providing Skilled Workers and R&D

INTRODUCTION

Australian industry employs the vast majority of graduates from higher education institutes and has a keen interest in the development of the sector.

Employers expect better outcomes and continually look for products tailored to their needs. Knowledge-based industries are growing which is placing more importance on higher education. Just like all service industries predominantly funded by government, there is an enormous pressure to improve cost effectiveness and desired performance levels. Increasingly, students and employers are requiring a mix of vocational and academic skills development options.

ACCI fully endorses the current government policy direction beginning with the implementation of the $11 billion Our Universities: Backing Australia's Future reforms. The program of restructuring and partial deregulation has begun to address the needs of the market for responsive and accountable education sector.

This program, to be implemented along with the Innovation and R&D package, Backing Australia's Ability II, should be further enhanced after the expiration of the current timeframe in order to deliver further gains.

Reforms should include continued deregulation of fees, courses and the number of places universities can offer. The approach to meet the objectives of students, education institutes and industry should focus on enhancing demand driven outcomes.

Market-based solutions including issuing students with vouchers to replace relatively inflexible funding arrangements should be implemented.

This chapter examines the higher education sector in detail and presents specific policy proposals to further enhance the higher education sector.

BACKGROUND

The higher education sector comprises 37 public and two private universities which are autonomous and self-accrediting, four other self-accrediting higher education institutions and over 150 non-self-accrediting higher education providers, including one Australian branch of an overseas university and a number of theological and specialist providers. All but three of the self-accrediting universities and higher education institutions in Australia are established or recognised under State or Territory legislation. The Australian National University, the Australian Maritime College and the Australian Film Television and Radio School are established under Commonwealth legislation.

Broader discussions around resourcing higher education need to take place for four reasons.

• There is considerable movement between the sectors by students and an increasing expectation to have access to that mobility.

• There is a need to examine the total level of resources flowing into the post compulsory sector in a holistic manner.

• Substantial efficiencies could be achieved through the rationalisation of course offerings and infrastructure.

• Flexibility in the post compulsory sector will be required for lifelong learning options.

Private and Social Returns

The returns to higher education flow to both those who have received an education and to society in general. Individuals tend to benefit in obvious ways, through increased earnings, lower unemployment and longer working lives, but society also benefits. Society tends to benefit through effects such as:

• a skilled workforce;

• research and development;

• greater cultural depth;

• lower crime;

• better health outcomes (and potentially lower health care costs);

• more tax revenue being available; and
• reduced welfare dependence.

When individuals weigh up the pros and cons of investing in university education there is generally little account made for the returns to society in a strictly individual cost benefit assessment. This evaluation process therefore tends to underestimate the total returns to education since the individual is not able to directly capture the effects of less crime and government expenditure on welfare in the narrow cost benefit assessment. This might tend to lead to an under provision of university education.

The recommendation in cases where positive spill over effects are not entering private calculations is that a subsidy from society should be given to encourage greater provision. However, measuring the diverse social effects of increased university participation is difficult. Some social returns are more straightforward than others such as increases in tax revenue from increased wages. Others such as reduced welfare payments are more problematic whereas others such as overall life satisfaction are not readily assessable at all.

One social cost of providing subsidies that is not often factored into government expenditure is the fact that raising tax revenue is not without significant costs. There are direct costs in raising revenue such as tax administration and lost output due to compliance considerations but also there is a large unaccounted for element to raising tax revenue. This hidden element is the production and value creation that would take place in the absence of placing a tax on the creation of value.

A significant amount of work has been done in this area and tends to show that raising a dollar of revenue reduces value creation by 20 percent. The reduction in effort associated with increased taxes therefore sets a hurdle rate of 20 percent for additional government expenditure. Therefore careful consideration of the full costs of education subsidies needs to be taken into account before committing public monies to encourage private investments.

Private returns to education can be substantial with one estimate from the University of Melbourne indicating that the net present value (NPV) of a university degree undertaken upon completion of secondary schooling was $90,000. This NPV calculation includes the effects of tuition costs and forgone earnings and increased revenue stream associated with a university qualification. The OECD has found that in Australia tertiary graduates can be expected to earn on average 56 percent more than those only completing secondary school. The 2005 Higher Education Report indicates that relative to the working population, graduates over the past ten years had starting salaries between 80 and 85 percent more than average weekly earnings.

A study done in 2000 by the University of Melbourne found the private rate of return from higher education to be between 10 to 15 percent while for VTE alone the figure appears to be closer to 10 percent. Another interpretation of high private rates of return is that too few graduates are being produced bidding up wages to those who have completed tertiary education.

However the 2004 OECD data shows that the private return is lower than these previous studies with males having a return of 6.6 percent while females had a return of 6.5 percent (see Figure 10.1).

The OECD further estimated the social rate of return to be 8.3 and 7.6 percent return for males and females respectively. The social rate of return includes the private returns and costs as well as the public costs and benefits such as increased tax revenues as a result of higher educated people receiving higher average wages over their working lives (see Figure 10.2).

It is important to note the OECD figures do not include an allowance for reduced welfare payments and therefore underestimate the social benefits. In addition, the more intangible effects such as the potential that there is a greater life satisfaction or better health outcomes are not included.

However, in determining whether a case for subsidisation exists it is not the average return that is required but rather the marginal benefits and costs. The reason that marginal costs and benefits are required is due to average costs and benefits showing only that there are costs and benefits but do not provide the ability to show how much more or less of each there should be.

Simply because a venture is profitable does not imply it should be undertaken. The consideration that must be used as a benchmark is not whether it is profitable but whether it is more profitable than an alternative use of funds. Marginal analysis sheds light on this aspect of investment.

In terms of education this last dollar approach means that we should provide subsidies up to the point where the marginal returns from each dollar invested equals the marginal cost of the extra unit. The marginal costs of subsidies are represented by the costs of raising the last
Figure 10.1
Private Internal Rates of Return (RoR) for Individuals obtaining a Tertiary-Level Degree or an Advanced Research Qualification (ISCED 5(A, B)/6) from an Upper Secondary or Post-Secondary Non-Tertiary Level of Education (ISCED 3/4) (2001)

RoR when the individual immediately acquires the next higher level of education

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<th>OECD Countries</th>
<th>Males</th>
<th>Females</th>
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Source: OECD, see Annex 3 for notes (www.oecd.org/edu/eag2004).
Figure 10.2
Social Internal Rates of Return (RoR) for Individuals obtaining a Tertiary-Level Degree or an Advanced Research Qualification (ISCED 5(A, B)/6) from an Upper Secondary or Post-Secondary Non-Tertiary Level of Education (ISCED 3/4) (2001)

<table>
<thead>
<tr>
<th>OECD Countries</th>
<th>RoR when the individual immediately acquires the next higher level of education</th>
<th>RoR when the individual, at age 40, begins the next higher level of education in full-time studies,</th>
<th>RoR when the individual returns, at age 40, to acquire next higher level of education in part-time studies (duration is doubled)</th>
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Source: OECD, see Annex 3 for notes (www.oecd.org/edu/eag2004).
The marginal social returns to education flow from many sources, such as taxation revenues, benefits stemming from worker interactions at the firm level, as well as other previously mentioned effects such as better health outcomes. From these benefits must be subtracted the costs of forgone taxation revenue while studies are undertaken and the cost of providing subsidies in terms of lost output from the economy due to the distorting effects of levying taxes.

At this stage the marginal returns to education are uncertain. Given this uncertainty of the optimal level of funding, reforms should proceed with an emphasis on structural improvements rather than in altering the quantum of subsidies.

These reforms should revolve around the following main points:

• a demand driven system – this more closely aligns education and training to the needs of business, students and governments and shifts the focus to a business culture where incentives are created for maximising volume and quality, reducing costs and using resources more effectively;

• a competitive and diverse market – competition and diversity will lead to a more efficient and cost effective system while increasing the range of options available. This will require a higher level of flexibility to enable better use of capital assets and to address issues such as economies of scale and third party access. Additionally, there should be greater flexibility around course offerings to meet the needs of industry;

• deregulating the system – ensuring quality outcomes and appropriate quality servicing arrangements across Australia minimise Government intervention and relax many of the current points of regulation including around fees. This allows more effective, responsive delivery of services. At the same time a framework must be maintained that incorporates accountability, quality and accreditation;

• universal access – the system must promote the concept of a universal entitlement to post secondary education for all eligible Australian students (school leavers and mature age students) together with programs which have equity considerations based on ability rather than income;

• student centred funding – students should be able to purchase a course from any public or private provider (User Choice). Funding should be linked to student outcomes/achievements with prices determined by market forces. It is recognised that some transitional arrangements will be required to implement this arrangement;

• simplified articulation pathways – this requires closer cooperation between the sectors on credit transfers and recognition of prior learning and articulation streams. In this context, the Australian Quality Framework (AQF) should be accepted as a standard continuum and credentials aligned with AQF levels;

• quality research and development – closely linked to economic needs and close business collaboration; and

• taxation reform - cutting personal and capital taxes to raise the incentives to invest in education;

Subsidies that alter the incentives to innovate and stifle choice are poor policy outcomes. The structure of subsidies is at least as important as the quantum of subsidies. Thus the focus on higher education reform should be on improving incentives to increase the effectiveness with which funding delivers the desired outcomes.

International Students

It is also important to note the contribution of education and training provision to students from overseas studying domestically.

Education has developed quickly into an important export for Australia, growing at an average rate of 11 per cent per year over the past decade. Education exports were worth $5.9 billion in 2004, making the industry Australia's fourth largest export.10

Economic development alters a country's demand profile for education. In high-income economies (the member states of the Organisation for Economic Cooperation and Development or OECD), the highest returns on all expenditure on education, measured by average incomes per capita for each level of education attained, accrue to graduates of higher education. In developing and middle income countries, the highest economic returns on education are generally earned from expenditure on the primary and secondary levels.
The substitution of capital for labour as countries develop adds demand for new skills. Broadly speaking, in this way, economic growth increases returns to higher education, which in turn fuels demand for both student places and a wider range of courses suited to the labour force requirements of value added manufacturing and service industries.\textsuperscript{11}

The United States is the number one destination for international students accounting for 33 percent of all international student enrolments. Australia accounted for 10 percent of enrolments and while far behind the numbers for the United States the proportion of foreign students to domestic students was significantly higher in Australia. The proportion of international students to domestic students was 18.7 percent for Australia while for the United States the proportion was only 3.5 percent,\textsuperscript{12} (see Figure 10.3)

The proportions data show that Australia has 5.3 times the rate of foreign students to domestic students as does the United States. OECD data reveals that in fact Australian enrolments per capita are slightly lower than that of the United States but do not suggest significant rationing of domestic places in favour of international enrolments. Using OECD data on the number of foreign students and the proportions of foreign to domestic students and the populations of each country a per capita measure of international students shows that Australia's ratio of international students to the total population is 4.7 times larger than that of the United States.\textsuperscript{13}

International students enrolled in Australia provided approximately 15 per cent of Australian universities’ total revenue in 2004 and comprised 18 per cent of total enrolments in higher education.\textsuperscript{14}

Therefore despite the small overstatement of the difference between Australia and the United States, Australia clearly has the highest share of international enrolments of any OECD and OECD Partner country (see Figure 10.4).

**Targeting Financing**

University research is a key component of the social returns to education. A major study in the United States showed that university research leads to substantial geographical spill overs for the regions surrounding the research centres.\textsuperscript{15} The large spill over effect on corporate patents and corporate research and development (R&D) shows that promoting commercial involvement in the funding of university level research should be promoted. Tax treatments of university funding by direct commercial grants should be examined.

For example, it might be argued that investment has a spill over effect and thus should be subsidised, however, it is to be remembered that many private investments create spill over effects not captured by the individual but this does not provide a prima facia case for subsidisation. It is only where other avenues are first addressed that direct subsidisation should be looked at.

For example removing barriers to closer integration or educating business and universities of the potentials for university research benefits should be addressed first before tax concessions or subsidisation is put in place. These tax effects are discussed in Chapter 16.

Cooperative Research Centres and similar programs should continue to be promoted and the Australian Research Council should continue its Linkage Projects favouring projects that link to industry. The Linkage Projects scheme supports collaborative research and development projects between higher education organisations and other organisations, including within industry, to enable the application of advanced knowledge to problems.

**CONSIDERATION OF THE ISSUES**

**Funding Models for Higher Education**

There is a notion amongst some members of the community that education (and training) is a public good and that therefore people should be able to learn what they want for free with governments picking up the costs.

Attractive though this notion may be at a superficial level, it does not account for the reality that if Australia were to provide all education and training for free, billions of dollars would need to be taken away from other areas of expenditure including welfare, defence etc or taxpayers would have to pay higher rates of taxation.

Neither of these options is desirable so what is needed is to work out how best to provide high quality higher education with the available resources.

Basically, higher education institutions derive their income from a variety of sources. This is represented in Figure 10.5.

Funding under HECS HELP is part of the Commonwealth Grant Scheme that provides a contribution towards the cost of an agreed number of Commonwealth supported places and accounts for 54% of revenue received by higher education institutions.
It consists of three income contingent loans made on behalf of students to pay for their contribution to their education. The payments are made directly to the education provider.

They are:

1. **HECS-HELP** – which replaced HECS and is a loan available to eligible students enrolled in Commonwealth supported places. A HECS-HELP loan will cover all or part of the student contribution amount.

2. **FEE-HELP** – is a loan paid to higher education providers on behalf of students enrolled in courses that are not supported Commonwealth places. The individual picks up all of the tuition fees charged for the course.

3. **OS-HELP** - available to eligible students who need financial assistance to study overseas.

For HECS-HELP, the amount of the contribution an individual pays towards the cost of their course falls into three bands of disciplinary areas and are used to determine the maximum student contributions for a Commonwealth supported place (see Figure 10.6).

The arrangements clearly indicate the contribution made by individuals, (and as a consequence, government and the higher institution provider through other sources of revenue). This has resulted in increased competition in the higher education sector and greater choice and quality. There is, however, room for greater flexibility with the monies paid by the Australian Government to higher education institutions.

To gain additional benefits from competition in this market, fees should be further deregulated and HECS bands widened to increase the resources necessary to deliver services and grow the client base.
Student Centred Funding

Serious consideration should be given to the introduction of a student centred funding arrangements.

The Industry Commission, the predecessor to the Productivity Commission, was established in 1990 as the major public independent review and advisory body on industry policy for Australian governments. It found that:

• students would have a more direct influence over the course offerings of institutions; and

• public institutions would face stronger competitive pressures and be directly rewarded for responding effectively to student preferences. This could produce gains in various areas, notably:

  - a greater variety of course offerings in terms of price/quality combinations;
  - increased stimulus to improve efficiency;
  - enhanced capacity to strike a better balance between revenues and costs in providing different course combinations; and
  - stronger stimulus and rewards to innovation.16

The various ways to introduce a scheme with these features is examined below.

Performance Based Funding – Portable Scholarships

Public funding for tuition should be tied to student choice. This requires a direct relationship between the providers and the students to determine the flow of public funds to institutions. It also puts the onus on the student to make the right choice. There are some that argue that students would make poor choices. However, in other areas of their life, students are legally entitled to make choices about voting, finance, employment, marriage and a range of other critical matters in their lives at the age of 18. If it is believed that students are competent enough to elect Federal and State governments then they should be competent to make rational decisions about education. Provided that they have access to the right information to support their choice, they should also have the responsibility to exercise control over their higher education choices.

The introduction of student centred funding should be the cornerstone of further reforms to higher education. Essentially it allows for a basic financial entitlement for all to be used in post compulsory education and training activity. Core funding should be replaced by portable Australian Government funded vouchers. Student vouchers would work to replace current core funding arrangements.
by endowing students with a direct subsidy to use at any of Australia’s public universities. This subsidy would be collected by the University upon enrolment or transfer of the student.

There is some potential for means testing the entitlement, but this would meet with considerable resistance and would add considerable complexity. Any introduction should take account of:

- the need to couple this arrangement with a deregulation of fees;
- minimal targeted incentives aimed at distorting university choices;
- appropriate careers advice in schools and for mature adults to ensure potential students can make more informed choices including information on employment outcomes for areas of study;
- minimal interference or bureaucratic assessments of special payments for areas of skill shortages. This would instead be covered by improved employment, careers advice and industry participation;
- investigation of the interaction between student centred funding and other forms of revenue including research and development and private sources; and
- appropriate Living Away from Home Allowances which allow students to receive some subsidy for moving to institutions of their choice.

Initially these changes should be phased in with 50 percent of core funding allocated to students with the remainder made up by 50 percent of a university’s current core operating grant. This ratio of direct funding to core grants would be increased over a number of years until core grants had been phased out. In addition the number of students given vouchers would be adjusted based on experience with the number of vouchers and final attendance figures at universities.

Criticisms of this approach are that:

- students may not make appropriate choices;
- low demand and high cost courses requiring cross-subsidisation will not longer be offered;
- a perceived difficulty in planning;
- reduced teacher and research quality; and
- threats to the viability of some institutions.

These are valid concerns and care must be taken to avoid these outcomes.

**Student Choices**

In particular students are entrusted with a significant range of decisions in any event and given that relevant and...
appropriate information is available, should be capable of making an informed choice.

**Cross Subsidisation**

Course rationalisation is already a feature of the present system and courses subject to low demand and high costs are already often restructured or discontinued. Under demand driven systems some scope should continue to exist for direct subsidisation of courses considered to have large spill overs that are not being factored into market decisions. For example philosophy and archaeology might be candidates for an extra subsidy. Any subsidisation undertaken this way would be transparent and allow for greater scrutiny of taxpayer funding.

**Planning Difficulties**

Market participants in the private sector manage extraordinarily complex and diverse supply and demand considerations and this management process ultimately determines whether that provider succeeds or fails in the market. Universities also currently manage very complex affairs and do not currently have guarantees over student numbers and a transition period to a more competitive environment should ensure that universities can adjust their internal processes.

**Teacher and Research Quality**

A central feature of demand driven systems is that they ultimately lead to greater quality and output since the incentives lie with improving quality staffing and education to attract revenue. Where competition is weak the priority is not on quality but on the quantity of student numbers.

**Viability**

It is an unfortunate part of the proposed system that some institutions may struggle due to lack of demand for their offerings. Should a regional need be identified as having greater community benefits than is being realised privately a case can be made for subsidisation. This subsidisation would then be entirely transparent and allow policy priorities to be more targeted, responsive and accountable.

Other matters relating to implementation arrangements need further examination. The Industry Commission submission to the Review of Higher Education Financing and Policy 1997 has produced a useful summary of the key technical points for the introduction of a demand driven system.

Promoting efficiency must be done from two separate directions if the sector’s performance is to rise. Fees must be deregulated while competition is fostered. Lifting caps on fees without correspondingly promoting competition runs the risk of having all fees rise by the same amount. Without competition freeing up fee caps and floors will not improve outcomes. Only through competition will educational outcomes improve and competition will struggle so long as income streams are inflexible.

Industry and community expectations are increasing. The Productivity Commission Report, *Skill and Australia’s Productivity Surge*,7 stated that in recent years more attention has been placed on developing skills for the workplace.

- Australia should allow for changing industry patterns by introducing flexibility in education; and

- technological change, particularly in information and communication technologies, which increase the relative demand for skilled labour in those countries moving towards greater adoption of IT.

Given these changes it is important that we continue to move forward with improvements to the higher education sector, which takes account of a number of key elements, in particular:

- deregulating the system to ensure quality outcomes and appropriate quality servicing arrangements across Australia that minimise Government intervention and relaxes many of the current points of regulation. This would allow more effective, responsive delivery of services. At the same time a framework must be maintained that incorporates accountability, quality and accreditation

- simplified movement between higher education sectors – this requires closer cooperation between the sectors on credit transfers, recognition of prior learning and articulation streams. In this context, the Australian Qualifications Framework should be accepted as a standard continuum and credentials aligned with Australian Qualifications Framework levels; and

- quality research and development – closely linked to economic needs and close business collaboration.

The central goal of any reform should be the development of an integrated post-compulsory system which is driven by individuals and business with the full spectrum of providers being supported by an incentives regime to
deliver appropriate services of excellence in education, training and research.

**Innovation Policy and R&D**

Innovation policy is not the same as research policy. Research policy is aimed at advancing scientific knowledge, whereas innovation policy is aimed at helping businesses innovate successfully, and assist them to get new products and processes onto the market. That is, or put simply, research is a process which converts money into knowledge and innovation is a process which converts knowledge into money. Innovation is therefore what provides the return on investment in knowledge generation.

The overall objective of public innovation policy must be to strengthen the long term competitiveness of Australia's businesses by creating a climate conducive to research. This applies to both traditional and emerging sectors.

There are three criteria that are essential for Australia's innovation policy. These criteria are:

- the need to allow flexible application of research and development funds by institutions; and
- the need for research to flow into innovation.

Institutions should set their own research agendas and should be allowed the scope to specialise where they see fit. Funding should not be directed only to specific lines of enquiry seen as where Australia might best compete internationally. Where individual institutions have expertise in one particular area over another they should be allowed to best use this expertise regardless of whether it is not in the specific areas seen as Australian strengths.

ACCI believes that any discussion of research funding should be considered against the background of the Commonwealth Government’s $2.9billion Innovation Statement in 2001, Backing Australia’s Ability. The biggest single initiative of Backing Australia’s Ability was providing an additional $736million for the Australian Research Council competitive grants, doubling funding by 2005-2006. In light of Backing Australia’s Ability, ACCI is of the view that the quantum of research funding is not the issue, rather the issue is how to better utilise the existing funding to maximise benefits for the Australian community, including the business community.

ACCI believes that an appropriate level of public funding on research and development already exists in Australia. This is borne out by Organisation for Economic Cooperation and Development comparisons which rank Australia relatively highly for government expenditure on research and development. Where Australia fares less well is on international comparisons of business expenditure on research and development.

ACCI believes that in terms of research funding by universities, there should be more focus on how the universities can leverage their existing funding to better interact with business. Ultimately, this would be to achieve greater commercialisation of research.

ACCI endorses the principles for research funding originally outlined by the Australian Research Council:

- excellence and quality;
- coordination and partnership;
- accountability;
- efficiency and effectiveness;
- a focus on national priorities.

ACCI fully supports the notion of greater integration and coordination of research activities by universities and publicly funded research organisations. ACCI has also consistently called for greater linkages within the research community and subsequently with the broader business community.

Some institutions argue that they must meet their community service obligations and therefore require special funding in order to service that community. This is obviously difficult to measure. However, Technical and Further Education Institutes are also strongly arguing the provision of this service is a key element of their activity. What is clear is that accounting for what this community service obligation is, and the resources required, is difficult to quantify.

This would often require substantial government intervention with elaborately developed, but highly inflexible, funding agreements between government and providers. The extent of course rationalisation needs to be balanced against informed student centred funding. However, offerings requiring substantial infrastructure must be limited if we are not to spread our limited resources too thinly.

The extent of collaboration between all post-compulsory
providers, ie, year 11 and 12 schools, Vocational Education and Training providers and higher education institutions, provides the opportunity for achieving significant cost efficiencies. In some instances, despite the limitations of physical location, there is the potential for a limited sharing of delivery or enhanced articulation.

Whilst there are good examples of industry and provider partnerships, the extent of small business involvement is marginal. There should be focussed activity on small business–university partnerships, with some small amount of funding provided for specific collaborative projects. There is a potential role for State/Territory governments in supporting this activity.

**Achieving Equitable Outcomes: Indigenous Australians in Higher Education**

ACCI policy supports initiatives which promote a quality of education opportunity with options for groups with special needs. Therefore, it is recognised that modest supplementary funding should be provided to assist institutions in meeting the needs of those most disadvantaged in the labour market.

In the case of Indigenous students, substantial money is provided to institutions to service students, but success in relation to outcomes remains unclear. Indigenous student support services have varying degrees of success and the connection to employers is not always strong.

However, universities should not have full carriage of promoting equitable outcomes and the welfare system and job network providers are better suited to providing payments and services to disadvantaged people seeking to gain qualifications in the pursuit of employment.

**CONCLUSION**

Australia has a world class higher education system which provides businesses and industry with the academic skills and research bases needed to generate ideas and innovation. There are also individual and social benefits to be gained from higher education.

The key policy drivers for resourcing the higher education sector are to accelerate increased flexibility and competition to add to the increasing quality levels achieved under more recent reforms.

The best way to achieve these changes is progressively introduce a student centred funding model.

There is also room for Australian higher education to further expand as an export market as discussed in Chapter 15.

**ACCI Proposals**

ACCI proposes that:

- fees should continue to be deregulated and HECS bands widened;
- core funding should be replaced by student vouchers in a three year transition from 50 percent in year 1 to 75 percent in year two and to 100 percent in the third year;
- there should be a continued focus on cooperation between the sectors on credit transfers and recognition of prior learning and articulation streams;
- Indigenous and disadvantaged students should continue to attract appropriate additional funding; and
- research funding should continue to be performance based and funding should be targeted to national research priorities of the Australian Government.

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9. Not including the direct costs of running the tax system and
compliance costs in the economy generally.


PART C: CROSS SECTORAL ISSUES

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Chapter 11
Maths and Science

INTRODUCTION

The debate on skills and education as drivers in the knowledge economy is not complete without further discussion on the role of maths and science. Studying these areas does not mean you will become an engineer or scientist. Maths and science gives broader skills to students than just technical skills.

Australia faces a steadily worsening shortage of highly skilled employees as retirement rates outstrip the growth of new entrants in areas where maths and science are highly sought after skills. Maths and science plays a key role in Australia continuing to be an innovative and competitive player in the global economy.

The important issues to consider are whether the education system is providing and will continue to provide enough workers with skills in these particular areas and what are the appropriate policy responses, if any, which need to be taken.

BACKGROUND

It is important to question why maths and science should hold a special place in education above that of music, literature and history – a liberal education. Without doubt a well-rounded education has benefits and in this debate this should not be lost sight of.

Innovation is a critical driver of productivity and economic growth, and Australia must take advantage not only of its own innovative but be able to integrate the world’s innovations into its economy. Furthermore, Australia must have a skills base to develop solutions to its own unique environmental and social issues.

It is certainly the case that not every student can be a mathematician or a scientist but some level of skills, through broader society, allows for more inclusive debate on issues which affect all of us. In this respect it is important to engender a sense that maths and science are important even if a person doesn’t believe that they will be essential to their chosen career path.

Any policy formulation must be based on sound evidence that firstly, identifies that intervention is warranted; and secondly it will produce economic and social benefits to Australia. Addressing the second argument first, evidence must be presented which shows that increasing the raw numbers of students, and increasing achievement in maths and science, will provide benefits.

The subject matter is not without controversy and discussion. International test scores and rankings often elicit strong debate.

CONSIDERATION OF ISSUES

While maths and science outcomes are furiously debated in the public arena it remains vital to understand the benefits of a strong maths and science education.

Some argue that a well-informed society with a solid understanding of maths and science better connects individuals to the broader social debate. However, other lines of studies provide these benefits for individuals as well and are not exclusively the domain of any one particular area of study. Therefore, this is not the reason alone to more heavily focus on one particular area of study than any other.

As a general rule, market mechanisms along with government provided information can supply the signals for students to enter into their chosen career without offering incentives above and beyond, and to the detriment of, other educational pursuits.

Maths, Science and the Economy

A solid maths and science education is particularly important in developing the skills necessary for generating an innovative and dynamic workforce. Industry depends on human capital to develop new products, change existing products, and incorporate international research into Australian firms.

Innovation can take on a broader definition, rather than just technical innovation, such as changes in management structures - organisational innovation - and institutional innovation. Each type of innovation requires a different set of core skills, however, problem solving and an ability to think critically and originally are found in all these areas.
Areas in which maths and science skills are sought have expanded in recent decades from just science and engineering industries to finance, accounting, IT and consulting. As demand has increased into new industries, tensions have arisen between ‘traditional’ employment sectors and ‘new’ employment sector.

Greater demand for maths and science is an example of the economy reallocating resources to areas where Australia has a strong foundation. Furthermore, as societies become more complex demand for areas where highly developed maths skills are required also increases. For example, subsequent growth in complex and ‘exotic’ financial products such as options and derivatives led to a demand for people who were familiar with solving partial differential equations used in pricing options as well as other highly quantitative modelling techniques involved in risk analysis.\(^1\)

The OECD has noted the importance of science and innovation on increasing economic growth and productivity. It notes that it is the accumulation of knowledge, rather than the accumulation of physical capital, that is the engine upon which long-run economic growth relies. Further, the particular properties of knowledge – that it is a public good, that its accumulation is potentially limitless, and that its accumulation does not suffer from diminishing returns, are key factors in its contribution to the wider economy.

A review by the Department of Education, Science and Training (DEST) paid particular attention to recent studies that have been conducted on the relationship between R&D expenditures and productivity growth across the countries of the OECD.\(^2\) The report concludes:

Microeconomic studies confirm the existence of significant spillovers of knowledge from the firms that perform the R&D to other firms and industries. Taking account of measured spillovers typically raises the estimated gross rate of return on business investment into the range between 30% and 40%. But authors warn that these are likely to be underestimates of the true social rate of return because the microeconomic studies do not usually cover all of the sectors of the economy.

Macroeconomic studies, which by definition cover all sectors of the economy, do indeed find significantly higher returns to R&D in OECD countries, with estimates ranging from 50 % to over 100 %. Macroeconomic studies that distinguish between public and private sector R&D and allow for longer lags for the latter to affect productivity, find that public sector R&D contributes significantly to productivity, albeit less strongly than private sector R&D. Both microeconomic and macroeconomic studies find that an important source of productivity growth in all OECD countries comes from the international diffusion of technology.

The Productivity Commission\(^3\) (PC) has also undertaken to examine the effect of R&D on the market economy finding that:

The Commission has considered many strands of econometric evidence about the effects of R&D on the market economy. These explore market-relevant R&D stimulated through various types of R&D. These macro approaches can only find effects of R&D that show up in goods and services sold in markets and cannot adequately capture the more long-run effects of basic research in higher education institutions. However, the overall consensus is that R&D stimulated by public funding support is likely to produce sizeable benefits for the economy, though it is impossible to give accurate estimates as highlighted by Shanks and Zheng (2006) on Australian data and every major international review of the effects of R&D.

But the overall qualitative story remains the same – domestic R&D matter for economic growth.

Overall, the evidence remains the domestic R&D is an important contributor to growth although the size of the benefits is difficult to estimate.

**International Comparisons**

Given the majority of evidence indicates the benefits of maths and science based education it is important to evaluate where Australia stands internationally in its skills and training base. The Programme for International Student Assessment (PISA) 2003 survey by the OCED examines the mathematics performance of 15-year-old students. It describes mathematical proficiency in each country in terms of the percentage of students reaching one of six competency levels as well as in terms of the mean scores achieved by students on the overall mathematics scale and on different aspects of mathematics.

The report notes that three OECD countries (Finland, Korea and the Netherlands) achieve statistically similar average scores that are higher than the average scores in all other OECD countries. Students’ average scores in these countries – ranging from 538 points in the Netherlands to 544 points in Finland – are over one-half a proficiency level higher than the average. Eleven other countries (Australia, Belgium, Canada, Czech Republic, Denmark, France,
Iceland, Japan, New Zealand, Sweden, and Switzerland) have mean scores that are above the OECD mean (see Figure 11.1).

Australia’s performance in mathematics is above the OECD average. This result indicates that the quality of Australia’s 15-year-old students compares favourably with the rest of the OECD countries. However, compared to the PISA survey of 2000 when only one country ranked above Australia - Japan - Australia has in relative terms fallen back marginally from equal 2nd to equal 4th place.

In science Australia also ranks highly with four economies achieving statistically similar average scores that are higher than the average scores in all other OECD countries (see Figure 11.2). Five other countries rank statistically higher than the OECD average but are not significantly higher than Australia namely Macao-China, Netherlands, Liechtenstein, Czech Republic, New Zealand, and Canada.

Again Australia ranks above the OECD average in terms of the quality of 15-year-old students in regard to science. Two countries ranked higher than Australia – Japan and Korea, in 2000, however, four countries – Finland, Japan, Korea and Hong Kong, ranked higher than Australia in 2003.
The OECD, using data from the International Association for the Evaluation of Educational Achievement’s (IEA) Trends in International Mathematics and Science Study (TIMSS) for year 8 students, reported that for mathematics students in Korea scored higher than students in any other participating OECD country. Students in Belgium (Flemish Community), Hungary, Japan, and the Netherlands also scored statistically significantly higher than the average of participating OECD countries. The remaining eight countries scored below the OECD average.

For science, students in Korea performed higher than the other participating OECD countries, while Hungary, Japan and the Netherlands had average scores statistically significantly higher than the average of participating OECD countries. Australia, New Zealand, Sweden and the United States scored similarly to the average of participating OECD countries, whereas Belgium (Flemish Community), Italy, Norway, the Slovak Republic and the United Kingdom (Scotland) scored below it.

The report also indicates that Australian maths scores from 1995 to 2003 were statistically unchanged while science scores were statistically higher. This is a different survey (TIMSS not PISA) and includes year 8 students not 15 year olds.

The number of Australians graduating from university in maths and science remains very high, particularly for science (see Figures 11.3 and 11.4) but the discipline of science studied at universities does not necessarily reflect current job roles.

Australia has a very strong domestic skills base in science internationally. We generate the largest number of science graduates as a proportion of the population. Graduates as a proportion of the population in mathematics is more toward the average of the countries examined, and there does appear to be a need to focus attention on this issue.

The ratio of students to teachers can impact, along with other measures including total instruction time and teachers’ average working hours, on student quality. In this measure Australia is below the OECD average for Primary, All Secondary and Tertiary levels (see Figure 11.5).

**Domestic Issues**

**Supply of Mathematic and Science Skills**

While the skills of Australian students at maths and science is internationally competitive, the number of students undertaking studies in these areas in year 12, particularly science, has declined over the recent years (see Figure 11.6). The report notes that enrolments in mathematics have remained static while science enrolments have declined in some key areas notably physics, chemistry and biology.

Data obtained from the Audit of Science, Engineering and Technology Skills report noted, for the vocational and technical education sector, that due to classification changes, analysis is difficult. Nonetheless, the number of enrolments studying SET, as a proportion of total

![Figure 11.3](image-url)

Proportion of Population Graduating in Science Tertiary (Type A) and Advanced Research Programs

Note: Populations are 2005 while the UK graduations are for 2004.
Enrolments at VET, has remained around 30 per cent (see Figure 11.7).

Enrolments in undergraduate courses in the physical sciences as a proportion of total university enrolments have increased from 7.2 per cent to 8.4 per cent over the past decade. While enrolments for postgraduate courses has declined from 5.9 per cent to 3.5 per cent.

Completion rates mirrored this trend with higher rates for domestic and overseas undergraduates while postgraduate completion rates fell from 6.9 per cent to 2.3 per cent (see Figure 11.8). From 2001 to 2004 domestic enrolments in mathematic and biological sciences remained relatively flat, while physics, astronomy, chemical and other natural sciences grow strongly. Earth sciences declined substantially over the period.

From 2001-2004 enrolments in postgraduate programmes for mathematics, physics and other natural sciences increased strongly; biological science remained steady, while earth and chemical sciences declined. The number of Australian PhD graduates in science more than doubled between 1998 and 2003 from 425 to over 900. However, the number of engineering and science PhD graduates declined from 50 per cent to 35 per cent as a proportion of total PhDs awarded.

The PC report also noted that while there does not appear to be a shortage of scientist at present, there are significant shortages in all engineering occupations across all states and territories.

In terms of the international migration of skilled employees Australian has benefited from the ‘brain gain’ (see Figure 11.9). While Australia skilled employees are moving overseas, overseas employees are moving to Australia. The PC found that Australia was losing a smaller number of Australian residents with PhDs than it was gaining from migrants with PhDs.

The economy currently faces high demand for maths and science students with demand for natural and physical sciences growing by 36.7 per cent between 1996-97 and 2004-05. Furthermore, demand is expected to grow at 33.3 per cent from 2004-05 to 2012-13. Of this, ‘new’ demand is expected to grow slower than ‘replacement’ demand for many maths and science skilled employees.

Replacement demand for Science, Engineering and Technology (SET) skills is expected to be higher than for other industries, 4.9 per cent compared with 3.2 per cent respectively. In fact, many areas are already experiencing difficulties in recruiting employees with the relevant SET skills.

**Supply of Teaching Skills**

Of perhaps more concern is the shortage of high school mathematic and science teachers in areas such as physics and chemistry. This problem is not solely the concern of Australia with many developed countries also facing...
shortages of teachers. This quantity constraint on the number of teachers has led to 20 per cent of maths teachers having only studies university mathematics beyond the first year.

A report released by DEST\(^8\) noted that the significant losses of teachers through retirement that Australia will face over the next few years, with an anticipated peak around 2006 to 2008, will most acutely affect the secondary level. Australia will require the next generation of maths and science teachers to be highly skilled, at all levels, in order that students are encouraged and inspired to further pursue maths and science as a career path.

A number of studies have found that the pay structure for science and mathematics was inflexible and that higher pay rates would encourage more graduates to enter a teaching career path. A discussion on the studies can be found in chapter 5 of the PC draft report entitled Public Support for Science and Innovation.

The PC report concluded that greater flexibility in teachers’ pay structures would make the discipline an attractive prospect and would provide a greater incentive for teachers to remain within their chosen vocation. This only reflects what business and industry have observed in other workplaces, right across the economy.

To the extent that there should be consideration of other direct government interventions to assist the recruitment of more maths and science teachers one area often looked at is the provision of special arrangements for the relevant individuals when it comes to the payment of university fees and the payment of HECS after studies have completed.

The PC has previously concluded that the lowering of HECS repayment obligations and similar easing of FEE-HELP obligations would need to be substantial and may not provide the necessary incentive to increase entrants into the teaching profession.

Instead of taking this course the Federal Government has introduced the Australian School Innovation in Science, Technology and Mathematics (ASISTM) Project. Over the seven-year life of the ASISTM Project the Australian Government will fund an estimated 500 school cluster initiatives involving approximately 1,300 Teacher Associates. Improving the standard of teaching maths and science, while keeping students engaged, will best equip Australia for the future demands of the market place.

Additional Government programs aimed at the primary school level include Primary Connections links the teaching of science with the teaching of literacy in Australian primary schools. It is a partnership between the Australian Academy of Science and the Commonwealth Department...
### Figure 11.6
**Potential Supply of SET Skills from Schools**

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Number</th>
<th>Adv Maths (%)</th>
<th>Intermediate Maths (%)</th>
<th>General Maths (%)</th>
<th>Total Maths (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1993</td>
<td>910,674</td>
<td>2.8</td>
<td>6.7</td>
<td>9</td>
<td>19</td>
</tr>
<tr>
<td>1997</td>
<td>859,444</td>
<td>2.5</td>
<td>9.8</td>
<td>5.9</td>
<td>18</td>
</tr>
<tr>
<td>2001</td>
<td>900,776</td>
<td>2.3</td>
<td>10</td>
<td>5.8</td>
<td>18</td>
</tr>
<tr>
<td>2003</td>
<td>948,749</td>
<td>3.4</td>
<td>9</td>
<td>6</td>
<td>18</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Number</th>
<th>Physics (%)</th>
<th>Chemistry (%)</th>
<th>Biology (%)</th>
<th>Other Science (%)</th>
<th>Total Science (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1993</td>
<td>910,674</td>
<td>4.1</td>
<td>4.5</td>
<td>6.9</td>
<td>3.5</td>
<td>19</td>
</tr>
<tr>
<td>1997</td>
<td>859,444</td>
<td>3.7</td>
<td>4.2</td>
<td>5.3</td>
<td>3.9</td>
<td>17</td>
</tr>
<tr>
<td>2001</td>
<td>900,776</td>
<td>3.5</td>
<td>4</td>
<td>5.1</td>
<td>3.8</td>
<td>16</td>
</tr>
<tr>
<td>2003</td>
<td>948,749</td>
<td>3.4</td>
<td>3.6</td>
<td>4.6</td>
<td>3.8</td>
<td>15</td>
</tr>
</tbody>
</table>


### Figure 11.7
**Supply of Mathematics/Science Skills from the VET Sector**

<table>
<thead>
<tr>
<th>Year</th>
<th>Diploma and Above</th>
<th>Certificates</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Enrolments</td>
<td>% of Total</td>
</tr>
<tr>
<td>1996</td>
<td>7.8</td>
<td>15,251</td>
</tr>
<tr>
<td>1999</td>
<td>8.6</td>
<td>18,935</td>
</tr>
<tr>
<td>2001</td>
<td>8.1</td>
<td>18,187</td>
</tr>
<tr>
<td>2002</td>
<td>1.3</td>
<td>2,956</td>
</tr>
<tr>
<td>2004</td>
<td>1.5</td>
<td>2,940</td>
</tr>
</tbody>
</table>


Note: Natural and Physical Sciences includes Maths, Sciences, Physics and Astronomy, Chemical Sciences, Earth Sciences, Biological Sciences and Other Natural Sciences.
### Figure 11.8
Supply of Mathematics/Science Skills from the Higher Education Sector

<table>
<thead>
<tr>
<th>Year</th>
<th>Domestic Qualification</th>
<th>Domestic Total</th>
<th>Overseas Qualification</th>
<th>Overseas Total</th>
<th>Total Qualification</th>
<th>Total Graduates all FOE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1993</td>
<td>Undergraduate</td>
<td>7.2</td>
<td>0.5</td>
<td>5.9</td>
<td>13.1</td>
<td>13.6</td>
</tr>
<tr>
<td></td>
<td>Postgraduate</td>
<td>5.9</td>
<td>0.0</td>
<td>8.0</td>
<td>13.9</td>
<td>13.9</td>
</tr>
<tr>
<td>1999</td>
<td>Undergraduate</td>
<td>8.0</td>
<td>0.5</td>
<td>9.5</td>
<td>17.5</td>
<td>17.5</td>
</tr>
<tr>
<td></td>
<td>Postgraduate</td>
<td>5.5</td>
<td>0.0</td>
<td>11.4</td>
<td>16.9</td>
<td>16.9</td>
</tr>
<tr>
<td>2001</td>
<td>Undergraduate</td>
<td>5.5</td>
<td>0.6</td>
<td>9.1</td>
<td>14.6</td>
<td>14.6</td>
</tr>
<tr>
<td></td>
<td>Postgraduate</td>
<td>4.5</td>
<td>0.9</td>
<td>10.7</td>
<td>15.2</td>
<td>15.2</td>
</tr>
<tr>
<td>2003</td>
<td>Undergraduate</td>
<td>8.4</td>
<td>0.9</td>
<td>10.4</td>
<td>18.8</td>
<td>18.8</td>
</tr>
</tbody>
</table>


Note: Natural and Physical Sciences includes Maths, Sciences, Physics and Astronomy, Chemical Sciences, Earth Sciences, Biological Sciences and Other Natural Sciences.

### Figure 11.9
Net Movement of Skilled Settlers, Residents and Long-Term Visitors by Selected Occupations

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total Science</td>
<td>846</td>
<td>1417</td>
<td>417</td>
<td>645</td>
<td>417</td>
<td>645</td>
<td>417</td>
<td>645</td>
<td>784</td>
</tr>
<tr>
<td></td>
<td>Chemists</td>
<td>174</td>
<td>132</td>
<td>100</td>
<td>228</td>
<td>143</td>
<td>184</td>
<td>143</td>
<td>184</td>
<td>171</td>
</tr>
<tr>
<td></td>
<td>Geologists &amp; Geophysicists</td>
<td>132</td>
<td>132</td>
<td>208</td>
<td>260</td>
<td>132</td>
<td>132</td>
<td>208</td>
<td>260</td>
<td>218</td>
</tr>
<tr>
<td></td>
<td>Life Scientists</td>
<td>100</td>
<td>218</td>
<td>112</td>
<td>106</td>
<td>186</td>
<td>211</td>
<td>221</td>
<td>250</td>
<td>189</td>
</tr>
<tr>
<td></td>
<td>Environmental &amp; Agricultural Scientists</td>
<td>228</td>
<td>138</td>
<td>257</td>
<td>264</td>
<td>193</td>
<td>230</td>
<td>205</td>
<td>233</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td>Medical Students</td>
<td>69</td>
<td>69</td>
<td>75</td>
<td>79</td>
<td>107</td>
<td>96</td>
<td>96</td>
<td>96</td>
<td>96</td>
</tr>
<tr>
<td></td>
<td>Total Science Professionals</td>
<td>143</td>
<td>184</td>
<td>143</td>
<td>184</td>
<td>143</td>
<td>184</td>
<td>143</td>
<td>184</td>
<td>143</td>
</tr>
</tbody>
</table>


Before concluding, it is also noted that the Federal Government has announced a standardised Australian Certificate of Education for all school nationally. This will help remove inconsistencies in maths and science curriculum across the various Australian jurisdictions.

CONCLUSION

Maths and science skills are important to the continued wellbeing of Australia and its economic competitiveness.

Australia performs above the OECD average in maths and science test scores which augers well for the future quality of Australia’s innovative and R&D future.

Nonetheless, the supply of maths graduates from universities is particularly low when compared to historical trends. This is mirrored in the skills of maths teachers at the secondary school level. This is a major policy issue.

The supply of science graduates from universities has performed better, boosted by migration. However, demand is high. There are particular shortages in engineering for example.

Also, of major concern is the shortage of high school science teachers in areas such as physics.

Demand is increasing from a range of industries and in order to remain competitive and become world leaders this demand must be met. Australia can always meet a proportion of its demand for skills from international sources. However, all OECD countries are in a competitive bidding race for international talent. In the longer term Australia must provide as high a proportion as possible of maths and science graduates through our domestic education system.

Teachers delivering maths and science classes could be more qualified with further education, through the introduction of a flexible wages structure in order to compete with other industries vying for the same skills.

ACCI PROPOSALS

ACCI proposes that:

• teachers need access to more flexible wage structures to encourage maths and science graduates to enter science/maths professions including the engineering and the teaching profession;

• while consideration can be given to reducing HECS and FEE-HELP obligations for those studying maths and science it is not the most effective mechanism for improving teacher training;

• primary and secondary students are to be encouraged to study maths and science as a career path;

• the immigration program should increasingly target the bringing of people with maths and science skills to Australia.


4 OECD (2005), Education at a Glance, OECD publishing


7 Ibid.

8 DEST (2003), Australia’s Teachers, Australia’s Future, Advancing Innovation, Science, Technology and Mathematics, Agenda for Action, October.
INTRODUCTION

Economic challenges and global competition require Australian businesses to implement a range of strategies to ensure ongoing growth and increasing international competitiveness.

Employee skills are fundamental to enabling business growth and competitiveness.

Businesses, whether they are small, medium, or large, require employees who possess skills relevant to their employment and the ability to develop new skills to increase their value to the business. Employability skills are additional to technical/academic skills and are required by all employers and across all industries.

BACKGROUND

During 2001, ACCI in conjunction with the Business Council of Australia undertook a research project, *Employability Skills for the Future*, to establish a set of employability skills required by Australian businesses. The final report was published by the Department of Education, Science and Training (DEST) in March 2002.

Employability skills under *Employability Skills for the Future* are defined as:

…the skills required to gain employment or establish an enterprise, but also to progress within an enterprise or expand employment capability, so as to achieve one's potential and contribute successfully to enterprise strategic directions.

Establishing a set of employability skills was deemed necessary in a climate of economic challenges and globalisation.

Strategies to address economic and global challenges have included multiskilling, greater automation, workforce restructuring, adaptation, cost reduction, increased productivity and new markets and/or new products and services.

As identified in *Employability Skills for the Future*.

Enterprise choices with regard to recruitment and training are largely being driven by these business strategy directions. In this environment, there is an increasing requirement for employees to be able to support increased competitiveness, innovation, flexibility and client focus.

Enterprises are increasingly seeking a more highly skilled workforce where the generic and transferable skills are broadly distributed across the organisation.

To establish what these skills were, ACCI developed an *Employability Skills Framework* which provides a definitive, comprehensive framework of such skills. The Framework is relevant to small, medium and large enterprises and is able to support the future needs of Australian industry.

CONSIDERATION OF ISSUES

Objectives

The objectives of *Employability Skills Framework* were based on the need for:

- the provision of a two-tiered response to attributes and underpinning skills required for effective participation in the labour market;
- the need for any Framework to allow for the diversity of occupations, entry and ongoing development pathways and differences in types of engagement in the labour market;
- an understanding that general education from kindergarten to year 12 also has an important role which supplements any agreed Framework;
- the recognition that the Mayer Key Competencies were still sound but required some revision;
- the importance of a nationally consistent response against an agreed framework across the three education and training sectors; and
- the need to ensure clearly articulated outcomes against skill components.

In light of these objectives, a set of key personal attributes,
key skills and elements of key skills were developed as a guide for employers and policy makers.

**Personal Attributes**

Personal attributes, under the *Employability Skills Framework*, describes a set of non-skill-based behaviours and attitudes that employers felt were as important as the employability skills and other technical or job specific skills.

The *Employability Skills Framework* incorporates the following personal attributes that contribute to overall employability:

- loyalty;
- commitment;
- honesty and integrity;
- enthusiasm;
- reliability;
- personal presentation;
- commonsense;
- positive self-esteem;
- sense of humour;
- balanced attitude to work and home life;
- ability to deal with pressure;
- motivation; and
- adaptability.

There is no doubt that enterprises see the inclusion of these attributes as a new and essential component of employability skills.5

ACCI does not advocate that the personal attributes should be taught, assessed or reported on. However, where it is possible to highlight to students that employers highly value personal attributes, this should be done as an awareness raising activity.

**Key Skills**

Key skills, which describe the learned capacity of an individual under the *Employability Skills Framework*, include:

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

**Elements of Key Skills**

Elements of key skills are the facets of the skill that employers identify as important. They are not fixed and only provide examples.

The mix and priority of these elements varies from job to job. The list of elements is not exhaustive, however, it is indicative of the expectations of employers.

The level of sophistication in the application of the element is dependent upon the job level and requirements.

See Figure 12.1 for an example skill and element.6

**Inclusion of Employability Skills in Training Packages**

During 2006, Industry Skills Councils were provided funds to review all Training Packages and modify competency standards to accurately reflect industry requirements.
The modifications have been progressively endorsed and released in reviewed Training Packages replacing the Key Competency Framework.

In March 2006, a report by the Allen Consulting Group, *Assessment and Reporting of Employability Skills in Training Packages*, identified an integrated approach to assessing employability skills with technical skills within a qualification and the corresponding units of competency.

It also recommended a descriptive reporting approach using short text to describe the nature of the employability skills developed as part of a qualification (or unit of competency). The information reported relates to the qualification (or units), not to the individual.

The report also recommended that students voluntarily develop their own portfolios of employability skills to supplement the formal descriptive reports.

Education.au, a not for profit agency funded by all Australian governments, to develop and manage national online services of benefit to the education and training sector, was previously funded to develop and trial a website for e-portfolios to allow all people, including students, to easily record their academic, vocational and employability skills to support job applications, career planning, and entry into further education and training. However, no further work has been done since the initial trial to develop the e-portfolio concept.

**Employability Skills Profiler**

The Employability Skills Profiler was developed by the Department of Employment and Workplace Relations as a user-friendly online decision support tool to help service providers gain a better understanding of a job seeker’s employability.

Nationwide roll-out to Job Network members began in February 2006 and, by the end of June 2006, 70 Job Network members had it installed and were planning to use it across an estimated 391 sites.

An employment service provider Profiler Best Practice Model was also developed to provide to Job Network management practical suggestions on how the profiler could be incorporated into existing service models.

**CONCLUSION**

There is a need for the *Employability Skills Framework* to apply across the education, training, higher education and employment sectors. Implementation in the training and employment sectors has progressed well, however, the education and higher education sectors are lagging behind.

Industry must continue to be involved in the further development and implementation of the *Framework* in each sector.

**ACCI PROPOSALS**

ACCI proposes that the Government should:

- develop a comprehensive national approach for government, industry, education providers and the community on the issue of acquiring and improving employability skills;

<table>
<thead>
<tr>
<th>Skills</th>
<th>Element</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communication that contributes to productive and harmonious relations between employees and customers.</td>
<td>Listening and understanding.</td>
</tr>
<tr>
<td></td>
<td>Speaking clearly and directly.</td>
</tr>
<tr>
<td></td>
<td>Writing to the needs of the audience.</td>
</tr>
<tr>
<td></td>
<td>Negotiating responsively.</td>
</tr>
<tr>
<td></td>
<td>Reading independently.</td>
</tr>
<tr>
<td></td>
<td>Empathising.</td>
</tr>
<tr>
<td></td>
<td>Using numeracy effectively.</td>
</tr>
<tr>
<td></td>
<td>Understanding the needs of internal and external customers.</td>
</tr>
<tr>
<td></td>
<td>Persuading effectively.</td>
</tr>
<tr>
<td></td>
<td>Establishing and using networks.</td>
</tr>
<tr>
<td></td>
<td>Being assertive.</td>
</tr>
<tr>
<td></td>
<td>Sharing information.</td>
</tr>
<tr>
<td></td>
<td>Speaking and writing in languages other than English.</td>
</tr>
</tbody>
</table>
• fully report on the implementation of the *Employability Skills Framework* in the areas of: schools; VET; and Higher Education;

• outline how it will achieve greater industry involvement in the development and implementation of the *Framework* in each sector;

• further investigate e-portfolio approaches to supplement reporting procedures in the education and training sectors; and

• investigate the possibility of developing tools based on the employability skills profiler for use by employers to attract and recruit staff as part of a holistic workforce development approach.

2 Ibid.
3 Ibid.
4 Ibid.
5 Ibid.
6 Ibid.
Chapter 13
Literacy and Numeracy

INTRODUCTION

Around the world, renewed emphasis is being placed by governments and employers on literacy and numeracy skills for all people to enhance their employability, job satisfaction, level of remuneration and community participation.

Australian industry needs competent, skilled workers with the flexibility to adapt to the changing workplace.

BACKGROUND

Employers expect that prospective employees will possess basic literacy and numeracy skills. It is desirable for the modern employee to have multiple literacies, from basic computer and information technology skills, language and communication skills, critical and cognitive thinking skills as well as the ability to comprehend Occupational Health and Safety (OHS), Hazard Analysis and Critical Control Point (HACCP) and other legislative requirements.

Such skills are essential whether the employee is a Vocational Education and Training graduate or a University graduate.

Sound literacy and numeracy skills must be taught in primary school and reinforced in secondary school and further education.

CONSIDERATION OF ISSUES

Language, Literacy and Numeracy Skills (LLN) are not static notions and have changed over time. With the advent of technology and the impact of other historical variables, new LLN skills have come into being and are essential in a post-modern environment. For example, a generation ago the composition of text for email was an undreamt skill requirement. Even though LLN skills are constantly evolving, employers require that standards apply.

There is a need in the shift of emphasis in the methodologies and ideologies employed within the education sector to ensure that young people are adequately equipped with the essential skills to participate effectively within Australian society and the workforce.

While the human capital agenda in adult literacy is worthwhile and necessary, it could go further. Through Workplace English Language and Literacy (WELL) and the Language, Literacy and Numeracy Programme (LLNP), the federal Government has had some influence on LLN development, but at the ground level, implementation is still strongly focussed towards achieving “social capital” outcomes.

A move away from approaches to literacy development that focus on the so-called “socio-cultural contextualisation” of student needs to a model that concentrates on the development of essential skills that are applicable to the rigours of working life is needed to ensure that young people develop the required essential skills.

Business and enterprises recognise low levels of functional literacy and numeracy as being a major barrier to growth.

A recent report produced by the Confederation of British Industry (CBI), Working on the Three Rs: Employers’ Priorities for Functional Skills in Maths and English," identified key areas of literacy and numeracy that are considered essential to employers. These skill areas are identified in the Appendix. It identifies the major business impact of the perceived gaps in functional literacy and numeracy as a clear waste of resources. The issues and solutions identified in the report translate broadly to the Australian context.

ACCI has been concerned about reports that indicate students often need to take remedial courses in subjects such as Maths when commencing university studies because of different standards between States and Territories. The LLN skills of graduates are also of concern to employers when simple tasks such as composing a business letter are lacking.

There is some disagreement between employers over whether literacy and numeracy standards have fallen after schooling and other education or whether the new knowledge economy has created a demand for higher levels of proficiency for entry-level positions.

A lack of consistent standards may result in additional costs for employers for education and training. Achieving basic standards for LLN skills is a clear priority in the skills debate especially in times of pressure on labour supply.
School Education

OECD research indicates that a country can achieve gains of up to 2.5% GDP per capita from a 1 percent increase in literacy compared with other countries. Australia’s performance on literacy compared with other countries has been good in the past. At the time of writing this Blueprint, the most recent comparative data available was the Programme for International Student Assessment (PISA) 2003 study. PISA is an internationally standardised assessment jointly developed by participating countries and administered to 15 year olds in schools.

The data showed Australia’s results were above the OECD average in mathematical, scientific and reading literacies. This is a record that Australia needs to maintain and improve.

To ensure sound literacy and numeracy skills begin at a primary school, ACCI supports National Literacy and Numeracy Benchmarking testing in Years 3, 5 and 7 and 9.

Not only does such testing identify students who require further assistance, it identifies schools that may be performing below national standards. In both instances Government can then implement strategies to assist students, their parents and the schools.

Vocational Education and Training

Employers expect that applicants for Australian Apprenticeships will satisfy basic literacy and numeracy requirements and they are often required to sit short written tests examining standard workplace literacy, numeracy and general skill requirements. Unfortunately, the results of these tests are often unsatisfactory. In some instances this issue has been exacerbated by the applicant having successfully completed a lower level Vocational Education and Training certificate, casting doubt upon the quality and outcomes of such programs.

An important development in Vocational Education and Training has been the requirement to ensure that industry developed and endorsed Training Packages clearly outline literacy and numeracy outcomes and skill requirements in specific work competencies. This is strongly supported by industry.

The updated Training Package framework provides another opportunity for Industry Skills Councils to ensure the qualifications and competency requirements in Training Packages are re-examined to reduce duplications and take account of required literacy and numeracy standards.

University Graduates

There is also an expectation by employers that higher education graduates will possess high literacy and numeracy skills along with a high level of academic achievement.

Graduate Skills Assessment

One important development in this area was the establishment of the Graduate Skills Assessment (GSA) test, which is conducted on a voluntary basis at entry and following the completion of a Bachelor degree. Skills assessed include written communication and problem solving and each skill is assessed against three described skill levels.

There are problems currently with the perception of the importance of the test by students and industry. There is no doubt there is a lack of knowledge and understanding of the GSA by employers and it does not reflect the current directions of employers and industry on the developed employability skills. Consequently, universities have been cautious when allocating funds to administer the test.

The three key changes required for the GSA to gain employer support are to:

- modify the GSA to align it with the ACCI/BCA Employability Skills Framework;
- promote the GSA to employers encouraging its use as one of the available recruitment tools; and
- use the GSA as a research base to inform industry, Governments and providers on the achievement of employability skills in the higher education and other education and training sectors.

CONCLUSION

ACCI believes there is a need for detailed research on this topic with the involvement of employer organisations. There is little disagreement, however, with the proposition that better educated people have better literacy and numeracy skills and that those who are marginal to the labour market, such as the long term unemployed, tend to have more significant problems in this area.

While a lack of employee literacy and numeracy skills is
of particular concern to business, an understanding from an employer perspective of how literacy and numeracy fit in with other employability skills necessary for effective participation in the modern workforce is useful when considering possible future action.

As international labour and capital becomes more mobile, and as overseas governments act to improve the ability of their citizens to compete in the global marketplace, it is important to ensure that Australian-educated employees are not left behind.

Overall, improvements must be made, and regular tests conducted on a nationally agreed and consistent basis, on literacy and numeracy standards.

**ACCI PROPOSALS**

ACCI proposes that:

- all governments confirm that a key feature of Australia’s education and training system must be literacy and numeracy;

- reading and understanding information texts, reading and writing, spelling and grammar, legible handwriting and oral communication are the essentials of literacy from an employer perspective;

- all governments support National Literacy and Numeracy Benchmarking testing in Years 3, 5 and 7 and 9; and that they:
  - implement national reporting in plain English on literacy and numeracy skills including the percentage by which they have passed or failed;
  - publish data for schools, systems and at the state and territory level on levels of literacy and numeracy;
  - report on exit from school to show performance against set national criteria;
  - continue and expand early intervention programs to support students and their parents to address below standard literacy skills.

- the Graduate Skills Assessment Test:
  - be modified to better align it with the ACCI/BCA Employability Skills Framework;
  - be promoted to all employers to encourage its wider use;
  - be used as a research base to inform industry, governments and providers on the attainment of employability skills in the higher education and other education and training sectors;

- governments should, further:
  - establish a new early intervention program for applicants identified by employers as failing entry requirements for literacy and numeracy but who meet other standards;
  - prepare case study material across enterprises of all sizes on human resource best practices; and
  - use the Employability Skills Framework to pursue further policy work in the areas of literacy and numeracy.

- undertake research to better identify the economic impact of literacy and numeracy deficits on Australian employers; and

- undertake further research on whether literacy and numeracy standards are falling after the completion of schooling or whether there are higher levels of proficiency required for entry-level positions in the knowledge economy.

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1 CBI, August 2006, *Working on the Three Rs, Employers’ Priorities for Functional Skills in Maths and English*, pp 5-6
2 [http://www.pisa.oecd.org/pages/0,2966,en_32252351_32235907_1_1_1_1_1,00.html.](http://www.pisa.oecd.org/pages/0,2966,en_32252351_32235907_1_1_1_1_1,00.html.)
Key Conclusions from the report "Working on the Three Rs"

1. The ability to read and understand basic information texts is an obvious and fundamental component of functional literacy. In functional terms, what matters is for people to be able to identify a relevant item of text, to read it reasonably rapidly and easily, to take in the essential information and, if appropriate, to act on it. The ability to cope with more complex text is important if individuals are to be able to progress to higher level jobs.

2. Reading and writing must be considered separately. They tend to be rolled up together and treated as one, but writing tends to pose much more of a problem. The ability to put together a piece of writing that conveys meaning clearly and accurately is an essential functional skill. The inability to put together a short coherent piece of writing has serious implications for those seeking work or thinking of changing jobs.

3. Spelling and grammar are important and are widely seen as weak. Correct spelling of everyday words and proper use of basic grammar are important for clarity of expression and fostering a reader’s confidence. There is a particular dislike of ‘text speak’. A functionally literate employee should be expected to be able to observe the basic rules of grammar, be able to spell everyday words correctly, use capital letters and basic punctuation properly, and use a writing style appropriate to the situation.

4. Legibility of handwriting matters. The case studies repeatedly threw up the importance of legible handwriting. There is a wide range of forms to be completed by hand in most organisations. In certain circumstances, some of these are documents that may potentially be called in evidence in legal proceedings. A functionally literate employee should have handwriting that is sufficiently well formed that others will be able to read the text with confidence.

5. Because reading and writing are different skills, both need to be tested. A multiple choice, online comprehension exercise is not an adequate means of assessment of writing as well as reading.

6. Understanding and responding appropriately to oral communications are essential skills. Employees also need to be sufficiently articulate to be able to raise queries if the instructions are not clear to them, or to raise practical matters of concern that flow from the instruction.

7. Multiplication tables and mental arithmetic without using a calculator constitute an essential aid in all sorts of work activities.

8. The ability to interpret and respond to quantitative data is a key part of modern working life. Data of this type is presented not only to keep employees in the picture, but employees are also expected to interpret it sufficiently to contribute to problem solving and quality improvement.

9. Calculating and understanding percentages is a functional maths skill. Percentages are widely used in internal communications and in many jobs it is essential to be able to calculate them readily. A functionally literate person should therefore both be able to calculate a percentage and interpret the significance of percentages communicated to them.

10. As well as percentages, a mathematically literate person will be able to work comfortably with fractions, decimals, and ratios. For many organisations, the ability to use a formula is also highly desirable.

11. It is important for employees to have awareness of different measures and the ability to convert between them. Despite all the moves towards metrication, imperial and metric measures both remain in daily use. Employees need to be able to cope with that reality.

12. Spotting errors and rogue figures is an important element of functional maths. A functionally numerate employee will also instinctively carry out a reality check and pause to check what may potentially be a rogue result.

13. Some basic understanding of odds and probabilities to enable people to make a more realistic assessment, rather than treating every risk as equally likely to happen, could form a useful element of functional mathematics.

14. Functional skills are skills that have a practical purpose. It is important to boost awareness of their potential application, particularly key elements of
mathematical literacy, in real and different contexts.

15. Employees need to know not only whether young people have passed or failed their functional skills modules but also the margin by which they have done so. The right approach is that the simple pass or fail should be accompanied by release of the percentage mark for each element of the modules.

16. To ensure employer buy in, it is essential that the Qualifications and Curriculum Authority standards are clear to employers both in terms of the skills they will deliver and the level of mastery they reflect, using ‘can do’ illustrations of skills.

17. IT skills are of growing importance in most jobs, but the ability to acquire those depends on a solid foundation of literacy and maths skills.

18. During the course of the research, employees voiced concerns about a number of other aspects of what they viewed as basic skills. These included the decline in practical or ‘hand’ skills of young people, the increasing need for social skills and some concerns about general attitude.
Chapter 14
Careers Advice

INTRODUCTION

Career development becomes increasingly important for public policy as education and employment policies seek to widen choices and to create systems which can respond to varying needs of the individual across a lifespan.

The delivery of career education in schools is seen as vital to assisting young people at an early age to identify employment pathways and thus make appropriate subject choices whilst at school, as well as in making decisions about their future education and training. A “best fit” with industry based on sound careers advice, services and support makes good sense for individuals and businesses and avoids costly mistakes for all parties.

The importance of career development in assisting young people to make a successful transition from school to further education, training and employment has been highlighted in various reports and agreements in recent years. Significant international focus has highlighted the critical importance of managing life, learning and work in a constantly changing labour market. This changing world and the corresponding need for individuals to engage in repeated decision-making about learning and work has raised the importance of and necessity for the provision of career development services across the lifespan. Many countries are addressing this challenge across the globe.

BACKGROUND

The term careers development includes ‘careers education’, ‘careers counselling’ and ‘careers guidance’ and refers to the provision of:

• advice on vocational and occupational choices;
• advice on pathways to further education and training;
• advice on job seeking and the world of work, including; and
• advice on employer expectations and labour market demands.

Career development is part of a lifelong learning approach to career planning. Thus, it is concerned with the development of knowledge, skills and attitudes through a planned program, which assists students to make informed decisions about their study for work options and enables effective participation in working life.

Role of Career Education

Career education plays a dual role in assisting young people to choose school subjects which will help them qualify either for particular university courses or an alternative employment pathway. With the large majority of young people not attending university after leaving school, career education in schools is essential in assisting those young people not destined for university, to identify and take-up alternative employment pathways such as undertaking vocational education and training options at school and/or through further education institutions such as TAFE, or undertaking a New Apprenticeship.

CONSIDERATION OF ISSUES

The challenges of lifelong learning and an active labour market impact the need for public policy related to career education and advice services in order to improve the efficiency of education systems and the labour market and to contribute to social equity. Currently career education and advice services are focused upon immediate decision-making rather than meeting future challenges of diverse client needs for services which emphasise career-management skills, as well as information provision and decision-making, and for services to be accessible throughout the lifespan.

In the past, the structure and curriculum of secondary schools have been strongly oriented towards preparing young people towards university study. However, as the majority of school leavers do not proceed to university, (74%, 2005 Dusseldorp Skills Forum, Nov 2006) much effort has been made in recent years to develop better ways of meeting the career guidance needs of all students.

The administrative and financial arrangements of Australia’s schools systems largely dictate the structure of the career information, guidance and counselling services offered at the school-level. As schools fall under state and territory jurisdiction, there are considerable variations between
states in the structure of school guidance services. In general, State/Territory policies regarding the structure of school guidance services are weak with few jurisdictions providing comprehensive and curriculum based services to meet acceptable career advice outcomes. Most decisions related to the provision of career services are made at the individual school level, and schools have considerable flexibility in how they allocate resources and deliver services within their general government funding allocation.

Notwithstanding the above, there have been increasing efforts by all school jurisdictions to improve the extent and quality of career education and information available to school students over the last decade. In particular, school leaders, career practitioners and vocational coordinators have identified the need to ensure that schools are responsive to meeting the needs of all students, including preparing them for life beyond school.

However, to date, there remain concerns and criticisms that the delivery of career education in Australian schools has often been ad hoc and largely dependent on the enthusiasm, commitment and skills of individuals.

Australia has had no consistent or comprehensive system of ensuring the delivery of careers advice to secondary school students across all sectors including government, Catholic and independent schools. As noted above, responsibility for careers advice has rested with state systems and the provision of careers advice is not governed by any specific policy framework – nationally or at the state level. The differences between states and territories are evident in two respects, the structure of the key guidance roles within schools; and the structure of career education within the curriculum.

In regard to the structure of key guidance roles within schools, there are variations between states in the staffing allocation of careers advisors and required workforce qualifications. Secondly, in regard to the structure of career education in school curriculum, in some states, career education is located within personal development, health and physical education; in others it is located within social studies; and in others it is integrated into a number of subjects across the curriculum.

An effective strategy for the delivery of career education and advice may need to shift away from an approach that focuses only upon immediate educational and occupational choices towards a broader whole-of-school and whole-of-sector approach. This requires an approach that imbeds career education and advice in the curriculum, incorporates career self-management skills and learning from experience. The tertiary sector manifestly lacks career services both in scale and in focus.

Good quality career information is essential for good quality career education and advice. Information about labour markets, occupations and their characteristics and is central to the delivery of career education and advice and the decision-making outcome by the career aspirant. Government must play a critical role in funding the collection, organisation, linking, systematising and distribution of career information. Industry must play a central role in integrating information about occupations and their characteristics and the promotion of industry engagement in a whole-of-sector approach.

Career Advice Australia

Career service provision in Australia has received recent impetus through a new Commonwealth initiative called the Australian Network of Industry Careers Advisers initiative, or Career Advice Australia. This new initiative, launched in 2005 will seek to support young people from 13 to 19 years of age to achieve a successful transition through school, and from school to further education, training and work.

Career Advice Australia will draw on and complement current programmes and services resulting in a more comprehensive national career and transition support network for young people. It has been recognized that young people need high quality career information, advice and vocational experiences to help them make good career decisions for themselves. This involves qualified career advisers and expert industry advice as well as meaningful work experience, including Structured Workplace Learning, and the opportunity to gain vocational qualifications while at school.

The Career Advice Australia initiative will:

• improve career choices by young people;
• increase school engagement by young people;
• increase industry and employer engagement in schools and career development;
• increase awareness of the range of Vocational Education and Training opportunities;
• improve quality and availability of career and transition education across Australia; and
• establish effective local community partnerships that provide coordinated career and transition support.

The Career Advice Australia initiative comprises three parts:

• enhanced career and transition capacity for the network of Local Community Partnerships;

• improving the professional standards for and status of career advisers; and

• extending industry leadership through a network of Regional Industry Career Advisers (located in 57 regions across Australia) and a network of National Industry Career Specialists (10 industry specialists).

Career information needs to be not only produced, but also accessible, well disseminated and converted into action. The CAA initiative must seek to maintain and improve the quality of career information on labour markets, skills needs and occupational content.

**Linking Career Education to Address Industry Skills Shortages**

The effective provision of career information to young people is important for both individual and societal growth, and to improve Australia’s responsiveness to changes in industry and the labour market.

In this regard, career education in schools can have an important role in contributing to addressing the skills shortages currently being experienced by various Australian industries, by raising young people’s awareness of these occupations, and their positive employment prospects upon completion of identified education or training requirements.

Industries are keen to convey the message that they have a strong commitment to recruit into their sectors. They want to find ways of ensuring their materials are being effectively used in schools and to convey that the materials have credibility as they are industry-developed. Further, peak industry bodies have expressed their desire to become more involved with schools, school principals and parents.

ACCI and member organisations consider that Australia should have a consistent and comprehensive system of ensuring the delivery of quality careers information and advice to secondary school students across all school sectors (ie, government, Catholic and independent). Whilst it is acknowledged that this responsibility primarily rests with State/Territory Governments, ACCI has the view that there is a role that the Commonwealth should play in facilitating the development of such a system through provision of products, development of quality standards and provision of resources for best practice and employer engagement.

**CONCLUSION**

ACCI strongly endorses the premise that there is a need for stronger mechanisms to articulate a vision and develop a strategy for delivering lifelong access to career guidance. Such mechanisms are required both within government and involving other stakeholders. Australia should develop a consistent and comprehensive system of ensuring the delivery of quality careers information and advice to secondary school students across all school systems.

It is clear that young people need high quality career information, advice and vocational experiences, which involves qualified career advisers and expert industry advice as well as meaningful work experience to help them make good career decisions for themselves.

In general, State policies regarding the structure of career guidance services are weak, with most decisions about the allocation of resources and the delivery of career services made at the school level. There are major differences between the States in relation to: the structure of key guidance roles within schools; the structure of career education within the curriculum; and the provision of exploratory work experience which is not mandatory in any State.

Further, there is evidence that the growth of VET pathways in some schools has been at the expense of other career programmes, especially structured work experience placements.

There exists a lack of accountability in relation to the quality of schools’ career programs.

Finally, the increase in the number of transition programs at both Commonwealth and State level that target at risk youth can run the risk of overlapping if not harmonised effectively, under-serving some groups and over-serving others.

**ACCI PROPOSALS**

ACCI proposes that:
• The organization and delivery of career education and advice services across the country must be subject to strategic leadership with stakeholders incorporating national consistency for delivery of career education and advice services and workforce qualifications.

• There be a national vision for career guidance that includes a strategy for delivering lifelong access to career guidance involving both government and industry stakeholders.

• There needs to be greater diversity in the types of career services that are available and in ways that they are delivered, including greater diversity in staffing structures, wider use of self-help techniques, and a more integrated approach to the use of information and communications technology (ICT).

• Policymakers need to explore the scope for facilitating measures, including appropriate incentives, designed to encourage the development of career guidance services within the private and voluntary sectors.

• The career guidance workforce needs to be professional with the need for minimum qualifications for occupational service. Improved access to appropriate workforce training is required.

• Jurisdictional data related to the delivery of career education and advice must be made available to the public and subject to systematic discussion and inquiry for development of effective public policy of career services.
Chapter 15
Education as an Export

INTRODUCTION

The benefits of developing and maintaining an educated workforce have been widely noted by a number of international economic institutions. For example, the OECD and IMF have noted that increasing human capital through education and training is a critical component of growth in both advanced and developing economies.1

Australia has a comparative advantage, viz the English language and high education standard that allow it to excel in selling educational services.

BACKGROUND

Exports of Australian services have increased rapidly since barriers to trade were lowered. The Australian education sector has been a beneficiary of the greater global interconnection of services.

Australia’s educational sector has experienced a number of changes over the past decade including:

• the emergence of Australia as one of the top five providers of international education services, behind the US, the UK, Germany and France;

• the establishment of important markets for Australian education, notably in the Asia-Pacific region: Singapore, Hong Kong, Malaysia, Indonesia, China, Korea, India, Japan, Thailand and Taiwan;

• Australia’s ongoing entry into new markets;

• a gradual diversification in Australia’s international education export base, with the top ten markets now accounting for 74.7 per cent of all enrolments, down from 82 per cent in 1996; and

• the growing importance of offshore enrolments in educational services with distance and commercial presence programs now accounting for 21 per cent of all enrolments.2

International student fees now account for a large proportion of university revenue, with strong growth rates expected to continue. However, some slowing in demand for Australian universities has been registered. Given the relatively short history of international education, it is difficult to predict which universities will maintain their reputations in the long run.

A number of reasons have been raised as to what is driving the internationalisation of education. Some of these reasons include the Australian emphasis on freer trade and the commoditisation of education as a private good. Also, Australian universities are increasingly being asked to fund a higher proportion of expenditure and so seek out profit making opportunities. Increased demand for education worldwide and associated lack of domestic capacity3 contribute to this trend.

CONSIDERATION OF ISSUES

Australia maintains a strong domestic industry for providing educational services to overseas students (see Figure 15.1). These students provide a major source of income for domestic educational institutions and as more domestically trained foreign students remain in Australia after studies, they add to Australia’s capital stock.

As skill shortages in Australia’s labour market remains critical we continue to train large amounts of international students in areas of high demand. This represents not only a potential source for increasing Australia’s human capital but provides employers with suitably-trained employees (see Figure 15.2).

However, in 2005, higher education enrolments in Australia grew by 8.3%. This continues the trend of softening in growth since 2002. Six of Australia’s top-ten markets experienced a decline in enrolment numbers between 2004 and 2005. The associated slowing in higher education commencements (0.8% for all markets) suggests that enrolments may have declined further in 2006,4 (see Figure 15.3)

It is important to note that universities are not the only exporters of educational services as many secondary schools and Registered Training Organisations (RTOs) are now offering their own products. The export success in these sectors does not match those of universities and the Government should consider ways to further export expansion in these areas.
Quality Issues

Exports of educational products by Australian educational institutions should enhance the integrity and reputation of Australia’s educational sector. Australia is well regarded for providing high quality degrees and for graduating skilled employees and pre-tertiary students. This reputation must be maintained both onshore and offshore, where Australian universities, TAFES and secondary schools are delivering educational services.

As the proportion of international full fee paying students increases it becomes an increasingly important source of revenue for educational institutions. Australia must not jeopardise this income by providing substandard qualifications and courses. Quality assurance is important as Australian educational institutions increasingly take advantage of partnership arrangements for Australian courses delivered offshore.

While quality issues need to be monitored ACCI is not currently aware of any systemic problems arising from the exporting of educational services.

Australia already has a code of conduct on the provision of education to international students entitled Provision of Education to International Students – Code of Practice and Guidelines for Australian Universities. ACCI supports initiatives that maintain quality assurance in the delivery of educational services.

One area of concern raised by employers relates to RTOs. It is common practice amongst some RTOs to deliver courses fully off the job with little or no Australian workplace experience. For foreign students this may create problems in two ways.

Firstly, foreign students graduating from certain courses and who proceed to work in that industry, quickly discover the lack of skills compared to students who have significant on the job training in Australian workplaces.

Secondly, students graduating from courses who do not proceed to work in that industry may use their qualifications to gain immigration points for entry into Australia. On the surface, foreign students studying in areas of skill shortage who then remain in Australia could be part of a strategic approach to curb skill shortage problems. However, when these students leave the industry for which they were trained and move into another industry, the training obtained has not had the desired strategic impact.

The first problem can be addressed through the implementation of outcomes based assessment of RTOs.

The second matter is an immigration policy issue. ACCI welcomes initiatives designed to address these problems and will be closely following the outcomes to ensure that the intended skills are delivered to Australian industry.

Australian Education International

ACCI supports the role of Australian Education International (AEI). AEI is part of the Australian Department of Education, Employment and Workplace Relations.
Figure 15.2
Distribution of Foreign Students by Field of Education (2003)

- Science
- Agriculture
- Services
- Engineering, manufacturing and construction
- Education
- Social sciences, business and law
- Health and welfare
- Not known or unspecified
- Humanities and Arts

Percentage of foreign tertiary students who are enrolled in different fields of education.
Source: OECD, Table C3.5, See Annex 3 for notes (www.oecd.org/edu/eag2005).
Note: Countries are ranked in descending order of the proportion of foreign students enrolled in sciences, engineering, manufacturing and construction.
**Figure 15.3**
International Students Enrolled in Higher Education in 2005

<table>
<thead>
<tr>
<th>Nationally</th>
<th>Annual Enrolments</th>
<th>Annual Commencements</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Growth on 2003</td>
<td>2005 Data</td>
</tr>
<tr>
<td>March</td>
<td></td>
<td></td>
</tr>
<tr>
<td>China</td>
<td>38.60%</td>
<td>33.90%</td>
</tr>
<tr>
<td>India</td>
<td>38.60%</td>
<td>45.20%</td>
</tr>
<tr>
<td>Malaysia</td>
<td>13.70%</td>
<td>3.00%</td>
</tr>
<tr>
<td>Hong Kong</td>
<td>21.40%</td>
<td>8.00%</td>
</tr>
<tr>
<td>Indonesia</td>
<td>-0.50%</td>
<td>-7.40%</td>
</tr>
<tr>
<td>Singapore</td>
<td>-2.40%</td>
<td>-9.40%</td>
</tr>
<tr>
<td>South Korea</td>
<td>21.90%</td>
<td>11.10%</td>
</tr>
<tr>
<td>Thailand</td>
<td>14.40%</td>
<td>0.90%</td>
</tr>
<tr>
<td>Taiwan</td>
<td>5.70%</td>
<td>1.50%</td>
</tr>
<tr>
<td>Bangladesh</td>
<td>35.60%</td>
<td>21.70%</td>
</tr>
<tr>
<td>Sub-Total</td>
<td>18.60%</td>
<td>14.00%</td>
</tr>
<tr>
<td>Other</td>
<td>12.00%</td>
<td>4.70%</td>
</tr>
<tr>
<td>Total</td>
<td>16.70%</td>
<td>11.50%</td>
</tr>
</tbody>
</table>

of Education, Science and Training (DEST). AEI uniquely integrates the development of international government relations with support for the commercial activities of Australia’s education community. To do this, AEI liaises with all sectors of the education and training industry and all levels of government.5

ACCI believes there is a role for Government in the provision of marketing services for Australian universities and non-university institutions.

Regional

There is some support from institutions to receive a regional supplementation for funding regional activity. There are obvious difficulties in defining what regions are when linked to funding allocations. Incentives could be provided to institutions to specialise rather than compete in all areas.

It is better to provide incentives to offer specific courses, particularly as they relate to labour market needs, rather than developing intricate planning processes for course provision. This would often require substantial government intervention with elaborately developed, but highly flexible, funding agreements between government and providers. The extent of course rationalisation needs to be balanced against informed student centred funding. However, offerings requiring substantial infrastructure must be limited.

The extent of collaboration between all post-compulsory providers (Year 11 and 12 schools, VET providers and higher education institutions) provides the opportunity for significant cost efficiencies.

Increased specialisation at the regional level could lead to improved opportunities to promote centres of excellence and highlight the desirability of Australia as a study destination.

CONCLUSION

Past reforms of the education sector have allowed university and non-university institutions to compete successfully with international educational institutions for foreign students. ACCI is a strong supporter of these developments and believes the Government has a role to play to ensure that the recent setback in University export performance is reversed, and that a suitable level of resources be given to promoting the export potential of Australia’s VET and schools sectors. However, issues of quality are an area where government policy can have a significant impact on levels of demand by overseas students for Australian education and training services and products.

ACCI PROPOSALS

ACCI proposes that:

• governments support for the drive of Universities in attracting foreign students and in expanding their services offshore;

• the Australian Government make provision for additional resources to Australian Education International to promote Australia’s education offshore;

• state and territory governments support as much as possible the expansion of the export potential of the VET and school sectors;

• consideration be given to fostering and developing a centre of excellence approach within regions; and

• the effects of recent changes to immigration policy be monitored to ensure they deliver the skilled workers needed in the areas experiencing shortages.

5 Australian Government, Australian Educational International website, Overview.
Chapter 16
Education & Training and the Tax System

INTRODUCTION

The tax system has a substantial effect on investment in education and training. Taxes on income affect the incentives for individuals to obtain education and training, because tax reduces future income, which is in most cases the major return from education. Tax incentives can also reduce the costs of education and training and tax affects the incentives for business and individuals to provide donations and bequests for educational institutions. This chapter explores these issues.

BACKGROUND

Tax and Personal Decisions on Education and Training

One of the main reasons that people undertake post-secondary education and training is to improve their future income although other reasons include undertaking education because it has intrinsic value, because it is enjoyable or because it adds to current quality of life.

Hence, one of the factors influencing an individual's decision to undertake post-secondary education is the income they expect to receive when they enter the labour force. Taxes have a large impact on income, and hence the return to education.

In particular, high marginal tax rates act as a strong disincentive for Australians to spend resources to increase their future income, reducing investment in education and harming Australia’s potential growth.

The evidence for this includes:

- Milesi-Ferretti & Roubini (1998) cite a large number of articles showing that labour income taxes reduce growth because they reduce investment in human capital. Their own results confirm this finding.
- Lucas (1990) shows that income taxation lowers the return to human capital and reduces the incentive to accumulate human capital (ie undertake education and training).
- King and Rebelo (1990) and Rebelo (1991) find that an increase in the income tax rate decreases human capital accumulation (ie education) and economic growth, assuming that tax revenues are consumed by Government.

High taxes also discourage skilled migration to Australia, and Australians from returning here after they have moved overseas. This was shown in Ueda (2002), who found that different international tax rates had significant effect on migration decisions and economic welfare. It is clearly unhelpful if the Government spends a large sum on educating Australians to only find them moving overseas and Australia losing the benefits of this education.

Australia’s tax system is clearly not competitive when we attempt to attract skilled migrants or encourage expatriate Australians to return home. The 2006 report for the Treasurer, An International Comparison of Australia’s Taxes (co-authored by ACCI's CEO, Peter Hendy), showed that Australia was uncompetitive, even with the changes in the 2006-07 Budget:

- personal taxes are about 11 percent of GDP, well above the OECD (weighted) average of 8.1 percent;
- our top tax rate of 46.5 percent is above the OECD average of 44.5 percent;
- the top tax threshold starts at $125,000 or 2.2 times average wages, which is well below the OECD average threshold of 5.6 times average wages (about $A287,000); and
- unlike Australia, many of the comparable OECD countries use partial or full indexation of tax thresholds.

Tax Incentives for Investment in Education and Training

In addition to reducing the taxes on the returns to education and training, the Government can provide direct assistance to reduce the costs of education and training.

There have been a number of significant developments in education and training costs in Australia over recent years, including:
increasing costs for parents in sending their children to school. Over one million children or 32% attend independent and Catholic schools. Annual tuition fees can cost as much as $14,322 for a year 12 student; and

recent changes announced by the Federal Government to higher education which allow for universities to increase the level of HECS and also increase the number of full fee paying students from Australia.

Taxation and Philanthropy

Governments provide support for many socially worthwhile services, and many businesses choose to support these services as well. For example, companies donate money to charities, schools, universities and artistic institutions.

Without business philanthropy, the costs to Government would increase substantially or many services would have to be cut back. Therefore, it is important for Government to provide the appropriate level of support for corporate philanthropy, including through the tax system.

However, Australia currently does not have a strong culture of philanthropy. Funding to universities via donations and bequests makes up a small proportion of their revenue, particularly compared to other similar countries.

ACCI seeks to increase this revenue source for universities.

Donations and Bequests to Universities

In announcing an inquiry into the development of a culture of philanthropy towards universities the Minister for Education, Science and Training said donations and bequests represent a very small proportion of Australian higher education revenue ($171 million or 1.27% of total revenue in 2004). The Group of Eight has identified that business makes up about 20% of university donors, but accounts for 80% of total donor funds.

In contrast, donations and bequests represent an increasing proportion of income for US universities. Holmes (2002) noted that:

- the University of Virginia has raised US$1.4 billion over the past 4 years, and will embark on a 5 year US$4 billion fund raising program this year;
- the University of Iowa Foundation was formed in 1956, and an endowment of $US600m and 100,000 donors;
- the University of Arkansas has recently received the largest single donation of $US300m for US state universities;
- Harvard University has an endowment of $US 25.9 billion, the largest endowment in higher education.

There are a number of reasons for the much larger size of philanthropy in the US. There can be no doubt that there is a much more robust culture of giving in the US. There are lower tax rates in the US, giving taxpayers there more disposable income that they can choose to give away. Another factor is that the US system includes a variety of taxation breaks, including full tax deductibility for property contributions, tax exemptions for charitable remainder trusts, and tax exemptions for retirement funds or life insurance policies that are bequeathed to universities.

Recent Policy Changes

In 1999 and 2001, the Government made a number of changes to increase the incentives for philanthropy which have reduced the differences with the US:

- tax deductions for the market value of donations of property worth more than $5,000, regardless of when it was purchased or acquired, were introduced. It was estimated that this measure could initially increase donations by around $45 million per year and by a larger amount over time. At this initial level it was estimated to reduce tax revenue by around $20 million per year;
- the $5,000 threshold was removed from pre-existing provisions which allowed for donations of property, such as under the Cultural Gifts Programme, as well as property purchased less than 12 months prior to the donation;
- a capital gains tax exemption for testamentary gifts of property to bodies eligible to receive tax deductible donations was provided. This was expected to assist not-for-profit organisations and donors by increasing donations by around $15 million a year;
- a new category of private charitable funds was introduced that would meet all the criteria previously required to qualify as a public fund but without the need to seek contributions from the public. The benefit of these funds is that donations to them are tax deductible. This change provided families and individuals with greater
freedom to set up their own trusts for philanthropic purposes without having to seek contributions from others. This measure was expected to increase donations by $15 million per annum and came at a $10 million cost to Government revenue; and

- incentives for donations of property to Deductible Gift Recipients were provided. Deductions for donations can now be apportioned over a period of five years. This change encourages donations from donors whose relatively low incomes may otherwise prevent them from fully utilising the deduction for high value gifts of cultural property.

ACCI supported these changes recognising the importance of providing incentives to employers and other individuals through the tax system to contribute to a range of community activities.

**CONSIDERATION OF ISSUES**

As noted above, high taxes reduce incentives to invest in human capital through education and training. In addition, high taxes cause a large number of other problems, including reducing efficiency, productivity, and growth, encouraging tax minimisation and discouraging innovation, risk taking and entrepreneurship. Higher taxes also leave taxpayers with less money to donate.

Reductions in high tax rates will provide additional benefits to educational institutions, in particular:

- philanthropy will be assisted, because there will be an increase in disposable income of taxpayers, which they could then choose to donate; and

- it will improve incentives for entrepreneurship and innovation, which is often done in collaboration with Australia’s universities and other educational institutions.

There is a need to examine the role of the tax system in encouraging individuals and employers to increase their contribution to education and training.

The main areas of potential are:

- increased benefits to parents investing in education plans or scholarship investment programs for their children to meet the costs of private education and post compulsory education (including universities). Some estimates of the total cost of education (including school fees, uniform costs, equipment, boarding expenses and university or TAFE fees) can be up to $200,000. Some plans involve parents investing from $50 to $300 a month. This idea should be examined and costed by the Australian Government. ACCI, however, thinks the priority should be general personal income tax reductions;

- the introduction of a HECS style system in VET, particularly for fully institutional places; and

- tax benefits for individuals investing in formal accredited skills development activity. Some priority could be given to various categories of people, for example, those with no prior post compulsory qualification (Australia has one of the highest incidence of older workers with no qualification in the OECD).

ACCI supports the continuation of Federal incentives and other employment subsidies for Australian Apprentices. ACCI also advocates the introduction of a Learning Bonus which involves a set amount paid on the completion of a qualification by eligible workers. This was discussed in Chapter 7.

**CONCLUSION**

The tax system provides both beneficial and detrimental incentives for education and training.

High tax rates discourage investment in human capital, because they reduce the return to this investment, and leave taxpayers with fewer funds for philanthropy.

On the other hand, the tax system can encourage education and training by providing tax incentives for individuals to invest in their own education and for businesses and individuals to donate funds to educational institutions.

**Taxation Expenditures**

The review of taxation expenditures as part of the reform package is strongly supported to encourage personal responsibility for those in the workforce to increase their skills and to encourage labour mobility to areas of high priority skills shortage. Income tax deductions for self-education expenses could be extended to include education and training expenses undertaken by taxpayers in areas outside of their current occupation. The deduction should be limited to expenses incurred in undertaking accredited training. Consideration could be given to further limiting the scheme, such as to designated qualifications in skills shortage
occupations, which may increase the administrative burden but would limit the cost to the Australian Government.

All these policies need further development.

**ACCI PROPOSALS**

ACCI proposes that:

- the Australian Government reduce high tax rates, particularly the top marginal tax rate, to encourage investment in education and training and increase philanthropy;

- other important tax reforms include reducing the number of tax thresholds to no more than two, indexing tax thresholds, and further reducing the Capital Gains Tax burden;

- the Australian Government investigate and cost increased benefits to parents investing in education plans or scholarship investment programs for their children to meet the costs of private education and post compulsory education (including universities); and

- consideration be given to providing individual tax benefits for investment in formal accredited skills development activity.

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6 The weighted average is more relevant than the unweighted average, because the unweighted average gives Luxembourg the same weight as the US, which is of limited relevance when the US economy is about 450 times the size of the Luxembourg economy.


Chapter 17
People with Disabilities; Indigenous People; and Mature Aged Workers

INTRODUCTION

Government policy should be set to maximise the potential for all Australians to be competitive in the employment market. Inclusive practice and a focus on equity should underpin all vocational training delivery to increase the opportunities to transition into employment by those participating in vocational education and training.

In this chapter we discuss a number of special-case employment issues related to education and training. They are:

• people with disabilities;

• Indigenous Australians; and

• Mature aged workers

The same principles could be extended to include rural and remote; women; youth at risk; people in correctional facilities; and people from Non English Speaking Backgrounds.

BACKGROUND

While the extent of disability for each person with a disability is unique in its nature, policies should support a diverse workforce in which people with disabilities are encouraged to participate where they are able to do so.

Those who are genuinely not able to work because of their disability deserve the support of the community and the opportunity to lead constructive lives as valued community members.

Over 670,000 Australians of working age now receive the Disability Support Pension - more than the number receiving unemployment benefits. The growth in numbers has been in excess of 60 per cent over the last 10 years. This trend indicates that an ageing Australian workforce, together with growing numbers of people with disabilities, has a potential to seriously erode labour supply and add significantly to public outlays.

In an era of improved health and longevity and declining lost time injuries in the workplace, growth in the incidence of disability should be seriously questioned and policies that encourage greater reliance on income support must be discarded in favour of better rehabilitation and employment policies.

It is also important for business to promote equality of education opportunities and options for Indigenous Australians.

Measures aimed at growing Indigenous participation in the business sector are positive steps to creating and maintaining an economic base and a move away from welfare dependency for Indigenous Australians.

Another area of special attention in terms of employment and education is the ‘mature aged’.

Generally, people regarded by governments as ‘mature-age’ are those 45 years and above. It is evident that treating this large group of people with one solution is unrealistic. Therefore although this policy refers to this group collectively, it is imperative that the overall group is segmented and different strategies are adopted to meet different elements of the group.

CONSIDERATION OF ISSUES

People with Disabilities

Australia has disappointing rates of participation for people with disabilities in vocational education and training – less than 2.5 per cent compared with 11 per cent of all workforce-age Australians. Training retention rates and eventual employment outcomes are also well below average, as people with disabilities are less likely to complete their training and graduates with disabilities less likely to find employment.

ACCI promotes equality of educational opportunities and options for groups with special needs, including people with disabilities. This means providing access to and appropriate support for people with disabilities in education and training to ensure they have opportunities to develop marketable skills that meet the needs of business.

In particular this means that education and training policies need to develop and recognise the marketable skills of the
people concerned.

There needs to be special attention paid to the transition for young people with disabilities from school to further education and training, and the promotion of participation in vocational education and training through early intervention in schools.

We need to ensure that people with disabilities are acknowledged as potential participants in programs that address areas of skills shortages wherever reasonably practicable. And it is important to ensure that there are effective links between employment and pre-employment programs so that people with disabilities have continuity in the assistance they require to move from training and education to work.

Indigenous Australians

The underpinning principles in this area recognise the shared responsibility of all Australians in developing a responsive Australian employment, education and training system that takes account of the needs of the Indigenous community.

There needs to be a focus on reducing welfare dependency through mutual obligation and development of appropriate strategies to encourage employment in the general labour market.

Further policies need to give due recognition to the diverse locations that Indigenous peoples live in, particularly in rural and remote communities, and how this impacts on the delivery of education and training.

Business acknowledges that Indigenous Australians remain the most disadvantaged group in the labour market and supports the need for specific policy responses.

ACCI supports employment policies which:

• assist Indigenous Australians to have access to private sector employment as distinct from community and public sector options;

• recognise the importance of Australian Apprenticeships as one of the most important options for employers to open up opportunities for Indigenous job seekers to enter private sector employment;

• include the promotion of private sector employment opportunities to Indigenous communities and individuals;

• continuously develop the labour force skills and knowledge of Indigenous job seekers and the Indigenous community generally;

• link available labour, particularly in remote areas, with available employment opportunities;

• ensure the design of labour market programs to meet individual and business needs;

• implement adequate pre-employment assistance to meet the needs of the job seeker and employer;

• establish appropriate support mechanisms for Indigenous people employed in the private sector, particularly in small business;

• encourage and facilitate cross-cultural awareness training for non-Indigenous businesses and their employees to develop an awareness of Aboriginal and Torres Strait Islander cultural issues within the workplace;

• encourage the development and implementation of structured induction training programs for Indigenous employees, with an emphasis on employee obligations and responsibilities within the workplace;

• establish targeted employer incentives which relate to ongoing placement with the employer;

• provide incentive to Community Development Employment Projects to encourage participants to gain nationally recognised skills and qualifications and structured workplace learning and experience in private sector companies;

• maintain publicly funded employment services; and

• adequately respond to the needs of Indigenous job seekers and prospective employers.

ACCI supports education and training policies which:

• strengthen the focus on sound basics such as English language, literacy and numeracy at primary and secondary school level;

• improve, and regularly test, on a nationally agreed and consistent basis, literacy and numeracy standards and develop appropriate intervention strategies;
focus on nationally consistent outcomes for Indigenous students and achieve standards which are comparable to international standards of best practice;

- maximise education and training pathways from school to the workplace, particularly to assist in increasing retention rates for Indigenous school students;

- respond to the growing need for students to undertake workplace learning programs which develop links with industry and create pathways to further training and employment in the private sector;

- improve and integrate careers education, employability skills and enterprise education principles into the education and training system to provide Indigenous students with an understanding and potential of the range of pathways available;

- provide for the adoption of an enterprising culture, particularly by young Australians;

- develop culturally specific support documentation for nationally accredited training packages to encourage use in Indigenous communities;

- fully implement “user choice” in Indigenous communities to ensure they benefit from training providers delivering training to meet their needs;

- develop more flexible delivery mechanisms including online delivery to enable nationally recognised training to be offered to remote communities; and

- continue to encourage further education and training, including university and vocational education and training.

**Mature Aged Workers**

A key concern of industry has been the ageing of the workforce, the overall decline of youth entering the labour market over time and the impact these issues may have on the future supply of skills. Increasingly employers must have dual strategies to attract the most suitable young employees and retain older workers with enhanced skills.

Some key developments in Australia include:

- a substantial increase in the median age of the Australian population;

- growth in mature aged employment. Three quarters of people between 45 and 54 are employed;

- average age of retirement around 60 years;

- a sharp decline in labour force participation with increasing age;

- the fact that mature aged Australians are less likely to hold a post-compulsory qualification and less likely to undertake formal education and job-related training;

- longer duration of unemployment among mature aged workers than among younger people;

- a higher rate of 50 to 64 year olds are welfare-dependent;

- some industries or occupations already show older workforces;

- life expectancy at the average effective retirement age is five or six years longer than it was 30 years ago;

- one in four new entrants to the labour market comes from overseas, either through migration or temporary work visas;

- since June 1980 there has been a very slow growth in the number of children (aged 0 to 14 years); and

- the workforce entrants for the next twelve years are already in school and there is only a slight increase in their number that is insufficient to meet projected labour demand.

All industries have significant numbers of mature aged workers already in the workplace with continued increases in workers over 55 years of age. Industry Skills Councils have advisory arrangements that focus on the development of a comprehensive information and planning process to identify current and future skill needs for industry.

It is recognised that the array of data sources available from the range of government departments and other agencies needs to be brought together to inform future vocational education and training direction and product and service development. This new mechanism will be particularly important in assisting in addressing potential demand for labour and identification of skills required.

The need to develop a more responsive education and
training system to enhance the skills of older workers is a priority for industry. Currently there is no clear strategy to target existing mature aged workers to enhance their skills and productivity. There is additional urgency in developing this approach given the impact of new and emerging technologies on all workplaces, the lack of post-compulsory qualifications held by mature aged Australians and the need for some mature aged people to update their skills as they move employment.

It is also important for state and territory governments to examine the potential of allocating a specific element of their vocational education and training budgets to addressing existing mature aged workers. There also needs to be considerable work undertaken on improving the incentive for providers to offer recognition of prior learning which lessens the requirement for experienced individuals to undertake the same extent of ‘off the job’ training.

**CONCLUSION**

Sustained and sustainable economic growth underpins improvement in the standard of living of all Australians. Through participation in work, people with disabilities are able to make a valuable contribution and share in the benefits of employment.

At the same time, ACCI recognises that increasing the capacity of people with disabilities to participate in employment and in many other areas of community life will bring greater opportunities for improved markets in assistive and adaptive technologies that remove barriers.

The special focus on the education of Indigenous people will assist in breaking the existing welfare dependency and provide role models from within the Indigenous community itself.

Further, employers will need a range of information and support products and services to be developed to assist them in meeting the challenge of employing greater numbers of mature aged Australians. But there are also considerable opportunities for older Australians to contribute towards their own economic prosperity and for individual businesses to benefit from a changing world.

**ACCI PROPOSALS**

To make real progress in these areas, a concerted and well-coordinated effort must be made on the part of governments and the community sector, working in partnership with employers to achieve the following key goals:

**People with Disabilities**

ACCI proposes that:

- there needs to be a concerted effort to eliminate aspects of social and industrial policies that create disincentives for people with disabilities to take up employment;
- both business and governments need to provide for enhanced employment opportunities for people with disabilities through the provision of training, recognition of skill, support in the workplace and community education; and
- there needs to be consistency and ease of transition between government programs that aim to assist people with disabilities in education, training, pre-employment, employment and return to work;

**Indigenous Australians**

ACCI proposes that:

- the Australian Government should focus on access to literacy and numeracy skills for Indigenous Australians. It should continue programs that provide exposure to the acquisition of real workplace experience, knowledge and skills;
- Indigenous students should have access to VET in Schools Programs in Years 8 and 9. Indigenous students should also have access to the full range of educational and training options;
- Australian Apprenticeships are an ideal pathway for Indigenous people to obtain skills while being employed and programs that encourage their uptake should continue;
- culturally sensitive support material should be available for all Training Packages; and
- practical support should be given to employers hiring Indigenous apprentices in the form of cross cultural awareness training and the provision of incentives, especially in rural and remote areas.

**Mature Aged Workers**

ACCI proposes that:
• there needs to be a clear strategy to target existing mature aged workers to enhance their skills and productivity;

• it is important for state and territory governments to examine the potential of allocating a specific element of their VET budgets to addressing existing mature aged workers; and

• there needs to be considerable work undertaken on improving the incentive for providers to offer recognition of prior learning which lessens the requirement for experienced individuals to undertake the same extent of ‘off-the-job’ training.
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